A horizontal splash of clear blue water with numerous bubbles, set against a light blue gradient background.

Bekaert Corporation
Permit No. ARO036552
Application for NPDES Permit Renewal

March 31, 2020

NPDES Permit No. AR0036552 Renewal Application

Prepared for:

Bekaert Corporation
1881 Bekaert Drive
Van Buren, AR 72956-6801

Prepared by:

GBM^c & Associates
219 Brown Lane
Bryant, AR 72022

March 31, 2020

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Application Summary

APPLICATION SUMMARY

Bekaert Corporation is located in Van Buren, Arkansas, off of Lee Creek Road south of Interstate 40. The facility is engaged in the manufacture of galvanized steel and wire and related products for the agricultural, appliance, construction and communication industries. Products manufactured include barbed wire, field fence, bright wire and strand. The primary standard industrial classification (SIC) Code is 3499, *Galvanized Steel Products Manufacturing*.

Bekaert Corporation is currently operating while following requirements set forth by NPDES Permit AR0036552. This application package includes a Form 1, 2C, 2E, 2F, Priority Pollutant Scan and other pertinent information necessary to complete the application process for renewal under NPDES permit number AR0036552.

Form 1

**NPDES PERMIT APPLICATION
FORM 1**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF WATER QUALITY
5301 Northshore Drive
North Little Rock, AR 72118-5317
www.adeg.state.ar.us/water

PURPOSE OF THIS APPLICATION

- INITIAL PERMIT APPLICATION FOR NEW FACILITY
- INITIAL PERMIT APPLICATION FOR EXISTING FACILITY
- MODIFICATION OF EXISTING PERMIT
- REISSUANCE (RENEWAL) OF EXISTING PERMIT
- MODIFICATION AND CONSTRUCTION OF EXISTING PERMIT
- CONSTRUCTION PERMIT

SECTION A- GENERAL INFORMATION

1. Legal Applicant Name (The permit will be issued under this name. This is the entity that controls and is responsible for operations and compliance.):

Bekaert Corporation

Note: The legal name of the applicant must be identical to the name listed with the Arkansas Secretary of State.

2. Operator Type: Private State Federal Partnership Corporation Other
State of Incorporation: Delaware

3. Facility Name: Bekaert Corporation – Van Buren

4. Is the legal applicant identified in number 1 above, the owner of the facility? Yes No

5. NPDES Permit Number (If Applicable): AR0036552

6. NPDES General Permit Number (If Applicable): N/A

7. NPDES General Storm Water Permit Number (If Applicable): ARR00A496

8. Permit Numbers and/or names of any permits issued by ADEQ or EPA for an activity located in Arkansas that is presently held by the applicant or its parent or subsidiary corporation which are not listed above:

<u>Permit Name</u>	<u>Permit Number</u>	<u>Held by</u>
<u>Air Minor Source Permit</u>	<u>0299-AR-19</u>	<u>Bekaert Corporation</u>

9. Give driving directions to the wastewater treatment plant with respect to known landmarks:

Facility is located south of the intersection of I-40 and Lee Creek Drive. The WWTP is located at the south central portion of the facility, just north of the railroad tracks.

10. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)

Street: 1881 Bekaert Drive
City: Van Buren County: Crawford State: AR Zip: 72956

11. Facility Mailing Address for permit, DMR, and invoice (Street or Post Office Box):

Name: Attn: Environmental Department Title: N/A
Street: 1881 Bekaert Drive P.O. Box: N/A
City: Van Buren State: AR Zip: 72956
E-mail address*: ben.barlow@bekaert.com Fax: N/A

* Is emailing all documents (permit, letters, DMRs, invoices, etc.) acceptable to the applicant? Yes No

12. Neighboring States Within 20 Miles of the permitted facility (Check all that apply):

Oklahoma Missouri Tennessee Louisiana Texas Mississippi

13. Indicate applicable Standard Industrial Classification (SIC) Codes and NAICS codes for primary processes (See Item #3 of the instructions for assistance in determining the correct SIC and NAICS Codes):

3499 SIC Facility Activity under this SIC or NAICS:
331222 NAICS Manufacture of galvanized steel and wire.

14. Design Flow: Outfall 001 - 0.20 MGD Highest Monthly Average of the last two years Flow: Outfall 001 – 0.038 MGD
Outfall 002 – N/A Outfall 002 – 0.144 MGD

15. Is the outfall equipped with a diffuser? Yes No

16. Responsible Official (as described on the last page of this application):

Name: Randy McClaren Jr. Title: Plant Manager
Address: 1881 Bekaert Drive Phone Number: (479) 471-4754
E-mail Address: randy.mcclarenjr@bekaert.com
City: Van Buren State: AR Zip: 72956

17. Cognizant Official (Duly Authorized Representative of responsible official as described on the last page of this application):

Name: Ben Barlow Title: Safety, Health, & Environmental Manager
Address: 1881 Bekaert Drive Phone Number: (479) 471-4758
E-mail Address: ben.barlow@bekaert.com
City: Van Buren State: AR Zip: 72956

18. Name, address and telephone number of active consulting engineer firm (If none, so state):

Contact Name: Jonathan Brown
Company Name: GBMc & Associates
Address: 219 Brown Lane Phone Number: 501-847-7077
E-mail Address: jbrown@gbmcassoc.com
City: Bryant State: AR Zip: 72022

19. Wastewater Operator Information

SEE ATTACHED LIST OF LICENSED WASTEWATER OPERATORS

Wastewater Operator Name: _____ License number: _____

Class of municipal wastewater operator: I II III IV

Class of industrial wastewater operator: Basic Advanced

SECTION B: FACILITY AND OUTFALL INFORMATION

1. Facility Location (All information must be based on the **front door (gate)** location of the facility):

Lat: 35 ° 27 ' 24.52 " Long: 94 ° 23 ' 34.94 " County: Crawford Nearest Town: Van Buren

2. **Outfall** Location (The location of the end of the pipe discharge point.):

Outfall No. 001:

Latitude: 35 ° 27 ' 5.89 " Longitude: 94 ° 23 ' 38.85 "

Description of outfall location: Directly south of the facility at the Arkansas River

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Arkansas River

Outfall No. 002:

Latitude: 35 ° 27 ' 5.87 " Longitude: 94 ° 23 ' 38.85 "

Description of outfall location: Directly south of the facility at the Arkansas River

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Arkansas River

3. **Monitoring** Location (If the monitoring is conducted at a location different than the above **Outfall** location):

Outfall No. 001:

Lat: 35 ° 27 ' 9.10 " Long: 94 ° 23 ' 41.87 "

Outfall No. 002:

Lat: 35 ° 27 ' 10.72 " Long: 94 ° 23 ' 39.10 "

Outfall No. _____:

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

4. Type of Treatment system (Include all components of the treatment system and attach the process flow diagram):

Outfall 001 – Mixing, Pre-Aeration, Neutralization, Aeration, Flocculation, Clarification, Polishing, Sludge Dewatering, and Disposal

Outfall 002 – None

5. FLOW AND SAMPLE MEASUREMENT

How are effluent samples collected?

Outfall 001 - An ISCO automatic sampler is utilized for sampling.

Outfall 002 - Grab samples only.

How is flow measured, i.e., v-notch weir, totalizing meter, Parshall flume, etc.?

Outfall 001 - V-Notch Weir

Outfall 002 - Parshall Flume

6. Is the proposed or existing facility located above the 100-year flood level? Yes No

NOTE: FEMA Map must be included with this application. Maps can be ordered at www.fema.gov.

If "No", what measures are (or will be) used to protect the facility? _____

7. Population for Municipal and Domestic Sewer Systems: N/A

8. Backup Power Generation for Treatment Plants

Are there any permanent backup generators? Yes No

If Yes, how many? _____ Total Horsepower (hp)? _____

If no, please explain. Include a description of how the WWTP will be restarted and actions taken to ensure compliance with permit limits once power is restored.

If the facility were to lose power, wastewater generation would cease. In the unlikely event of power loss, the wastewater treatment system has a retention time of greater than 24 hours allowing for the use of portable generators.

SECTION C – WASTE STORAGE AND DISPOSAL INFORMATION

1. Sludge Disposal Method (Check as many as are applicable):

Landfill

Landfill Site Name Sallisaw Landfill (Oklahoma) ODEQ Solid Waste Permit No. 3568008

Land Application: ADEQ State Permit No. _____

Septic tank Arkansas Department of Health Permit No.: _____

Distribution and Marketing: Facility receiving sludge:

Name: _____ Address: _____

City: _____ State: _____ Zip: _____ Phone: _____

Rail: _____ Pipe: _____ Other: _____

Subsurface Disposal (Lagoon for which the sole purpose is storing sludge):

Location of lagoon _____ How old is the lagoon? _____

Surface area of lagoon: _____ Acre Depth: _____ ft Does lagoon have a liner? Yes No

Incineration: Location of incinerator _____

Remains in Treatment Lagoon(s):

How old is the lagoon(s)? _____ Has sludge depth been measured? Yes No

If Yes, Date measured? _____ Sludge Depth? _____ ft If No, When will it be measured? _____

Has sludge ever been removed? Yes No If Yes, When was it removed? _____

Other (Provide complete description): _____

SECTION D - WATER SUPPLY

Water Sources which are downstream of the outfall location, i.e., those which could be affected by the discharge from this facility (check as many as are applicable):

SEE ATTACHED WATER SUPPLY SOURCES

Private Well - Distance from Discharge point: Within 5 miles Within 50 miles

Municipal Water Utility (Specify City): _____

Distance from Discharge point: Within 5 miles Within 50 miles

Surface Water- Name of Surface Water Source: _____

Distance from Discharge point: Within 5 miles Within 50 miles

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

Other (Specify): _____

Distance from Discharge point: Within 5 miles Within 50 miles

SECTION E: TRUST FUND REQUIREMENTS AND DISCLOSURE STATEMENT

1. Ark. Code Ann. § 8-4-203(b)(1)(A) forbids the Arkansas Department of Environmental Quality from issuing, modifying, renewing, or transferring a permit for a nonmunicipal domestic sewage treatment works without the applicant first fulfilling the trust fund requirements set forth in that section. Ark. Code Ann. § 8-4-203(b)(1)(B) defines “nonmunicipal domestic sewage treatment works” as a device or system operated by an entity other than a city, town, or county that treats, in whole or in part, waste or wastewater from humans or household operations and must continually operate to protect human health and the environment despite a permittee’s failure to maintain or operate the device or system. NDSTW’s can include, but are not limited to:

- Sewer Improvement Districts;
- Subdivisions,
- Mobile Home Parks,
- Property Owner’ Associates,
- RV parks, and
- Apartments

Exclusions Excluded from this application’s Section E.1. requirements for trust fund contribution fees are:

- State or federal facilities,
- Schools,
- Universities and colleges,
- Entities that continuously operate due to a connection with a city, town, or county, and
- Commercial or industrial entity that treats domestic sewage from its operations and does not accept domestic sewage from other entities or residences.

The trust fund form may be obtained from the ADEQ web site at:

<https://www.adeq.state.ar.us/water/permits/npdes/individual/pdfs/ndstw-trust-fund-certification-form.pdf>

2. Disclosure Statement:

Ark. Code Ann. 8-1-106 requires that applicants for any type of permit or transfer of any permit, license, certification or operational authority issued by the Arkansas Department of Environmental Quality (ADEQ) file a Disclosure Statement with their application unless exempt for doing so under Ark. Code Ann. §8-1-106(b)(2). The filing of a Disclosure Statement is mandatory. No application can be considered administratively complete without a completed Disclosure Statement unless that facility is exempt. Publicly traded companies may submit the most recent 10k and 10Q filings to the Securities and Exchange Commission in lieu of the Disclosure Statement. The form may be obtained from the ADEQ web site at:

https://www.adeq.state.ar.us/ADEQ_Disclosure_Statement.pdf

NOT APPLICABLE (N/A):

SECTION F – INDUSTRIAL ACTIVITY

1. Does an effluent guideline limitation promulgated by EPA ([Link to a Listing of the 40 CFR Effluent Limit Guidelines](#)) under Section 304 of the Clean Water Act (CWA) apply to your facility?

YES (Answer questions 2 and 3) NO

2. What Part of 40 CFR? 420 and 433

3. What Subpart(s)? 420-I and L 433-A

4. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Manufacture of galvanized steel wire and related products for agricultural, appliance, construction, and communication industries. Products manufactured include: barbed wire, field fence, bright wire, stand, etc.

5. Production: (projected for new facilities)

Product(s) Manufactured (Brand name)	Last 12 Months (January 2020)		Highest Production Year of Last 5 Years (2017)	
	Metric tons		Metric tons	
	Highest Month	Days of Operation	Monthly Average	Days of Operation
Rod Pickling	11,083	30	9969.5	354
Galvanized Wire	10661	28	9142.33	353

* These units could be off-lbs, lbs quenched, lbs cleaned/etched/rinsed, lbs poured, lbs extruded, etc.

No.	Dilution (e.g., Cooling Water)	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)
002	AC Cooling Tower Bleed-Off	7,200 (est.)	7,400 (est.)	Continuous
	AC Pump Seal Flush			

If batch discharge occurs or will occur, indicate: [New facilities may estimate.]

Number of batch discharges: 2 per month Average discharge per batch: 6,000 (gallons)

Time of batch discharges Variable at Variable
(days of week) (hours of day)

Flow rate: _____ gallons/minute Percent of total discharge: _____

3. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering Yes Type: See Below No N/A
 Sampling Equipment Yes Type: Isco Sampler No N/A
Planned: Flow Metering Yes Type: _____ No N/A
 Sampling Equipment Yes Type: _____ No N/A

If yes, please indicate the present or future location of this equipment on the sewer schematic and describe the equipment below:

Flow Meter: Outfall 001 – V-Notched Weir Outfall 002 – Parshall Flume

Isco Sampler

4. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?

Yes No (If no, skip Question 5)

5. Briefly describe these changes and their effects on the wastewater volume and characteristics:

N/A

SECTION H -TECHNICAL INFORMATION

Technical information to support this application shall be furnished in appropriate detail to understand the project. Information in this Part is required for obtaining a **construction permit** or for **modification** of the treatment system.

1. Describe the treatment system. Include the types of control equipment to be installed along with their methods of operation and control efficiency.

2. One set of construction plans and specifications, approved (Signed and stamped) by a **Professional Engineer** (PE) registered in **Arkansas**, must be submitted as follows:
 - a. The plans must show flow rates in addition to pertinent dimensions so that detention times, overflow rates, and loadings per acre, etc. can be calculated.
 - b. Specifications and complete design calculations.
 - c. All treated wastewater discharges should have a flow measuring device such as a weir or Parshall flume installed. Where there is a significant difference between the flow rates of the raw and treated wastewater, a flow measuring device should be provided both before and after treatment.
3. If this application includes a construction permit disturbing five or more acres, a storm water construction permit must be obtained by submitting a notice of intent (NOI) to ADEQ.


SECTION I: SIGNATORY REQUIREMENTS

Cognizant Official (Duly Authorized Representative)

40 CFR 122.22(b) states that all reports required by the permit, or other information requested by the Director, shall be signed by the applicant (or person authorized by the applicant) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) the authorization is made in writing by the applicant (or person authorized by the applicant);
- (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity responsibility, or an individual or position having overall responsibility for environmental matters for the company.

The applicant hereby designates the following person as a Cognizant Official, or duly authorized representative, for signing reports, etc., including Discharge Monitoring Reports (DMR) required by the permit, and other information requested by the Director:

Signature of Cognizant Official:  Date: 4-2-20

Printed name of Cognizant Official: Ben Barlow

Official title of Cognizant Official: Safety, Health, & Environmental Manager Telephone Number: (479) 471-4758

Responsible Official

The information contained in this form must be certified by a responsible official as defined in the "signatory requirements for permit applications" (40 CFR 122.22).


Responsible official is defined as follows:

- Corporation**, a principal officer of at least the level of vice president
- Partnership**, a general partner
- Sole proprietorship**: the proprietor
- Municipal, state, federal, or other public facility**: principal executive officer, or ranking elected official.

RMB (Initial) "I certify that the cognizant official designated above is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b)." NOTE: If no duly authorized representative is designated in this section, the Department considers the applicant to be the responsible official for the facility and only reports, etc., signed by the applicant will be accepted by the Department.

RMB (Initial) "I certify that, if this facility is a corporation, it is registered with the Secretary of State in Arkansas. Please provide the full name of the corporation if different than that listed in Section A above."

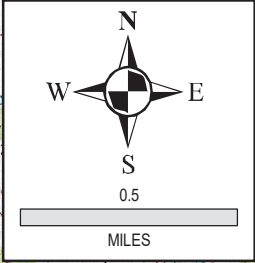
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

Signature of Responsible Official:  Date: 4/2/20

Printed name of Responsible Official: Randy McClaren Jr.

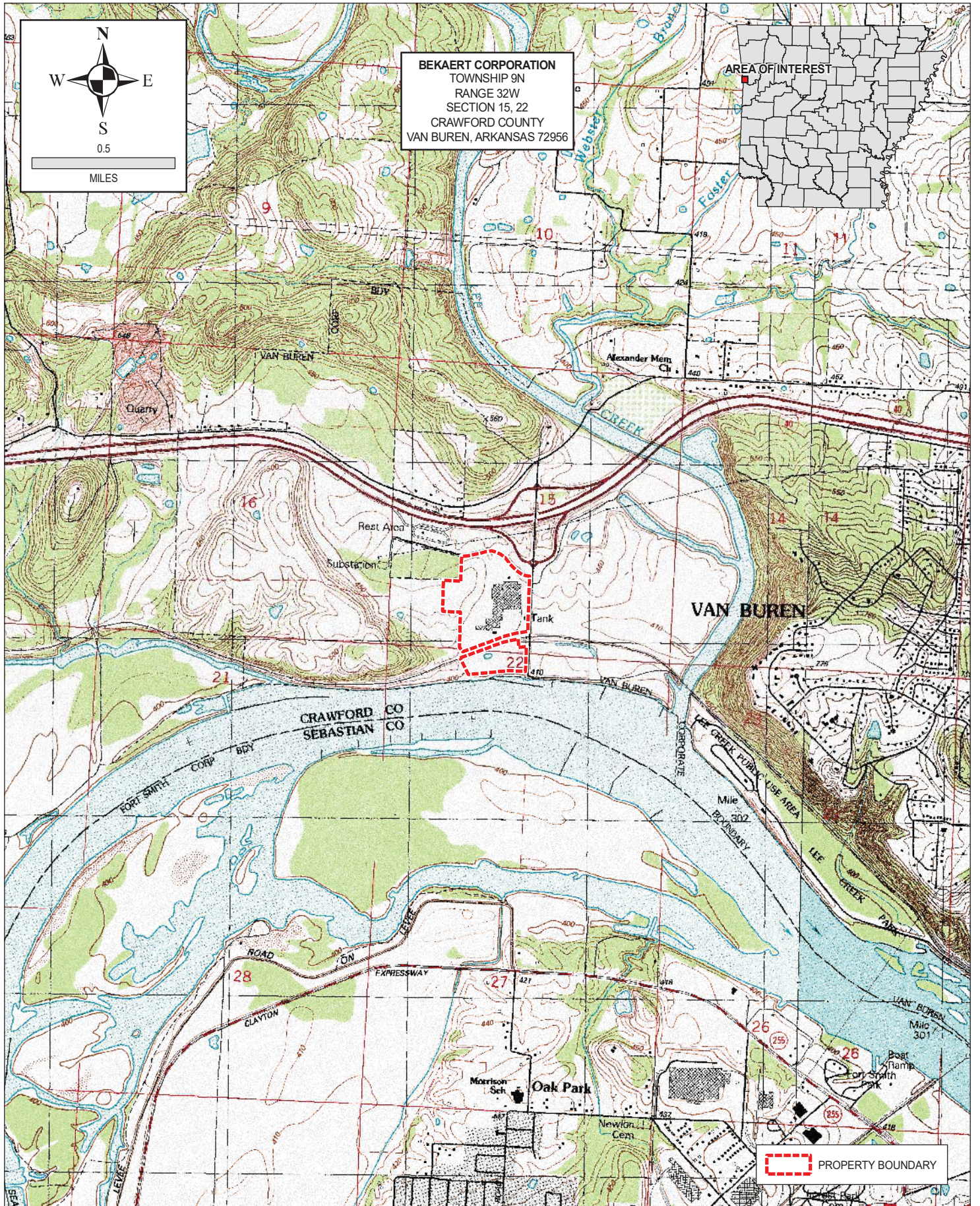
Official title of Responsible Official: Plant Manager Telephone Number: (479) 471-4754

Area Maps



BEKAERT CORPORATION
 TOWNSHIP 9N
 RANGE 32W
 SECTION 15, 22
 CRAWFORD COUNTY
 VAN BUREN, ARKANSAS 72956

AREA OF INTEREST



PROPERTY BOUNDARY

DESIGNED BY AAG
 CHECKED BY AAG
 APPR. BY AAG
 DRAWN BY IT



SHEET TITLE

TOPOGRAPHIC
 LOCATION MAP

JOB NAME

BEKAERT CORPORATION

VAN BUREN, ARKANSAS

PROJECT NO.

2016-20-050

DATE

03/31/2020

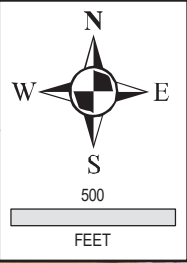
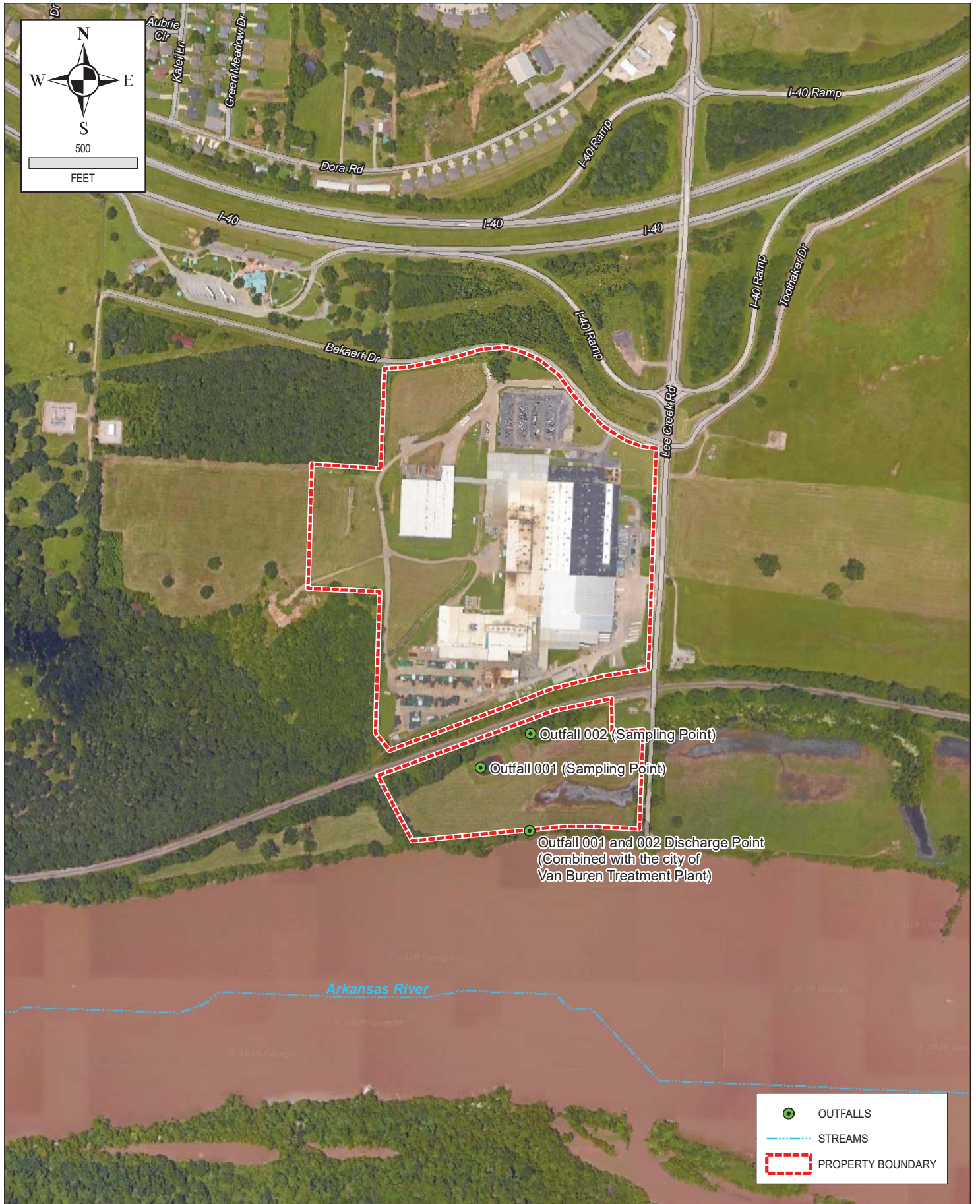
SCALE

SHOWN

REV. NO.

DWG. NO.

S2



	OUTFALLS
	STREAMS
	PROPERTY BOUNDARY

DESIGNED BY	AAG
CHECKED BY	AAG
APPR. BY	AAG
DRAWN BY	IT



SHEET TITLE	AERIAL PHOTOGRAPHY
-------------	--------------------

JOB NAME	BEKAERT CORPORATION
	VAN BUREN, ARKANSAS

PROJECT NO.	2016-20-050	REV. NO.	
DATE	03/31/2020	DWG. NO.	
SCALE	SHOWN		S1

List of Licensed Wastewater Operators

BEKAERT LICENSED WASTEWATER OPERATORS

Name	License Number	Discipline	License Level
Joe C. Friddle	004614	Municipal	2
Joe C. Friddle	004614	Industrial	B
David Lovell	009016	Industrial	A
Bruce Bull	009020	Industrial	A
Danny Ross	010251	Industrial	B
Robert W. Cox	010568	Industrial	B
Rodney Denton	010569	Industrial	B
Brandon Duke	010570	Industrial	A
Erik D. Duty	011242	Industrial	A
Bryan Craft	012544	Industrial	B
William Chambers	012545	Industrial	B
Roy Burton	012546	Industrial	B
Dennis Padilla	012547	Industrial	B
Austin Mackey	012548	Industrial	B
Brian Shea	012549	Industrial	B
Michael Sweeten	012552	Industrial	B
Brian Wiley	012553	Industrial	B
Robby Harris	012556	Industrial	B
Billy Scott	012557	Industrial	B
Nick Greenfield	012558	Industrial	B
Jesse Elmore	012960	Industrial	B
Jonathan Carr	012961	Industrial	B
Wilson Seratt	013017	Industrial	B
Gary Harshbarger Jr.	011406	Industrial	B
Michael Cumpton	012555	Industrial	B

Water Supply Sources

WATER SUPPLY SOURCES

The following have sources within 5 miles of Bekaert Corporation:

- Fort Smith Water Utilities

The following have surface sources within 50 miles of Bekaert Corporation:

- Booneville Waterworks
- Subiaco Academy Waterworks
- Prairie Grove Waterworks
- Siloam Springs Waterworks
- Mulberry Waterworks
- Alma Waterworks
- Charleston Waterworks
- Ozark Waterworks
- Cass CCC
- Paris Waterworks
- Booneville Development Center
- Waldron Waterworks
- Greenwood Waterworks
- Fort Smith Water Utilities
- James Fork Regional Water
- Lincoln Waterworks
- Celestial Beverage Company
- Arkansas State Park – Devils Den
- Turner Bend Store
- USFS White Rock
- St. Paul Waterworks

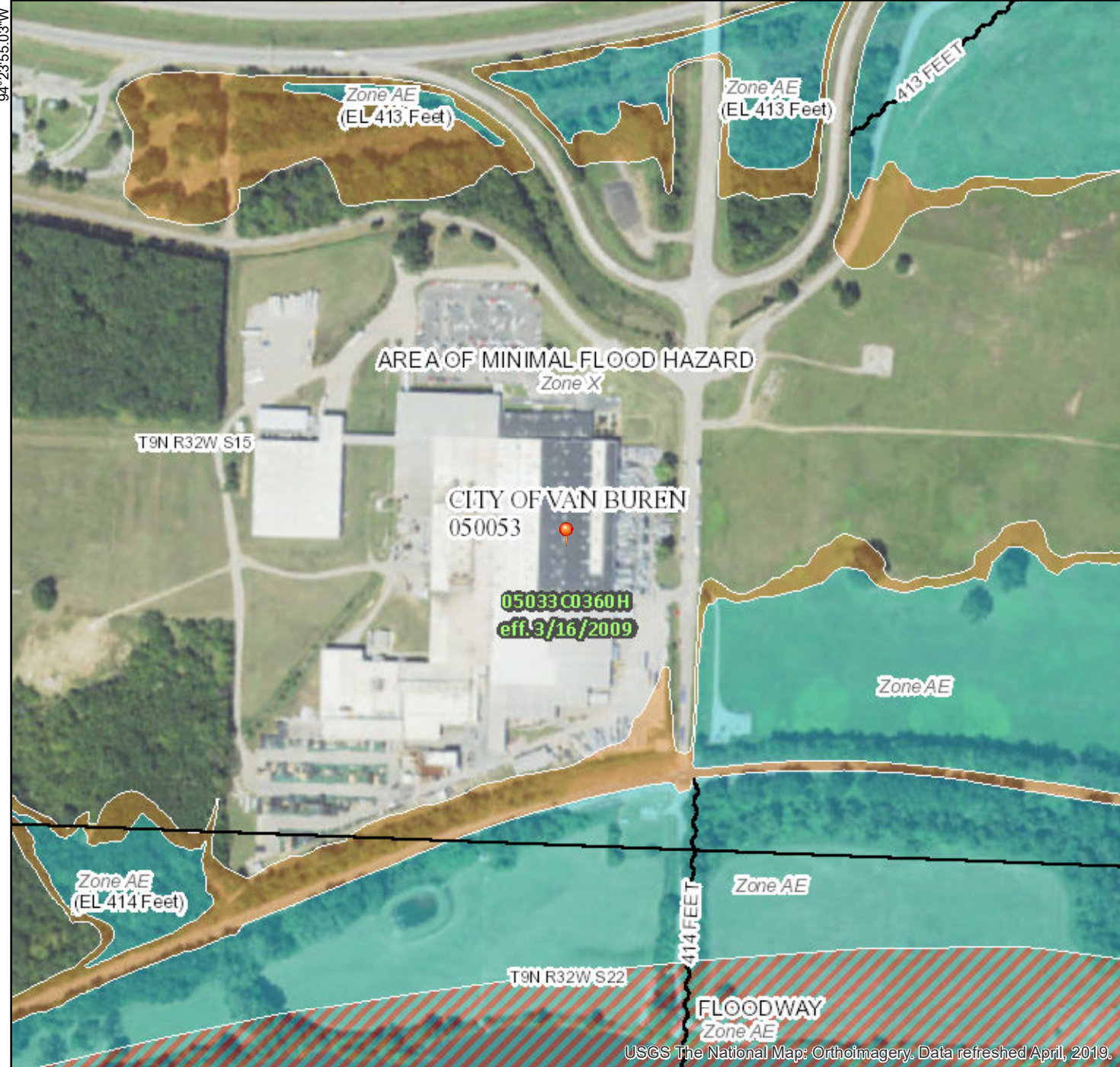
*Information provided by Arkansas Department of Health.

FEMA Map

National Flood Hazard Layer FIRMette



35°27'34.26"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.


This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2020 at 9:23:45 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Form 2C

EPA Identification Number	NPDES Permit Number AR0036552	Facility Name Bekaert Corporation	Form Approved 03/05/19 OMB No. 2040-0004
---------------------------	----------------------------------	--------------------------------------	---

Form 2C NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS
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SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location	1.1	Provide information on each of the facility's outfalls in the table below.			
		Outfall Number	Receiving Water Name	Latitude	Longitude
		001	Arkansas River	35° 27' 5.89" N	94° 23' 38.85" W
				° ' "	° ' "
				° ' "	° ' "

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing	2.1	Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C-1 at end of instructions for example.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--------------	-----	---

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment	3.1	For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.		
		Outfall Number 001		
		Operations Contributing to Flow		
		Operation	Average Flow	
		Rod Pickling	33,206 mgd	
		Galvanizing (Hot Dip)	22,116 mgd	
		Finishing	10,530 mgd	
		*See Attached For Detailed Source Listing	mgd	
		Treatment Units		
		Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
		All process waste streams receive the following:		
		Equalization, Neutralization, Aeration,	2-K, 1-O	
		Flocculation, Clarification, Polishing (3rd Stage)	1-G, 1-U, 1-U	
	Sludge Dewatering, Filtercake Disposal	5-R, 5-Q	Landfill	

EPA Identification Number		NPDES Permit Number AR0036552	Facility Name Bekaert Corporation	Form Approved 03/05/19 OMB No. 2040-0004		
Average Flows and Treatment Continued	3.1 cont.	**Outfall Number** N/A _____				
		Operations Contributing to Flow				
		Operation		Average Flow		
				mgd		
				mgd		
				mgd		
				mgd		
		Treatment Units				
		Description (include size, flow rate through each treatment unit, retention time, etc.)		Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge	
		Outfall Number N/A _____				
		Operations Contributing to Flow				
		Operation		Average Flow		
				mgd		
				mgd		
				mgd		
				mgd		
Treatment Units						
Description (include size, flow rate through each treatment unit, retention time, etc.)		Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge			
System Users	3.2	Are you applying for an NPDES permit to operate a privately owned treatment works? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 4.				
	3.3	Have you attached a list that identifies each user of the treatment works? <input type="checkbox"/> Yes <input type="checkbox"/> No				

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows	4.1	Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 5.						
	4.2	Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.						
		Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
				Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
		001	Zinc Phosphate Coating	2 <small>#/month</small> days/week	N/A months/year	0.006 mgd	0.012 mgd	N/A days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs	5.1	Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 6.					
	5.2	Provide the following information on applicable ELGs.					
		ELG Category	ELG Subcategory			Regulatory Citation	
		Iron and Steel Manufacturing	Acid Pickling Subcategory			40 CFR 420 Subpart I	
	Iron and Steel Manufacturing	Hot Coating Subcategory			40 CFR 420 Subpart L		
	Metal Finishing	Metal Finishing Subcategory			40 CFR 433 Subpart A		
Production-Based Limitations	5.3	Are any of the applicable ELGs expressed in terms of production (or other measure of operation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 6.					
	5.4	Provide an actual measure of daily production expressed in terms and units of applicable ELGs.					
		Outfall Number	Operation, Product, or Material			Quantity per Day	Unit of Measure
		001	Iron Rod Pickling			369.43	metric tons/day
	001	Galvanizing (Hot Dip)			380.75	metric tons/day	

Note: Production numbers provide above represents the average daily production for January 2020.

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements	6.1	Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 6.3.			
	6.2	Briefly identify each applicable project in the table below.			
		Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates
					Required Projected
6.3	Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? <i>(optional item)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not applicable				

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics	See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.			
	Table A. Conventional and Non-Conventional Pollutants			
	7.1	Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.3.		
	7.2	If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application. Outfall Number _____ Outfall Number _____ Outfall Number _____		
	7.3	Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.		
	Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants			
	7.4	Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 7.8.		
	7.5	Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.6	List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.		
		Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)	
Iron and Steel Manufacturing		<input checked="" type="checkbox"/> Volatile	<input checked="" type="checkbox"/> Acid	<input checked="" type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide
		<input type="checkbox"/> Volatile	<input type="checkbox"/> Acid	<input type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide
	<input type="checkbox"/> Volatile	<input type="checkbox"/> Acid	<input type="checkbox"/> Base/Neutral <input type="checkbox"/> Pesticide	

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Effluent and Intake Characteristics Continued	7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? <input type="checkbox"/> Yes → Note that you qualify at the top of Table B, then SKIP to Item 7.12. <input checked="" type="checkbox"/> No						
	7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	Table C. Certain Conventional and Non-Conventional Pollutants							
	7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	Table D. Certain Hazardous Substances and Asbestos							
	7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
	Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)							
	7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? <input type="checkbox"/> Yes → Complete Table E. <input checked="" type="checkbox"/> No → SKIP to Section 8.						
7.17	Have you completed Table E by reporting <i>qualitative</i> data for TCDD? <input type="checkbox"/> Yes <input type="checkbox"/> No							
SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))								
Used or Manufactured Toxics	8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 9.						
	8.2	List the pollutants below.						
		1. Lead	4.	7.				
		2. Zinc	5.	8.				
	3.	6.	9.					

SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests	9.1	Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 10.			
	9.2	Identify the tests and their purposes below.			
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		ACUTE WET TESTING	Permit Requirement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Quarterly with DMRs
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No			

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses	10.1	Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 11.			
	10.2	Provide information for each contract laboratory or consulting firm below.			
			Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
		Name of laboratory/firm	American Interplex		
		Laboratory address	8600 Kanis Road Little Rock, AR 72204		
		Phone number	(501) 224-5060		
Pollutant(s) analyzed	All				


SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information	11.1	Has the NPDES permitting authority requested additional information? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 12.			
	11.2	List the information requested and attach it to this application.			
		1.	4.		
		2.	5.		
	3.	6.			

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SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement	12.1	In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.	
		Column 1	Column 2
	<input checked="" type="checkbox"/>	Section 1: Outfall Location	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 2: Line Drawing	<input checked="" type="checkbox"/> w/ line drawing <input type="checkbox"/> w/ additional attachments
	<input checked="" type="checkbox"/>	Section 3: Average Flows and Treatment	<input checked="" type="checkbox"/> w/ attachments <input type="checkbox"/> w/ list of each user of privately owned treatment works
	<input checked="" type="checkbox"/>	Section 4: Intermittent Flows	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 5: Production	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 6: Improvements	<input type="checkbox"/> w/ attachments <input type="checkbox"/> w/ optional additional sheets describing any additional pollution control plans
	<input checked="" type="checkbox"/>	Section 7: Effluent and Intake Characteristics	<input type="checkbox"/> w/ request for a waiver and supporting information <input type="checkbox"/> w/ small business exemption request <input checked="" type="checkbox"/> w/ Table A <input checked="" type="checkbox"/> w/ Table B <input checked="" type="checkbox"/> w/ Table C <input checked="" type="checkbox"/> w/ Table D <input checked="" type="checkbox"/> w/ Table E <input checked="" type="checkbox"/> w/ analytical results as an attachment
	<input checked="" type="checkbox"/>	Section 8: Used or Manufactured Toxics	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 9: Biological Toxicity Tests	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 10: Contract Analyses	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 11: Additional Information	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/>	Section 12: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments	
12.2	Certification Statement		
	<p><i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i></p>		
	Name (print or type first and last name)	Official title	
	Randy McClaren Jr	Plant Manager	
	Signature	Date signed	
		4/2/20	

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))¹

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
<input type="checkbox"/>	Check here if you have applied to your NPDES permitting authority for a waiver for <i>all</i> of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD ₅)	<input type="checkbox"/>	Concentration	mg/l	<2.0	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	<0.68	N/A	N/A	1	N/A	N/A
2.	Chemical oxygen demand (COD)	<input type="checkbox"/>	Concentration	mg/l	500	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	170.97	N/A	N/A	1	N/A	N/A
3.	Total organic carbon (TOC)	<input type="checkbox"/>	Concentration	mg/l	<1	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	<0.342	N/A	N/A	1	N/A	N/A
4.	Total suspended solids (TSS)	<input type="checkbox"/>	Concentration	mg/l	22	22	12.75	10	N/A	N/A
			Mass	lbs/day	4.5	4.5	2.51	10	N/A	N/A
5.	Ammonia (as N)	<input type="checkbox"/>	Concentration	mg/l	14	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	4.79	N/A	N/A	1	N/A	N/A
6.	Flow	<input type="checkbox"/>	Rate	MGD	0.102	0.0383	0.0299	24	N/A	N/A
7.	Temperature (winter)	<input type="checkbox"/>	°C	°C	Ambient	N/A	N/A	1	N/A	N/A
	Temperature (summer)	<input type="checkbox"/>	°C	°C	Ambient	N/A	N/A	1	N/A	N/A
8.	pH (minimum)	<input type="checkbox"/>	Standard units	s.u.	6.84	N/A	N/A	24	N/A	N/A
	pH (maximum)	<input type="checkbox"/>	Standard units	s.u.	8.07	N/A	N/A	24	N/A	N/A

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses

Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.

Section 1. Toxic Metals, Cyanide, and Total Phenols

1.1	Antimony, total (7440-36-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
1.2	Arsenic, total (7440-38-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.3	Beryllium, total (7440-41-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.005	0.005	0.0028	8	N/A	N/A
					Mass	lbs/day	0.0016	0.0016	0.00103	8	N/A	N/A
1.5	Chromium, total (7440-47-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.01	0.01	0.053	8	N/A	N/A
					Mass	lbs/day	0.03	0.03	0.0136	8	N/A	N/A
1.6	Copper, total (7440-50-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.012	0.012	0.0091	8	N/A	N/A
					Mass	lbs/day	0.0038	0.0038	0.0024	8	N/A	N/A
1.7	Lead, total (7439-92-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.0079	0.0079	0.0052	8	N/A	N/A
					Mass	lbs/day	0.00216	0.00216	0.00138	8	N/A	N/A
1.8	Mercury, total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.26	0.26	0.123	8	N/A	N/A
					Mass	lbs/day	0.15	0.15	0.03	8	N/A	N/A
1.10	Selenium, total (7782-49-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.11	Silver, total (7440-22-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.005	0.005	0.0021	8	N/A	N/A
					Mass	lbs/day	0.00154	0.00154	0.00084	8	N/A	N/A

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
1.12	Thallium, total (7440-28-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
1.13	Zinc, total (7440-66-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.22	0.22	0.115	8	N/A	N/A
					Mass	lbs/day	1.02	1.02	0.152	8	N/A	N/A
1.14	Cyanide, total (57-12-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.01	0.01	0.01	8	N/A	N/A
					Mass	lbs/day	0.0166	0.0166	0.0044	8	N/A	N/A
1.15	Phenols, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
2.2	Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.3	Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
2.10	Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.11	Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.12	1,1-dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.13	1,2-dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.14	1,1-dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.15	1,2-dichloropropane (78-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.16	1,3-dichloropropylene (542-75-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.17	Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.18	Methyl bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.19	Methyl chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.20	Methylene chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.21	1,1,2,2- tetrachloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
2.23	Toluene (108-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.24	1,2-trans-dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.25	1,1,1-trichloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.26	1,1,2-trichloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.27	Trichloroethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.28	Vinyl chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)											
3.1	2-chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
3.2	2,4-dichlorophenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.3	2,4-dimethylphenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.4	4,6-dinitro-o-cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.5	2,4-dinitrophenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
3.7	4-nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.8	p-chloro-m-cresol (59-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.9	Pentachlorophenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.10	Phenol (108-95-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.11	2,4,6-trichlorophenol (88-05-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)											
4.1	Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.2	Acenaphthylene (208-96-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.3	Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.4	Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.5	Benzo (a) anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.6	Benzo (a) pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.8	Benzo (ghi) perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.9	Benzo (k) fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.10	Bis (2-chloroethoxy) methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.11	Bis (2-chloroethyl) ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.14	4-bromophenyl phenyl ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.15	Butyl benzyl phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.16	2-chloronaphthalene (91-58-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.17	4-chlorophenyl phenyl ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.18	Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.19	Dibenzo (a,h) anthracene (53-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.21	1,3-dichlorobenzene (541-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.22	1,4-dichlorobenzene (106-46-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.23	3,3-dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.24	Diethyl phthalate (84-66-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.25	Dimethyl phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.26	Di-n-butyl phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.27	2,4-dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.28	2,6-dinitrotoluene (606-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.29	Di-n-octyl phthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.31	Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.32	Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.34	Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.35	Hexachlorocyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.36	Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.38	Isophorone (78-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.39	Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.40	Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.41	N-nitrosodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.42	N-nitrosodi-n-propylamine (621-64-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.43	N-nitrosodiphenylamine (86-30-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.44	Phenanthrene (85-01-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.45	Pyrene (129-00-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
4.46	1,2,4-trichlorobenzene (120-82-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass	See PPS Form for further information for parameters with only one analysis.						
5.2	α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.3	β-BHC (319-85-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.4	γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.5	δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.6	Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.7	4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.8	4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.9	4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.10	Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							
5.11	α-endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration Mass							

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Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))¹

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
<input type="checkbox"/>	Check here if you have applied to your NPDES permitting authority for a waiver for <i>all</i> of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD ₅)	<input type="checkbox"/>	Concentration	mg/l	<2.0	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	<0.68	N/A	N/A	1	N/A	N/A
2.	Chemical oxygen demand (COD)	<input type="checkbox"/>	Concentration	mg/l	500	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	170.97	N/A	N/A	1	N/A	N/A
3.	Total organic carbon (TOC)	<input type="checkbox"/>	Concentration	mg/l	<1	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	<0.342	N/A	N/A	1	N/A	N/A
4.	Total suspended solids (TSS)	<input type="checkbox"/>	Concentration	mg/l	22	22	12.75	10	N/A	N/A
			Mass	lbs/day	4.5	4.5	2.51	10	N/A	N/A
5.	Ammonia (as N)	<input type="checkbox"/>	Concentration	mg/l	14	N/A	N/A	1	N/A	N/A
			Mass	lbs/day	4.79	N/A	N/A	1	N/A	N/A
6.	Flow	<input type="checkbox"/>	Rate	MGD	0.102	0.0383	0.0299	24	N/A	N/A
7.	Temperature (winter)	<input type="checkbox"/>	°C	°C	Ambient	N/A	N/A	1	N/A	N/A
	Temperature (summer)	<input type="checkbox"/>	°C	°C	Ambient	N/A	N/A	1	N/A	N/A
8.	pH (minimum)	<input type="checkbox"/>	Standard units	s.u.	6.84	N/A	N/A	24	N/A	N/A
	pH (maximum)	<input type="checkbox"/>	Standard units	s.u.	8.07	N/A	N/A	24	N/A	N/A

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses

Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.

Section 1. Toxic Metals, Cyanide, and Total Phenols

1.1	Antimony, total (7440-36-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
1.2	Arsenic, total (7440-38-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.3	Beryllium, total (7440-41-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.005	0.005	0.0028	8	N/A	N/A
					Mass	lbs/day	0.0016	0.0016	0.00103	8	N/A	N/A
1.5	Chromium, total (7440-47-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.01	0.01	0.053	8	N/A	N/A
					Mass	lbs/day	0.03	0.03	0.0136	8	N/A	N/A
1.6	Copper, total (7440-50-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.012	0.012	0.0091	8	N/A	N/A
					Mass	lbs/day	0.0038	0.0038	0.0024	8	N/A	N/A
1.7	Lead, total (7439-92-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.0079	0.0079	0.0052	8	N/A	N/A
					Mass	lbs/day	0.00216	0.00216	0.00138	8	N/A	N/A
1.8	Mercury, total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.26	0.26	0.123	8	N/A	N/A
					Mass	lbs/day	0.15	0.15	0.03	8	N/A	N/A
1.10	Selenium, total (7782-49-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
1.11	Silver, total (7440-22-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.005	0.005	0.0021	8	N/A	N/A
					Mass	lbs/day	0.00154	0.00154	0.00084	8	N/A	N/A

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
1.12	Thallium, total (7440-28-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
1.13	Zinc, total (7440-66-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.22	0.22	0.115	8	N/A	N/A
					Mass	lbs/day	1.02	1.02	0.152	8	N/A	N/A
1.14	Cyanide, total (57-12-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	0.01	0.01	0.01	8	N/A	N/A
					Mass	lbs/day	0.0166	0.0166	0.0044	8	N/A	N/A
1.15	Phenols, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							

Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)

2.1	Acrolein (107-02-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
2.2	Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.3	Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.4	Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.5	Carbon tetrachloride (56-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.6	Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.7	Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.8	Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
2.9	2-chloroethylvinyl ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.						
					Mass							
2.10	Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
2.23	Toluene (108-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.24	1,2-trans-dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.25	1,1,1-trichloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.26	1,1,2-trichloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.27	Trichloroethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
2.28	Vinyl chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)											
3.1	2-chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
3.2	2,4-dichlorophenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.3	2,4-dimethylphenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.4	4,6-dinitro-o-cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.5	2,4-dinitrophenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
3.7	4-nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.8	p-chloro-m-cresol (59-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.9	Pentachlorophenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.10	Phenol (108-95-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
3.11	2,4,6-trichlorophenol (88-05-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)											
4.1	Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.2	Acenaphthylene (208-96-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.3	Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.4	Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.5	Benzo (a) anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.6	Benzo (a) pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.8	Benzo (ghi) perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.9	Benzo (k) fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.10	Bis (2-chloroethoxy) methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.11	Bis (2-chloroethyl) ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.14	4-bromophenyl phenyl ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.15	Butyl benzyl phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.16	2-chloronaphthalene (91-58-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.17	4-chlorophenyl phenyl ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.18	Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.19	Dibenzo (a,h) anthracene (53-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.21	1,3-dichlorobenzene (541-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.22	1,4-dichlorobenzene (106-46-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.23	3,3-dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.24	Diethyl phthalate (84-66-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.25	Dimethyl phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.26	Di-n-butyl phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.27	2,4-dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.28	2,6-dinitrotoluene (606-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.29	Di-n-octyl phthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.31	Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.32	Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
4.34	Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.35	Hexachlorocyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.36	Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.38	Isophorone (78-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.39	Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.40	Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.41	N-nitrosodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.42	N-nitrosodi-n-propylamine (621-64-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.43	N-nitrosodiphenylamine (86-30-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.44	Phenanthrene (85-01-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						
4.45	Pyrene (129-00-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
5.13	Endosulfan sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.14	Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.15	Endrin aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.16	Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.17	Heptachlor epoxide (1024-57-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.18	PCB-1242 (53469-21-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.19	PCB-1254 (11097-69-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.20	PCB-1221 (11104-28-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.21	PCB-1232 (11141-16-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.22	PCB-1248 (12672-29-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.23	PCB-1260 (11096-82-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.24	PCB-1016 (12674-11-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
5.25	Toxaphene (8001-35-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration							
					Mass							

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration	See PPS Form for further information for parameters with only one analysis.					
					Mass						
5.13	Endosulfan sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.14	Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.15	Endrin aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.16	Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.17	Heptachlor epoxide (1024-57-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.18	PCB-1242 (53469-21-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.19	PCB-1254 (11097-69-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.20	PCB-1221 (11104-28-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.21	PCB-1232 (11141-16-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.22	PCB-1248 (12672-29-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.23	PCB-1260 (11096-82-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						
5.24	PCB-1016 (12674-11-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
					Mass						

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
5.25	Toxaphene (8001-35-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration							
					Mass							

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)		
	Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses	
<input type="checkbox"/> Check here if you believe all pollutants on Table C to be <i>present</i> in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
<input type="checkbox"/> Check here if you believe all pollutants on Table C to be <i>absent</i> in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
1.	Bromide (24959-67-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
2.	Chlorine, total residual	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
3.	Color	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
4.	Fecal coliform	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
5.	Fluoride (16984-48-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
6.	Nitrate-nitrite	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
7.	Nitrogen, total organic (as N)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
8.	Oil and grease	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Concentration	mg/l	5	5	5	8	N/A
				Mass	lbs/day	1.83	1.83	0.98	8	N/A
9.	Phosphorus (as P), total (7723-14-0)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
10.	Sulfate (as SO ₄) (14808-79-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
11.	Sulfide (as S)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO ₃) (14265-45-3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
13.	Surfactants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
14.	Aluminum, total (7429-90-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
15.	Barium, total (7440-39-3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
16.	Boron, total (7440-42-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
17.	Cobalt, total (7440-48-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
18.	Iron, total (7439-89-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
19.	Magnesium, total (7439-95-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
20.	Molybdenum, total (7439-98-7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
21.	Manganese, total (7439-96-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
22.	Tin, total (7440-31-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						
23.	Titanium, total (7440-32-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
				Mass						

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)	
	Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24. Radioactivity									
Alpha, total	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
			Mass						
Beta, total	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
			Mass						
Radium, total	<input type="checkbox"/>	<input type="checkbox"/>	Concentration						
			Mass						
Radium 226, total	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concentration						
			Mass						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
2.	Acetaldehyde	<input type="checkbox"/>	<input type="checkbox"/>		
3.	Allyl alcohol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.	Allyl chloride	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
5.	Amyl acetate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
6.	Aniline	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
7.	Benzonitrile	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
8.	Benzyl chloride	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
9.	Butyl acetate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
10.	Butylamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
11.	Captan	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
12.	Carbaryl	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
13.	Carbofuran	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
14.	Carbon disulfide	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
15.	Chlorpyrifos	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
16.	Coumaphos	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
17.	Cresol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
18.	Crotonaldehyde	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
19.	Cyclohexane	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
21.	Diazinon	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
22.	Dicamba	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
23.	Dichlobenil	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
24.	Dichlone	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
25.	2,2-dichloropropionic acid	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
26.	Dichlorvos	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
27.	Diethyl amine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
28.	Dimethyl amine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
29.	Dinitrobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
30.	Diquat	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
31.	Disulfoton	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
32.	Diuron	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
33.	Epichlorohydrin	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
34.	Ethion	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
35.	Ethylene diamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
36.	Ethylene dibromide	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
37.	Formaldehyde	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
38.	Furfural	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
40.	Isoprene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
41.	Isopropanolamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
42.	Kelthane	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
43.	Kepone	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
44.	Malathion	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
45.	Mercaptodimethur	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
46.	Methoxychlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
47.	Methyl mercaptan	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
48.	Methyl methacrylate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
49.	Methyl parathion	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
50.	Mevinphos	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
51.	Mexacarbate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
52.	Monoethyl amine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
53.	Monomethyl amine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
54.	Naled	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
55.	Naphthenic acid	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
56.	Nitrotoluene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
57.	Parathion	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
59.	Phosgene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
60.	Propargite	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
61.	Propylene oxide	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
62.	Pyrethrins	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
63.	Quinoline	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
64.	Resorcinol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
65.	Strontium	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
66.	Strychnine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
67.	Styrene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
69.	TDE (tetrachlorodiphenyl ethane)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
71.	Trichlorofon	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
72.	Triethanolamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
73.	Triethylamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
74.	Trimethylamine	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
75.	Uranium	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
76.	Vanadium	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
78.	Xylene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
79.	Xylenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
80.	Zirconium	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))				
Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Non-Detect

Process Flow Diagram

**Bekaert Corporation
Van Buren, AR
Waste Water Treatment Plant**

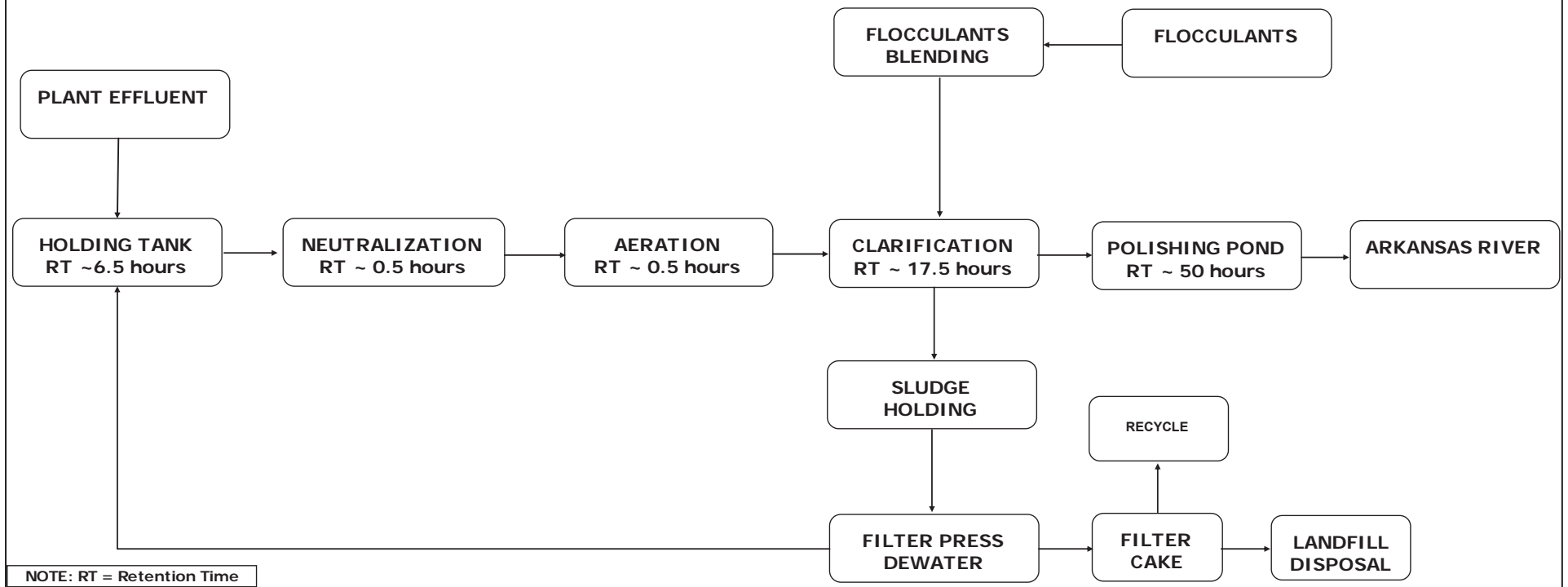
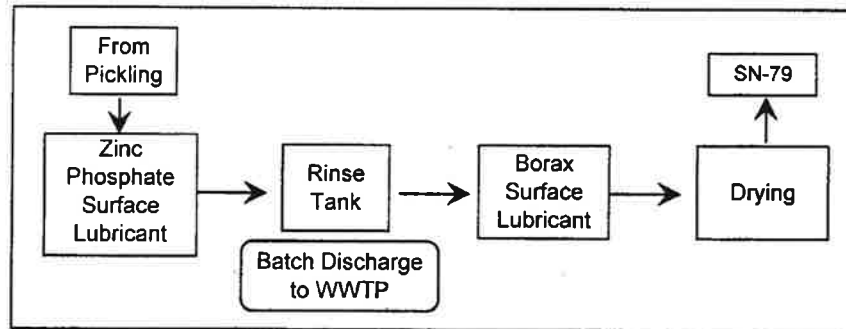
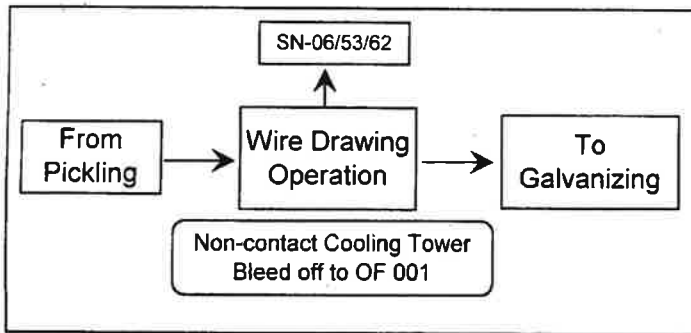
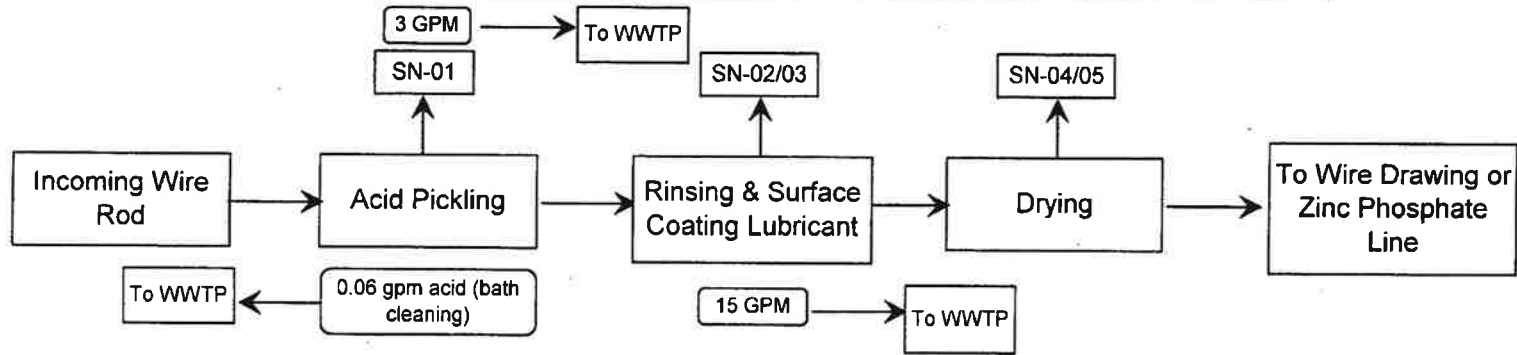


Figure 1 - Waste Water Treatment Plant Schematic

PROCESS FLOW DIAGRAM - PICKLING AND WIRE



Key:
 OF 001 = On Site Waste Water Treatment Plant and Outfall 001
 OF 002 = Stormwater Outfall 002
 SN## = Air Emission Location No.
 "To WWTP" = Flow to head works of OF 001

Outfall 001 Detailed Source Listing
Form 2C-Section 3.1

OUTFALL 001 DETAILED SOURCE LISTING

FORM 2C - SECTION 3.1

Process	Estimated Average Flow (GPD)
Rod Pickling	
HCL Rinse	21,600
HCL Scrubber	4,320
Waste Acid	86
Wire Redraw	7,200
Galvanizing	
HCL Pickling Rinse	9,360
HCL Scrubbers (3)	6,480
Waste Acid	334
Flux Coating	5,760
Coating	167
Paint Cooling	15
Finishing	
Cooling Towers	7,200
Misc. Sources	2,880
Zinc Phosphate Coating	450

Form 2E

FORM 2E NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER
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SECTION 1. OUTFALL LOCATION (40 CFR 122.21(h)(1))

Outfall Location	1.1	Provide information on each of the facility's outfalls in the table below.							
		Outfall Number	Receiving Water Name	Latitude		Longitude			
		002	Arkansas River	35°	27'	5.87" N	94°	23'	38.85" W
				°	'	"	°	'	"
				°	'	"	°	'	"

SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2))

Discharge Date	2.1	Are you a new or existing discharger? (Check only one response.)	
		<input type="checkbox"/> New discharger	<input checked="" type="checkbox"/> Existing discharger → SKIP to Section 3.
	2.2	Specify your anticipated discharge date:	

SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3))

Waste Types	3.1	What types of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a new discharger? (Check all that apply.)	
		<input type="checkbox"/> Sanitary wastes	<input checked="" type="checkbox"/> Other nonprocess wastewater (describe/explain directly below) A/C Cooling Tower and A/C Pump Seal Flush
		<input type="checkbox"/> Restaurant or cafeteria waste	
		<input checked="" type="checkbox"/> Non-contact cooling water (Air Compressor)	
	3.2	Does the facility use cooling water additives?	
		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No → SKIP to Section 4.
	3.3	List the cooling water additives used and describe their composition.	
		Cooling Water Additives (list)	Composition of Additives (if available to you)
		See Note at bottom of page.	

SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4))

Effluent Characteristics	4.1	Have you completed monitoring for all parameters in the table below at each of your outfalls and attached the results to this application package?					
		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5.				
	4.2	Provide data as requested in the table below. ¹ (See instructions for specifics.)					
		Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)	Source (use codes per instructions)
				Mass	Conc.	Mass	Conc.
		Biochemical oxygen demand (BOD ₅)	1	N/A	3.2 mg/l	N/A	N/A
		Total suspended solids (TSS)	1	N/A	57 mg/l	N/A	N/A
		Oil and grease	8	N/A	5 mg/l	N/A	5 mg/l
		Ammonia (as N)	1	N/A	0.31 mg/l	N/A	N/A
		Discharge flow	24	0.808 MGD			
	pH (report as range)	24	6.22-8.05 S.U.				
	Temperature (winter)	1	Ambient				
	Temperature (summer)	1	Ambient				

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

Note: A mass rate is not applicable since the outfall is stormwater driven.

EPA Form 3510-2E (revised 3-19)

Note: Sodium Hydroxide, 1-Bromo-3-Chloro-5, 5-dimethylhydantoin, N-alkyl Dimethyl Benzyl Ammonium Chloride, N-Dialkyl Methyl Benzyl Ammonium Chloride, Octylphenoxypolyethoxyethanol Nonionic surfactant

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Effluent Characteristics Continued	4.3	Is fecal coliform believed present, or is sanitary waste discharged (or will it be discharged)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 4.5.						
	4.4	Provide data as requested in the table below. ¹ (See instructions for specifics.)						
		Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (Use codes per Instructions.)
				Mass	Conc.	Mass	Conc.	
		Fecal coliform						
		<i>E. coli</i>						
		Enterococci						
	4.5	Is chlorine used (or will it be used)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 4.7.						
	4.6	Provide data as requested in the table below. ¹ (See instructions for specifics.)						
		Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
			Mass	Conc.	Mass	Conc.		
	Total Residual Chlorine							
4.7	Is non-contact cooling water discharged (or will it be discharged)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 5.							
4.8	Provide data as requested in the table below. ¹ (See instructions for specifics.)							
	Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)	
			Mass	Conc.	Mass	Conc.		
	Chemical oxygen demand (COD)	8	N/A	55 mg/l	N/A	55 mg/l		
	Total organic carbon (TOC)	1		5.5 mg/l	N/A	N/A		
SECTION 5. FLOW (40 CFR 122.21(h)(5))								
Flow	5.1	Except for stormwater water runoff, leaks, or spills, are any of the discharges you described in Sections 1 and 3 of this application intermittent or seasonal? <input type="checkbox"/> Yes → Complete this section. <input checked="" type="checkbox"/> No → SKIP to Section 6.						
	5.2	Briefly describe the frequency and duration of flow.						
SECTION 6. TREATMENT SYSTEM (40 CFR 122.21(h)(6))								
Treatment System	6.1	Briefly describe any treatment system(s) used (or to be used). None						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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SECTION 7. OTHER INFORMATION (40 CFR 122.21(h)(7))

Other Information	7.1	<p>Use the space below to expand upon any of the above items. Use this space to provide any information you believe the reviewer should consider in establishing permit limitations. Attach additional sheets as needed.</p> <p>As indicated in Form 2F, air conditioning cooling tower, pump seal flush water, and air compressor non-contact cooling water may be discharged through Outfall 002 at times when stormwater does not contribute to the discharge volume. These flows are not intermittent or seasonal.</p> <p>In addition, flow measured at the flume weir box may include ground water infiltration into the sub-surface cement tile collection and drain system.</p>
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SECTION 8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement	8.1	<p>In Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.</p>	
		Column 1	Column 2
		<input checked="" type="checkbox"/> Section 1: Outfall Location	<input type="checkbox"/> w/ attachments (e.g., responses for additional outfalls)
		<input checked="" type="checkbox"/> Section 2: Discharge Date	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 3: Waste Types	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 4: Effluent Characteristics	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 5: Flow	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 6: Treatment System	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 7: Other Information	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 8: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments
	8.2	<p>Certification Statement</p> <p><i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i></p>	
		Name (print or type first and last name)	Official title
		Randy McClaren Jr.	Plant Manager
		Signature 	Date signed 4/2/20

Form 2F

Form 2F NPDES		U.S Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY
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SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location	1.1	Provide information on each of the facility's outfalls in the table below			
		Outfall Number	Receiving Water Name	Latitude	Longitude
		002	Arkansas River	35° 27' 5.87" N	94° 23' 38.85" W
				° ' "	° ' "
				° ' "	° ' "
				° ' "	° ' "
				° ' "	° ' "
				° ' "	° ' "

SECTION 2. IMPROVEMENTS (40 CFR 122.21(g)(6))

Improvements	2.1	Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 3.			
	2.2	Briefly identify each applicable project in the table below.			
		Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge	Final Compliance Dates
					Required Projected
	2.3	Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? (Optional Item) <input type="checkbox"/> Yes <input type="checkbox"/> No			

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SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map	3.1	Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No


SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources	4.1	Provide information on the facility's pollutant sources in the table below.				
		Outfall Number	Impervious Surface Area (within a mile radius of the facility)	Total Surface Area Drained (within a mile radius of the facility)		
		002	760,000	<i>specify units</i> sq. ft	850,000	<i>specify units</i> sq. ft.
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
				<i>specify units</i>		<i>specify units</i>
	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) Bekaert Corporation's Van Buren, AR facility has a 5,000 sq. ft. building to accommodate the relocation of material handling activities exposed to stormwater. This facility houses: metal scraps, waste, and compactor hoppers; scrap bundling operations; used oil and other drummed wastes; and maintenance cleaning/storage materials and activities. Outside material storage/handling operations include: storage of fresh/recycle HCl and diesel fuel (open sided canopy) within containment basins; baghouse vacuum filtration of wire drawing soap dust (surfactant); shipping and receiving driveways, steel rod (raw material), and tarped spare equipment. Past/present treatment, storage, and disposal activities do not include exposure to storm water. WWTP filter cake is contained in hoppers.				
	4.3	Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)				
		Stormwater Treatment				
		Outfall Number	Control Measures and Treatment		Codes from Exhibit 2F-1 (list)	
		002	N/A			

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SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))

Non-Stormwater Discharges	5.1	I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.			
		Name (print or type first and last name)	Official title		
		Randy McClaren Jr.	Plant Manager		
		Signature	Date signed		
			4/21/20		
	5.2	Provide the testing information requested in the table below.			
		Outfall Number	Description of Testing Method Used	Date(s) of Testing	Onsite Drainage Points Directly Observed During Test
		002	Visual		002

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))

Significant Leaks or Spills	6.1	Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. There have been no significant spills or leaks in the past three years.

SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E))

Discharge Information	See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.	
	7.1	Is this a new source or new discharge? <input type="checkbox"/> Yes → See instructions regarding submission of <i>estimated data</i> . <input checked="" type="checkbox"/> No → See instructions regarding submission of <i>actual data</i> .
	Tables A, B, C, and D	
	7.2	Have you completed Table A for each outfall? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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Discharge Information Continued	7.3	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 7.5.	
	7.4	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	7.5	Do you know or have reason to believe any pollutants in Exhibit 2F-2 are present in the discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.7.	
	7.6	Have you listed all pollutants in Exhibit 2F-2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? <input type="checkbox"/> Yes → SKIP to Item 7.18. <input checked="" type="checkbox"/> No	
	7.8	Do you know or have reason to believe any pollutants in Exhibit 2F-3 are present in the discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.10.	
	7.9	Have you listed all pollutants in Exhibit 2F-3 that you know or have reason to believe are present in the discharge in Table C? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	7.10	Do you expect any of the pollutants in Exhibit 2F-3 to be discharged in concentrations of 10 ppb or greater? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.12.	
	7.11	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F-3 that you expect to be discharged in concentrations of 10 ppb or greater? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	7.12	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.14.	
	7.13	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	7.14	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	7.15	Do you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.17.	
	7.16	Have you listed pollutants in Exhibit 2F-4 that you know or believe to be present in the discharge and provided an explanation in Table C? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	7.17	Have you provided information for the storm event(s) sampled in Table D? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Discharge Information Continued	Used or Manufactured Toxics		
	7.18	Is any pollutant listed on Exhibits 2F-2 through 2F-4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 8.	
	7.19	List the pollutants below, including TCDD if applicable.	
	1.	4.	7.
	2.	5.	8.
	3.	6.	9.

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))

Biological Toxicity Testing Data	8.1	Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 9.			
	8.2	Identify the tests and their purposes below.			
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		Acute WET at Outfall 001	Permit Requirement at 001	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	With 001 DMRs
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Yes <input type="checkbox"/> No		


SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))

Contract Analysis Information	9.1	Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 10.		
	9.2	Provide information for each contract laboratory or consulting firm below.		
		Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
		Name of laboratory/firm	American Interplex	
		Laboratory address	8600 Kanis Road Little Rock, AR 72204	
		Phone number	(501) 224-5060	
	Pollutant(s) analyzed	All		

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SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement	10.1	In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.	
		Column 1	Column 2
		<input checked="" type="checkbox"/> Section 1	<input type="checkbox"/> w/ attachments (e.g., responses for additional outfalls)
		<input checked="" type="checkbox"/> Section 2	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 3	<input checked="" type="checkbox"/> w/ site drainage map
		<input checked="" type="checkbox"/> Section 4	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 5	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 6	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 7	<input checked="" type="checkbox"/> Table A <input type="checkbox"/> w/ small business exemption request <input checked="" type="checkbox"/> Table B <input type="checkbox"/> w/ analytical results as an attachment <input checked="" type="checkbox"/> Table C <input checked="" type="checkbox"/> Table D
		<input checked="" type="checkbox"/> Section 8	<input type="checkbox"/> w/attachments
		<input checked="" type="checkbox"/> Section 9	<input type="checkbox"/> w/attachments (e.g., responses for additional contact laboratories or firms)
		<input checked="" type="checkbox"/> Section 10	<input type="checkbox"/>
	10.2	Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
		Name (print or type first and last name) Randy McClaren Jr.	Official title Plant Manager
		Signature 	Date signed 4/21/20

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))¹

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1. Oil and grease	5 mg/l		5 mg/l		8	
2. Biochemical oxygen demand (BOD ₅)	3.9 mg/l	3.2 mg/l	N/A	N/A	1	
3. Chemical oxygen demand (COD)	55 mg/l	N/A	55 mg/l	N/A	8	
4. Total suspended solids (TSS)	110 mg/l	57 mg/l	N/A	N/A	1	
5. Total phosphorus	0.15 mg/l	0.16 mg/l	N/A	N/A	1	
6. Total Kjeldahl nitrogen (TKN)	1.0 mg/l	0.96 mg/l	N/A	N/A	1	
7. Total nitrogen (as N)	1.0 mg/l	0.96 mg/l	N/A	N/A	1	
8. pH (minimum)	6.22		N/A		24	
	8.04		N/A		24	

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

Note: Monthly DMR data (January 2018-December 2019) was used for parameters with more than one analysis.

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TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))¹

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information <small>(new source/new dischargers only; use codes in instructions)</small>
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Cadmium	< 0.0005 mg/l	< 0.0005 mg/l	N/A	N/A	1	
Chromium	<0.01 mg/l	< 0.01 mg/l	N/A	N/A	1	
Copper	0.011 mg/l	0.0084 mg/l	N/A	N/A	1	
Lead	0.073 mg/l	0.049 mg/l	N/A	N/A	1	
Nickel	0.0073 mg/l	0.0057 mg/l	N/A	N/A	1	
Silver	< 0.0005 mg/l	< 0.0005 mg/l	N/A	N/A	1	
Zinc	0.85 mg/l	0.72 mg/l	N/A	N/A	1	
Total Cyanide	< 0.01 mg/l	< 0.01 mg/l	N/A	N/A	1	

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))¹

List each pollutant shown in Exhibits 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
N/A						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

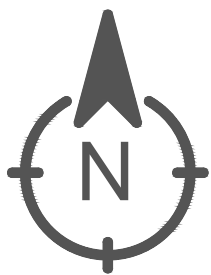
Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
03/17/2020	3 hours	0.8 inches	24 hours	188 gallons/minute	33800 gallons

Provide a description of the method of flow measurement or estimate.

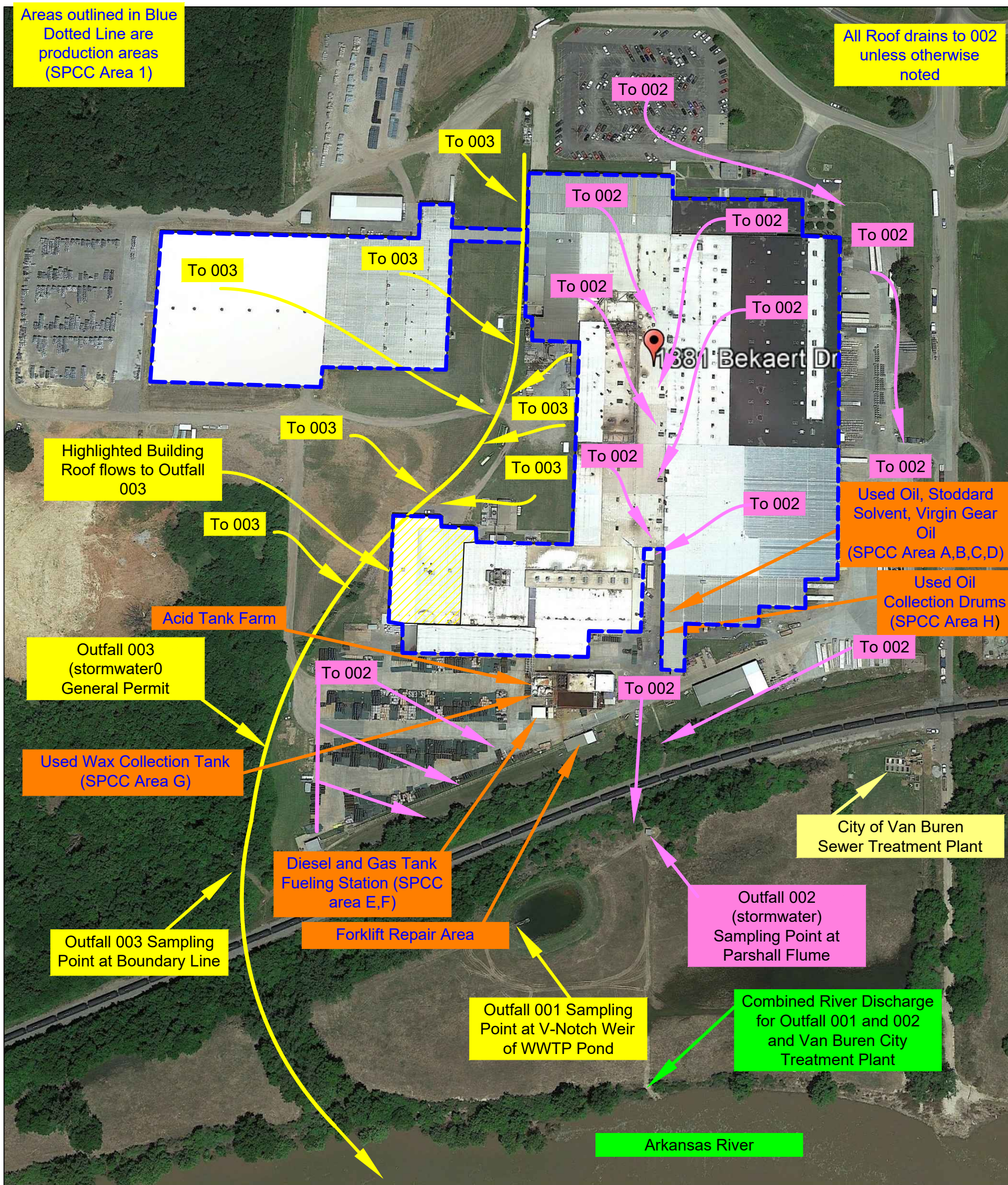
Flow was measured via the parshall flume located at the outfall. Measurements were taken every 20 minutes during the storm event.

Site Drainage Map



Areas outlined in Blue Dotted Line are production areas (SPCC Area 1)

All Roof drains to 002 unless otherwise noted



To 003

To 003

To 003

To 002

To 002

To 002

To 002

To 002

1381 Bekaert Dr

To 003

To 002

To 002

Highlighted Building Roof flows to Outfall 003

To 003

To 002

Used Oil, Stoddard Solvent, Virgin Gear Oil (SPCC Area A,B,C,D)

Used Oil Collection Drums (SPCC Area H)

Acid Tank Farm

To 002

Outfall 003 (stormwater) General Permit

To 002

To 002

Used Wax Collection Tank (SPCC Area G)

City of Van Buren Sewer Treatment Plant

Diesel and Gas Tank Fueling Station (SPCC area E,F)

Outfall 002 (stormwater) Sampling Point at Parshall Flume

Outfall 003 Sampling Point at Boundary Line

Forklift Repair Area

Outfall 001 Sampling Point at V-Notch Weir of WWTP Pond

Combined River Discharge for Outfall 001 and 002 and Van Buren City Treatment Plant

Arkansas River

Priority Pollutant Scan

ARKANSAS Department of Environmental Quality
PPS REQUIREMENTS

1. Name of facility:

Bekaert Corporation - Van Buren

2. Name, address and telephone number of laboratory:

American Interplex 8600 Kanis Road, Little Rock, AR 72204 (501)224-5060

3. Is the lab certified by the State of Arkansas? Yes X No

4. What are the certification dates?

Issued data 02-28-2020 Expire date 02-28-2021

5. Is the laboratory certified for all the parameters?

YES X No (Explain)

6. Date and time of samples collected:

03-05-2020; 1120

7. Date and time samples were received in the laboratory:

03-06-2020; 0852

8. Sample location (Outfall No.):

001

9. Samples collected by:

Name Jonathan Brown

Title Environmental Scientist

Telephone (501) 847-7077

10. I certify under penalty of law that this document and all attachments were prepared under my direction of supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Randy McClaren Jr.
Printed Name of person signing

Signature

Plant Manager
Title

4/12/20
Date signed

List all attachments to this form:

METALS AND CYANIDE	LABORATORY ANALYSIS			REQUIRED MCL (µg/l)
	RESULTS (µg/l)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED (µg/l)	
1. Antimony (Total), Recoverable	300	200.8	300	60
2. Arsenic (Total), Recoverable	45	200.8	5	0.5
3. Beryllium (Total), Recoverable	ND	200.8	0.5	0.5
4. Cadmium (Total), Recoverable	<3	200.8	3	0.5
5. Chromium (Total), Recoverable	ND	200.8	10	10
7. Chromium (6+), Dissolved	ND	3500-CR B	10	10
8. Copper (Total), Recoverable	9.1	200.8	3	0.5
9. Lead (Total), Recoverable	3	200.8	3	0.5
10. Mercury (Total), Recoverable	ND	245.7	0.005	0.005
12. Nickel (Total), Recoverable	97	200.8	3	0.5
13. Selenium (Total), Recoverable	ND	200.8	50	5
14. Silver (Total), Recoverable	13	200.8	3	0.5
15. Thallium (Total), Recoverable	<3	200.8	3	0.5
16. Zinc (Total), Recoverable	140	200.8	100	20
129. Phenols, Total Recoverable	ND	420.1	5	5
17. Cyanide (Total), Recoverable	ND	4500-CN C, E	10	10

DIOXIN	LABORATORY ANALYSIS			REQUIRED MCL (µg/l)
	RESULTS (µg/l)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED (µg/l)	
18. 2,3,7,8-Tetrachloro-debenzo-p-dioxin (TCDD)	ND	625	0.00001	0.00001

VOLATILE COMPOUNDS	LABORATORY ANALYSIS			REQUIRED MOL ($\mu\text{g/l}$)
	RESULTS ($\mu\text{g/l}$)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED ($\mu\text{g/l}$)	
19. Acrolein	ND	624	50	50
20. Acrylonitrile	ND	624	20	20
21. Benzene	ND	624	10	10
22. Bromoform	ND	624	10	10
23. Carbon Tetrachloride	ND	624	2	2
24. Chlorobenzene	ND	624	10	10
25. Chlorodibromomethane	ND	624	10	10
26. Chloroethane	ND	624	50	50
27. 2-Chloroethyl vinyl ether	ND	624	10	10
28. Chloroform	ND	624	10	10
29. Dichlorobromomethane	ND	624	10	10
30. 1, 1-Dichloroethane	ND	624	10	10
31. 1, 2-Dichloroethane	ND	624	10	10
32. 1, 1-Dichloroethylene	ND	624	10	10
33. 1, 2-Dichloropropane	ND	624	10	10
34. 1, 3-Dichloropropylene	ND	624	10	10
35. Ethyl benzene	ND	624	10	10
36. Methyl Bromide [Bromomethane]	ND	624	50	50
37. Methyl Chloride [Chloromethane]	ND	624	50	50
38. Methylene Chloride	ND	624	20	20
39. 1, 1, 2, 2-Tetrachloroethane	ND	624	10	10
40. Tetrachloroethylene	ND	624	10	10
41. Toluene	ND	624	10	10
42. 1, 2-trans-Dichloroethylene	ND	624	10	10
43. 1, 1, 1-Trichloroethane	ND	624	10	10
44. 1, 1, 2-Trichloroethane	ND	624	10	10
45. Trichloroethylene	ND	624	10	10
46. Vinyl Chloride	ND	624	10	10

ACID COMPOUNDS	LABORATORY ANALYSIS			REQUIRED MQL (µg/l)
	RESULTS (µg/l)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED (µg/l)	
47. 2-Chlorophenol	ND	625	10	10
48. 2,4-Dichlorophenol	ND	625	10	10
49. 2,4-Dimethylphenol	ND	625	10	10
50. 4,6-Dinitro-o-Cresol [2-methyl-4,6-dinitrophenol]	ND	625	50	50
51. 2,4-Dinitrophenol	ND	625	50	50
52. 2-Nitrophenol	ND	625	20	20
53. 4-Nitrophenol	ND	625	50	50
54. p-Chloro-m-Cresol [4-chloro-3-methylphenol]	ND	625	10	10
55. Pentachlorophenol	ND	625	5	5
56. Phenol	ND	625	10	10
57. 2,4,6-Trichlorophenol	ND	625	10	10

BASE/NEUTRAL COMPOUNDS	LABORATORY ANALYSIS			REQUIRED MOL (µg/l)
	RESULTS (µg/l)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED (µg/l)	
58. Acenaphthene	ND	625	10	10
59. Acenaphthylene	ND	625	10	10
60. Anthracene	ND	625	10	10
61. Benzidine	ND	625	50	50
62. Benzo(a)anthracene	ND	625	5	5
63. Benzo(a)pyrene	ND	625	5	5
64. 3,4-Benzofluoranthene	ND	625	10	10
65. Benzo(ghi)perylene	ND	625	20	20
66. Benzo(k)fluoranthene	ND	625	5	5
67. Bis(2-chloroethoxy) methane	ND	625	10	10
68. Bis(2-chloroethyl) ether	ND	625	10	10
69. Bis(2-chloroisopropyl) ether	ND	625	10	10
70. Bis(2-ethylhexyl) phthalate	46	625	10	10
71. 4-Bromophenyl phenyl ether	ND	625	10	10
72. Butyl benzyl phthalate	ND	625	10	10
73. 2-Chloronaphthalene	ND	625	10	10
74. 4-Chlorophenyl phenyl ether	ND	625	10	10
75. Chrysene	ND	625	5	5
76. Di benzo (a, h) anthracene	ND	625	5	5
77. 1,2-Dichlorobenzene	ND	624	10	10
78. 1,3-Dichlorobenzene	ND	624	10	10
79. 1,4-Dichlorobenzene	ND	624	10	10
80. 3,3'-Dichlorobenzidine	ND	625	5	5
81. Diethyl Phthalate	ND	625	10	10
82. Dimethyl Phthalate	ND	625	10	10
83. Di-n-Butyl Phthalate	ND	625	10	10
84. 2,4-Dinitrotoluene	ND	625	10	10
85. 2,6-Dinitrotoluene	ND	625	10	10
86. Di-n-octyl Phthalate	ND	625	10	10

BASE/NEUTRAL COMPOUNDS	LABORATORY ANALYSIS			REQUIRED MOL ($\mu\text{g/l}$)
	RESULTS ($\mu\text{g/l}$)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED ($\mu\text{g/l}$)	
87. 1, 2-Di phenyl hydrazine	ND	625	20	20
89. Fluorene	ND	625	10	10
90. Hexachlorobenzene	ND	625	5	5
91. Hexachlorobutadiene	ND	625	10	10
92. Hexachlorocyclopentadiene	ND	625	10	10
93. Hexachloroethane	ND	625	20	20
94. Indeno (1, 2, 3-cd) pyrene (2, 3-o-phenylene pyrene)	ND	625	5	5
95. Isophorone	ND	625	10	10
96. Naphthalene	ND	625	10	10
97. Nitrobenzene	ND	625	10	10
98. N-nitrosodimethylamine	ND	625	50	50
99. N-nitrosodipropylamine	ND	625	20	20
100. N-nitrosodiphenylamine	ND	625	20	20
101. Phenanthrene	ND	625	10	10
102. Pyrene	ND	625	10	10
103. 1, 2, 4-Trichlorobenzene	ND	625	10	10

PESTICIDES	LABORATORY ANALYSIS			REQUIRED MOL (µg/l)
	RESULTS (µg/l)	APPROVED EPA METHOD USED	DETECTION LEVEL ACHIEVED (µg/l)	
104. Aldrin	ND	608	0.01	0.01
105. Al pha-BHC	ND	608	0.05	0.05
106. Beta-BHC	ND	608	0.05	0.05
107. Gamma-BHC	ND	608	0.05	0.05
108. Del ta-BHC	ND	608	0.05	0.05
109. Chl ordane	ND	608	0.2	0.2
110. 4, 4' -DDT	ND	608	0.02	0.02
111. 4, 4' -DDE (p, p-DDX)	ND	608	0.1	0.1
112. 4, 4' -DDD 9(p, p-TDE)	ND	608	0.1	0.1
113. Di el dri n	ND	608	0.02	0.02
114. Al pha-endosul fan	ND	608	0.01	0.01
115. Beta-endosul fan	ND	608	0.02	0.02
116. Endosul fan sul fate	ND	608	0.1	0.1
117. Endri n	ND	608	0.02	0.02
118. Endri n al dehyde	ND	608	0.1	0.1
119. Heptachl or	ND	608	0.01	0.01
120. Heptachl or epoxi de (BHC-hexachl orocycl ohexane)	ND	608	0.01	0.01
130. Chl orpyri fos	ND	608	0.07	0.07
121. PCB-1242	ND	608	0.2	0.2
122. PCB-1254	ND	608	0.2	0.2
123. PCB-1221	ND	608	0.2	0.2
124. PCB-1232	ND	608	0.2	0.2
125. PCB-1248	ND	608	0.2	0.2
126. PCB-1260	ND	608	0.2	0.2
127. PCB-1016	ND	608	0.2	0.2
128. Toxaphene	ND	608	0.3	0.3

Analytical Results



www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

John Overbey
American Interplex Laboratory
8600 Kanis Road
Little Rock AR 72204

**REPORT OF
LABORATORY
ANALYSIS FOR
TCDD**

Report Information:

Pace Project #: 10511165
Sample Receipt Date: 03/10/2020
Client Project #: C-993
Client Sub PO #: 26186
State Cert #: 88-0680

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 2,3,7,8-TCDD Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Joanne Richardson, your Pace Project Manager.

This report has been reviewed by:

March 19, 2020

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com



Report of Laboratory Analysis

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The results relate only to the samples included in this report.

Report Prepared Date:

March 16, 2020



Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analysis performed on one sample submitted by a representative of American Interplex Laboratories. The sample was analyzed for the presence or absence of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) using USEPA Method 1613B. The reporting limits were set to correspond to the lowest calibration point and a nominal 1-Liter sample amount, and the sensitivity was verified by signal-to-noise measurements. The quantitation limits, adjusted for sample extraction amount, may be somewhat higher or lower than the reporting limits provided in this report.

The isotopically-labeled TCDD internal standard in the sample extract was recovered at 70%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native TCDD was based on isotope dilution, the data were automatically corrected for recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show that 2,3,7,8-TCDD was not detected.

A laboratory spike sample was also prepared using clean reference matrix that had been fortified with native standard material. The results show that the spiked native TCDD was recovered at 120%. This result was within the target range for the method. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

REPORT OF LABORATORY ANALYSIS

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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Minnesota - Pet	1240
Alabama	40770	Mississippi	MN00064
Alaska - DW	MN00064	Missouri - DW	10100
Alaska - UST	17-009	Montana	CERT0092
Arizona	AZ0014	Nebraska	NE-OS-18-06
Arkansas - DW	MN00064	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
CNMI Saipan	MP0003	New Jersey (NE)	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina -	27700
Connecticut	PH-0256	North Carolina -	530
EPA Region 8+	via MN 027-053	North Dakota	R-036
Florida (NELAP)	E87605	Ohio - DW	41244
Georgia	959	Ohio - VAP	CL101
Guam	20-00.R	Oklahoma	9507
Hawaii	MN00064	Oregon - Primar	MN300001
Idaho	MN00064	Oregon - Secon	MN200001
Illinois	200011	Pennsylvania	68-00563
Indiana	C-MN-01	Puerto Rico	MN00064
Iowa	368	South Dakota	NA
Kansas	E-10167	Tennessee	TN02818
Kentucky - DW	90062	Texas	T104704192
Kentucky - WW	90062	Utah (NELAP)	MN00064
Louisiana - DE	84596	Vermont	VT-027053137
Louisiana - DW	MN00064	Virginia	460163
Maine	MN00064	Washington	C486
Maryland	322	West Virginia -	382
Massachusetts	M-MN064	West Virginia -	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming - UST	2926.01
Minnesota - De	via MN 027-053		

REPORT OF LABORATORY ANALYSIS

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Report No.....10511165

Appendix A

Sample Management



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: American Interplex Corporation		NO OF BOTTLES		ANALYSES REQUESTED		AIC CONTROL NO:	
Project Reference: C-993		PO No. 26186				AIC PROPOSAL NO:	
Project Manager:		SAMPLE MATRIX				Carrier:	
Sampled By:		WATER		NO		Remarks	
AIC No. 243301-2		G R A B X		3		1613 High Resolution A.O.X.	
Date/Time Collected 3-5-20 1120		C O M P					
Container Type		V O A				Field pH calibration on @	
Preservative		N				Buffer:	
G = Glass NO = none P = Plastic S = Sulfuric acid pH2		V = VOA vials N = Nitric acid pH2		H = HCl to pH2 B = NaOH to pH12		T = Sodium Thiosulfate A=(NH4)2, NH4OH Z = Zinc acetate	
Turnaround Time Requested: (Please circle) NORMAL or EXPEDITED IN ___ DAYS		Reinquinshed By: <i>Luca Hopton</i>		Date/Time 3-7-20 1600		Received By: <i>Rowan-PAC</i> 2/10/20 8:55	
Expedited results requested by:		Reinquinshed By:		Date/Time		Date/Time	
Who should AIC contact with questions: Phone 501-224-5060 Fax: 501-224-5072		Comments:					
Report Attention to: American Interplex Corporation 8600 Kanis Road Little Rock, AR 72204 interplex@americaninterplex.com							

T=2.4

Sample Condition Upon Receipt	Client Name: <u>American Interplex</u>	Project #: WO#: 10511165
Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Commercial <input type="checkbox"/> See Exceptions	PM: JMR Due Date: 03/24/20 CLIENT: AM INTERPLEX	
Tracking Number: <u>1675 6967 6136</u>		

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459) **Type of Ice:** Wet Blue None Dry Melted
 T4(0254) T5(0489)

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** _____ °C **Average Corrected Temp (no temp blank only):** See Exceptions 1 Container
Correction Factor: -0.1 **Cooler Temp Corrected w/temp blank:** _____ °C 2.9 °C

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** 3/10/20 JB

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and <u>Dioxin</u> /PFAS	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No pH Paper Lot# <input type="checkbox"/> See Exception
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased):
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION


Person Contacted: _____ Date/Time: _____ **Field Data Required?** Yes No

Comments/Resolution: _____

Project Manager Review: Joyana Richardson **Date:** 3-10-20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: 13 (B)

	Document Name: SCUR Exception Form	Document Revised: 06Feb2020 Page 1 of 1
	Document No.: F-MN-C-298-Rev.03	Pace Analytical Services - Minneapolis

SCUR Exceptions:

Workorder #: 10511165

Out of Temp Sample IDs	Container Type	# of Containers	PM Notified? <input type="checkbox"/> Yes <input type="checkbox"/> No															
			If yes, indicate who was contacted/date/time. If no, indicate reason why.															
			Multiple Cooler Project? <input type="checkbox"/> Yes <input type="checkbox"/> No If you answered yes, fill out information to the left.															
			<table border="1"> <thead> <tr> <th colspan="3">No Temp Blank</th> </tr> <tr> <th>Read Temp</th> <th>Corrected Temp</th> <th>Average Temp</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td>2.0</td> <td>2.4</td> </tr> <tr> <td>2.6</td> <td>2.5</td> <td></td> </tr> <tr> <td>2.7</td> <td>2.6</td> <td></td> </tr> </tbody> </table>	No Temp Blank			Read Temp	Corrected Temp	Average Temp	2.1	2.0	2.4	2.6	2.5		2.7	2.6	
No Temp Blank																		
Read Temp	Corrected Temp	Average Temp																
2.1	2.0	2.4																
2.6	2.5																	
2.7	2.6																	

Tracking Number/Temperature

Other Issues		
Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition? <input type="checkbox"/> Yes <input type="checkbox"/> No	Initials
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	



Reporting Flags

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interference present
- J = Estimated value
- L = Suppressive interference, analyte may be biased low
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- * = See Discussion

REPORT OF LABORATORY ANALYSIS

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Appendix B

Sample Analysis Summary



Method 1613B Sample Analysis Results

Client - American Interplex Laboratory

Client's Sample ID	243301-2		
Lab Sample ID	10511165001		
Filename	U200313A_06		
Injected By	BAL		
Total Amount Extracted	1540 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/05/2020 11:20
ICAL ID	U200311	Received	03/10/2020 08:55
CCal Filename(s)	U200313A_04	Extracted	03/11/2020 12:30
Method Blank ID	BLANK-77716	Analyzed	03/13/2020 13:46

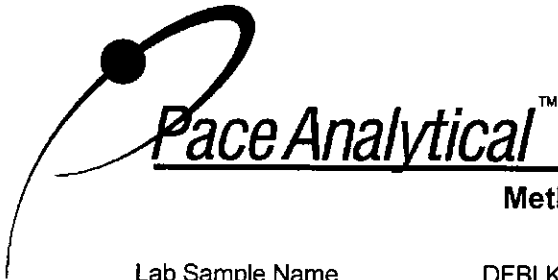
Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	—	10	2,3,7,8-TCDD-13C	2.00	70
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	92

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit
 R = Recovery outside target range
 E = Exceeds calibration range

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

REPORT OF LABORATORY ANALYSIS

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Method 1613B Blank Analysis Results

Lab Sample Name	DFBLKAD	Matrix	Water
Lab Sample ID	BLANK-77716	Dilution	NA
Filename	Y200313A_11	Extracted	03/11/2020 12:30
Total Amount Extracted	1040 mL	Analyzed	03/13/2020 16:19
ICAL ID	Y200105	Injected By	ZMS
CCal Filename(s)	Y200313A_02		

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	—	10	2,3,7,8-TCDD-13C	2.00	72
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	84

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

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Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-77717	Matrix	Water
Filename	Y200314A_15	Dilution	NA
Total Amount Extracted	1040 mL	Extracted	03/11/2020 12:30
ICAL ID	Y200105	Analyzed	03/14/2020 20:16
CCal Filename	Y200313B_19	Injected By	JRH
Method Blank ID	BLANK-77716		

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDD	10	12	7.3	14.6	120
2,3,7,8-TCDD-37Cl4	10	8.2	3.7	15.8	82
2,3,7,8-TCDD-13C	100	73	25.0	141.0	73

Cs = Concentration Spiked (ng/mL)
 Cr = Concentration Recovered (ng/mL)
 Rec. = Recovery (Expressed as Percent)
 Control Limit Reference: Method 1613, Table 6, 10/94 Revision
 R = Recovery outside of control limits
 Nn = Value obtained from additional analysis
 * = See Discussion

REPORT OF LABORATORY ANALYSIS

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DMR Summary Tables

Month	Flow		pH		Total Cadmium				Total Copper				Total Cyanide											
	MGD		su		loading (lbs/day)		conc (mg/L)		loading (lbs/day)		conc (mg/L)		loading (lbs/day)		conc (mg/L)									
	avg	max	min	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max								
1/31/2018	0.0298	0.102	7	8.58																				
2/28/2018	0.0278	0.042	7.85	8.59																				
3/31/2018	0.0345	0.069	7.97	8.58	0.0015	0.0015	<	0.005	<	0.005	0.00267	0.00267	0.0089	0.0089	0.003	<	0.003	<	0.01	<	0.01			
4/30/2018	0.0324	0.077	8.07	8.49																				
5/31/2018	0.0275	0.044	7.74	8.44																				
6/30/2018	0.0342	0.058	7.7	8.28	<	0.0011	<	0.0011	<	0.005	<	0.005	0.0025	0.0025	0.011	0.011	<	0.0022	<	0.0022	<	0.01	<	0.01
7/31/2018	0.03	0.053	7.71	8.28																				
8/31/2018	0.0382	0.069	7.85	8.29																				
9/30/2018	0.0317	0.052	7.78	8.33	<	0.00154	<	0.00154	<	0.0005	<	0.0005	0.0011	0.0011	0.0036	0.0036	0.003	0.003	0.01	0.01				
10/31/2018	0.0383	0.052	7.45	8.3																				
11/30/2018	0.0283	0.044	7.6	8.23																				
12/31/2018	0.0192	0.049	7.53	8.3	<	0.0016	<	0.0016	<	0.0005	<	0.0005	0.0038	0.0038	0.012	0.012	<	0.0166	<	0.0166	0.01	<	0.01	
1/31/2019	0.0259	0.045	7.44	8.28																				
2/28/2019	0.0354	0.051	6.93	8.64																				
3/31/2019	0.0285	0.046	6.88	8.54	0.00069	0.00069	<	0.003	<	0.003	0.00175	0.00175	0.0075	0.0075	0.0023	0.0023	0.01	0.01						
4/30/2019	0.0318	0.063	6.9	8.47																				
5/31/2019	0.0303	0.06	7.31	8.48																				
6/30/2019	0.018	0.045	7.77	8.56	0.00011	0.00011	<	0.0003	<	0.0003	0.00275	0.00275	0.0075	0.0075	0.00366	0.00366	<	0.01	<	0.01				
7/31/2019	0.035	0.085	7.14	8.57																				
8/31/2019	0.0365	0.062	7.4	8.82																				
9/30/2019	0.0306	0.05	7.61	8.62	0.0006	0.0006	<	0.003	<	0.003	0.0022	0.0022	0.011	0.011	0.002	0.002	<	0.01	<	0.01				
10/31/2019	0.0231	0.039	7.08	8.75																				
11/30/2019	0.0301	0.051	7.01	8.42																				
12/31/2019	0.0227	0.05	6.84	8.07	0.00108	0.00108	<	0.005	<	0.005	0.0026	0.0026	0.012	0.012	0.00217	0.00217	<	0.01	<	0.01				
Minimum	0.018	0.039	6.84	8.07	0.00011	0.00011		0.0003		0.0003	0.0011	0.0011	0.0036	0.0036	0.002	0.002		0.01		0.01				
Maximum	0.0383	0.102	8.07	8.82	0.0016	0.0016		0.005		0.005	0.0038	0.0038	0.012	0.012	0.0166	0.0166		0.01		0.01				
Average	0.029992	0.056583	7.44	8.454583	0.001028	0.001028		0.002788		0.002788	0.002421	0.002421	0.009188	0.009188	0.004366	0.004366		0.01		0.01				
Count	24	24	24	24	8	8		8		8	8	8	8	8	8	8		8		8	7			

002-A

Month	Flow		pH		COD		Oil and Grease	
	MGD		su		conc (mg/L)		conc (mg/L)	
	avg	max	min	max	avg	max	avg	max
1/31/2018	0.0017	0.0029	7.28	7.29				
2/28/2018	0.0021	0.0042	7.91	7.92				
3/31/2018	0.0056	0.00193	8.03	8.04	26	26	< 5	< 5
4/30/2018	0.00364	0.0114	6.2	6.22				
5/31/2018	0.0017	0.0071	7.25	7.26				
6/30/2018	0.00115	0.0029	6.39	6.4	55	55	< 5	< 5
7/31/2018	0.01943	0.169	7.4	7.41				
8/31/2018	0.0025	0.0125	6.41	6.42				
9/30/2018	0.00098	0.0029	7.14	7.15	20	20	< 5	< 5
10/31/2018	0.00931	0.0636	6.93	6.95				
11/30/2018	0.02058	0.1794	6.95	6.96				
12/31/2018	0.00855	0.0636	6.21	6.22	14	14	< 5	< 5
1/31/2019	0.00216	0.0019	7.18	7.19				
2/28/2019	0.1094	0.8083	7.2	7.21				
3/31/2019	0.01104	0.0785	7.09	7.1	37	37	< 5	< 5
4/30/2019	0.1439	0.6673	7.4	7.41				
5/31/2019	0.07017	0.0167	8.04	8.05				
6/30/2019	0.00804	0.0213	7.94	7.95	14	14	< 5	< 5
7/31/2019	0.01497	0.0263	7.5	7.51				
8/31/2019	0.00104	0.0019	7.45	7.46				
9/30/2019	0.00247	0.0125	7.86	7.87	< 10	< 10	< 5	< 5
10/31/2019	0.00972	0.0709	7.67	7.68				
11/30/2019	0.03995	0.2464	7.55	7.56				
12/31/2019	0.00224	0.0125	7.44	7.45	20	20	< 5	< 5
Minimum	0.00098	0.0019	6.2	6.22	10	10	5	5
Maximum	0.1439	0.8083	8.04	8.05	55	55	5	5
Average	0.020514	0.10358	7.2675	7.278333	24.5	24.5	5	5
Count	24	24	24	24	8	8	8	8

Certificates of Good Standing



Search Incorporations, Cooperatives, Banks and Insurance Companies

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LLC Member information is now confidential per Act 865 of 2007

Use your browser's back button to return to the Search Results

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For service of process contact the [Secretary of State's office.](#)

Corporation Name	BEKAERT CORPORATION
Fictitious Names	
Filing #	100117614
Filing Type	Foreign For Profit Corporation
Filed under Act	For Bus Corp; 958 of 1987
Status	Good Standing
Principal Address	
Reg. Agent	URS AGENTS, LLC
Agent Address	300 S. SPRING STREET, SUITE 900 LITTLE ROCK, AR 72201
Date Filed	12/09/1994
Officers	SEE FILE, Incorporator/Organizer FRANK VROMANT , President MARC COLLINS , Secretary DOMINIK ENDLER , Vice-President JOHAN VANBERGEN , Treasurer
Foreign Name	N/A
Foreign Address	3200 WEST MARKET STREET, SUITE 303, AKRON, OHIO 4 X,
State of Origin	DE
Purchase a Certificate of Good Standing for this Entity.	Pay Franchise Tax for this corporation

Delaware

Page 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT "BEKAERT CORPORATION" IS DULY INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL CORPORATE EXISTENCE NOT HAVING BEEN CANCELLED OR DISSOLVED SO FAR AS THE RECORDS OF THIS OFFICE SHOW AND IS DULY AUTHORIZED TO TRANSACT BUSINESS.

THE FOLLOWING DOCUMENTS HAVE BEEN FILED:

CERTIFICATE OF INCORPORATION, FILED THE TWELFTH DAY OF JANUARY, A.D. 1988, AT 9 O`CLOCK A.M.

CERTIFICATE OF AGREEMENT OF MERGER, CHANGING ITS NAME FROM "BEKAERT DYERSBURG STEEL CORD COMPANY" TO "BEKAERT CORPORATION", FILED THE NINETEENTH DAY OF DECEMBER, A.D. 1994, AT 10 O`CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF AGREEMENT OF MERGER IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 1994.

RESTATED CERTIFICATE, FILED THE NINETEENTH DAY OF DECEMBER, A.D. 1994, AT 10:01 O`CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTIETH DAY OF OCTOBER, A.D. 1996, AT 12 O`CLOCK P.M.




Jeffrey W. Bullock, Secretary of State

2149009 8310

SR# 20186116827

You may verify this certificate online at corp.delaware.gov/authver.shtml

Authentication: 203249544

Date: 08-15-18

Delaware

The First State

CERTIFICATE OF AMENDMENT, FILED THE TWELFTH DAY OF DECEMBER,
A.D. 1997, AT 11:30 O`CLOCK A.M.

CERTIFICATE OF MERGER, FILED THE TWENTY-SECOND DAY OF DECEMBER,
A.D. 2003, AT 1:49 O`CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE
AFORESAID CERTIFICATE OF MERGER IS THE THIRTY-FIRST DAY OF
DECEMBER, A.D. 2003 AT 11:59 O`CLOCK P.M.

CERTIFICATE OF MERGER, FILED THE TWENTY-SEVENTH DAY OF
DECEMBER, A.D. 2004, AT 7:28 O`CLOCK P.M.

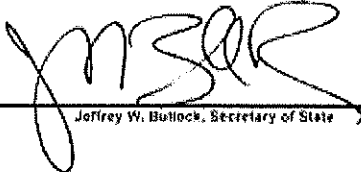
AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE
AFORESAID CERTIFICATE OF MERGER IS THE FIRST DAY OF JANUARY, A.D.
2005.

CERTIFICATE OF OWNERSHIP, FILED THE THIRD DAY OF JANUARY, A.D.
2006, AT 10:44 O`CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE FOURTH DAY OF JANUARY, A.D.
2010, AT 1:51 O`CLOCK P.M.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTIETH DAY OF DECEMBER,
A.D. 2010, AT 10:59 O`CLOCK A.M.




Jeffrey W. Butlock, Secretary of State

2149009 8310

SR# 20186116827

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Authentication: 203249544

Date: 08-15-18

Delaware

The First State

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTIETH DAY OF DECEMBER, A.D. 2010 AT 11:59 O'CLOCK P.M.

CERTIFICATE OF OWNERSHIP, FILED THE TWENTY-SEVENTH DAY OF DECEMBER, A.D. 2012, AT 2:15 O'CLOCK P.M.

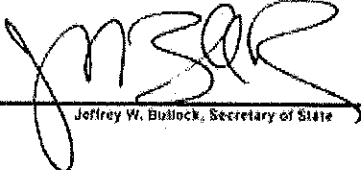
AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE FIRST DAY OF JANUARY, A.D. 2013.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID CORPORATION, "BEKAERT CORPORATION".

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL REPORTS HAVE BEEN FILED TO DATE.

AND I DO HEREBY FURTHER CERTIFY THAT THE FRANCHISE TAXES HAVE BEEN PAID TO DATE.




Jeffrey W. Bullock, Secretary of State

2149009 8310

SR# 20186116827

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Authentication: 203249544

Date: 08-15-18

Annual Report

ANNUAL
REPORT
2019

 **BEKAERT**

better together



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STRATEGY AND LEADERSHIP

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER AND THE CHAIRMAN

Dear Reader,

As per the publication date of this report, the Covid-19 virus spread is taking a huge toll on the economy and on people's lives worldwide. It is heavily impacting industries and companies around the world, including ours. What we have achieved in 2019 has made us better equipped to deal with the challenges ahead. We are a robust company with a very resilient team and we are prepared to take on the unprecedented challenges posed by the pandemic.

In 2019, Bekaert made significant steps in improving underlying performance. We strengthened the balance sheet through better cash generation and improved our margins through a combination of stronger pricing actions and broad cost reductions, including the closure of loss-making operations.

Net debt in relation to underlying EBITDA decreased from 2.7 at the close of 2018 to 2.1 at the end of 2019. In addition, we refinanced our debt, spreading the maturity over a longer period and lowering the interest charges. All these actions significantly improved the balance sheet.

To strengthen our market position and competitiveness, key initiatives were taken on various fronts in 2019:

- » We implemented a new organizational structure and added new leadership to the Bekaert Group Executive and to the Board of Directors to revitalize Bekaert's business performance. These changes were geared to enable faster decision making, the agility to respond to change, and an enhanced ownership to drive performance. These organizational changes helped us to upgrade our capability for the future and, at the same time, implement critically important measures quickly.
- » We conducted a strategic portfolio review. Businesses not meeting the Group's EBIT and ROCE targets were given clear improvement goals. Where performance and market deterioration had proven to be structural and irreversible, the decision was taken to move the activities to other sites or exit the respective markets. We regret the social impact of closure and restructuring decisions on the employees affected, but they were necessary in securing and improving the health of our business as a whole.
- » Measures were taken to enhance the product- and price-mix by focusing on quality business and better pricing. These segmentation actions resulted in improving and turning around some of our weaker performing business activities.
- » The cost savings realized in the past year were significant and were the result of a strong focus on operational excellence programs, the effects of removing complexity from the organization, and from relocating certain activities.
- » We also made a breakthrough in safety performance with robust improvements across the Group. While every accident or life-altering risk is one too many, we are proud of the progress made by our teams to create a no-harm-to-anyone working environment.



Matthew Taylor
Chief Executive Officer



Jürgen Tinggren
Chairman of the Board

These measures led to an improvement in underlying EBIT of 15%, a significant increase in Operating Free Cash Flow, and a higher net profit, despite the substantial restructuring costs. The progress made in 2019 is a reflection of our decisiveness to deliver and the strong engagement of our teams. We want to thank our employees for their active contribution and irrepressible spirit.

As per the issuance date of this Annual Report, it is not yet clear to what extent and within which timeframe the markets will recover from the impact of Covid-19. The Board of Directors, the leadership team and our employees are committed to implementing all actions necessary to safeguard the health and safety of our people and their families, to understand and serve the customer needs, and to mitigate as far as possible the impact of the pandemic on our liquidity and results.



Matthew Taylor
Chief Executive Officer



Jürgen Tinggren
Chairman of the Board

BOARD OF DIRECTORS

The main tasks of the Board of Directors are to determine the Group's strategy and general policy, and to monitor Bekaert's operations. The Board of Directors is the company's prime decision-making body with the exception of matters reserved by law or by the articles of association to the General Meeting of Shareholders. The Board of Directors currently consists of thirteen members. Their professional profiles cover different areas of expertise, such as law, business, industrial operations, finance & investment banking, HR and consultancy.



Back row, from left: Caroline Storme, Christophe Jacobs van Merlen, Celia Baxter, Henri Jean Velge, Pamela Knapp, Emilie van de Walle de Ghelcke, Colin Smith

Front row, from left: Gregory Dalle, Charles de Liedekerke, Matthew Taylor, Jürgen Tinggren, Hubert Jacobs van Merlen, Mei Ye

Composition of the Board of Directors

Jürgen Tinggren, Chairman ⁽¹⁾	Christophe Jacobs van Merlen	Caroline Storme
Matthew Taylor, CEO	Hubert Jacobs van Merlen	Emilie van de Walle de Ghelcke
Celia Baxter ⁽¹⁾	Pamela Knapp ⁽¹⁾	Henri Jean Velge
Gregory Dalle	Colin Smith ⁽¹⁾	Mei Ye ⁽¹⁾
Charles de Liedekerke		

⁽¹⁾ Independent Directors

The biographies of all members of the Board of Directors are available on [the Bekaert website](#).

Changes during 2019

On 8 May 2019, the Annual Meeting of Shareholders approved the nominations of Jürgen Tinggren as Chairman and independent Director and Caroline Storme as Director.

Bert De Graeve, Leon Bekaert and Maxime Jadot did not seek re-appointment. Bert De Graeve was appointed Honorary Chairman by the General Meeting after serving Bekaert for 17 years as Chief Financial and Administration Officer, Chief Executive Officer and Chairman. Leon Bekaert and Maxime Jadot, both having served 25 years on the Board, received the title of Honorary Director. Martina Merz resigned as Director.

Gregory Dalle, Charles de Liedekerke and Hubert Jacobs van Merlen were re-elected as Director.

As a result of these changes, the number of Directors decreased from fifteen to thirteen.

The composition of the Board of Directors will change in 2020

Matthew Taylor has, for personal reasons, decided to retire from his position as CEO and director of Bekaert, and will vacate these positions with effect as of 12 May 2020. The Board of Directors will conduct a comprehensive search process, involving both internal and external candidates, to identify the best candidate to serve as Bekaert's new permanent CEO. In the meantime, as of 12 May 2020, Oswald Schmid, Chief Operations Officer of Bekaert, will act as the interim CEO. As such, the Board of Directors will propose his appointment as member of the Board of Directors for approval by the Annual General Meeting of Shareholders of 13 May 2020.

The Board of Directors of NV Bekaert SA has further announced, on 12 March 2020, the proposed appointment of two Directors of the Board.

- » the proposed appointment of Henrietta Fenger Ellekrog as an independent member of the Board of Directors for a term of one year. Her appointment as an independent member of the Board of Directors is subject to approval by the Annual General Meeting of Shareholders of 13 May 2020 and will, upon approval, take effect at the close of the Meeting.
- » the proposed appointment of Eriikka Söderström as an independent member of the Board of Directors for a term of one year. Her appointment, too, is subject to approval by the Annual General Meeting of Shareholders of 13 May 2020.

The term of office of the directors Celia Baxter, Christophe Jacobs van Merlen, Pamela Knapp, Emilie van de Walle de Ghelcke and Henri Jean Velge will expire at the Annual General Meeting of Shareholders of 13 May 2020. The independent directors Celia Baxter and Pamela Knapp do not seek re-appointment. Christophe Jacobs van Merlen, Emilie van de Walle de Ghelcke and Henri Jean Velge do seek re-appointment.

The Board of Directors is grateful to Celia Baxter and Pamela Knapp for their substantial contributions as directors during the past years.

BEKAERT GROUP EXECUTIVE

The Bekaert Group Executive (BGE) assumes the operational responsibility for the Company's activities and acts under the supervision of the Board of Directors. The BGE is chaired by Matthew Taylor, Chief Executive Officer.

New organizational structure since March 2019

The composition of the Bekaert Group Executive reflects the new organizational structure - introduced on 1 March 2019 - with four Business Units and four Global Functional Domains.

Business Units

- » The Business Unit Rubber Reinforcement (serving industries that use tire cord, bead wire, hose reinforcement wire and conveyor belt reinforcement) is led by Arnaud Lesschaeve, Divisional CEO Rubber Reinforcement.
- » The Business Unit Steel Wire Solutions (serving industrial, agricultural, consumer and construction markets with a broad range of steel wire products and solutions) is led by Stijn Vanneste, Divisional CEO Steel Wire Solutions.
- » The Business Unit Specialty Businesses (including building products, fiber technologies, combustion technology and sawing wire) is led by Jun Liao, Divisional CEO Specialty Businesses.
- » Bridon-Bekaert Ropes Group (BBRG, including the ropes and advanced cords businesses) is led by Curd Vandekerckhove, Divisional CEO of BBRG.

The Business Units have global P&L accountability for strategy and delivery in their distinct areas and therefore have dedicated production facilities and commercial and technology teams within their respective organization. This helps them develop a customer-centric approach aligned with the specific needs and dynamics of their markets.

Global Functions

- » Taoufiq Boussaid is Chief Financial Officer.
- » Rajita D'Souza is Chief Human Resources Officer.
- » Juan Carlos Alonso is Chief Strategy Officer.
- » Oswald Schmid is Chief Operations Officer.

The Functions take a role as strategic business partners, accountable for providing specific expertise and services across the Group, and for ensuring the business has the right capability to deliver on short- and long-term goals.



Back row, from left: Taoufiq Boussaid, Arnaud Lesschaeve, Jun Liao, Juan Carlos Alonso, Oswald Schmid
Front row, from left: Rajita D'Souza, Curd Vandekerckhove, Matthew Taylor, Stijn Vanneste

Changes during 2019

- » Arnaud Lesschaeve joined Bekaert on 1 June 2019 as Divisional CEO Rubber Reinforcement.
- » Juan Carlos Alonso joined Bekaert on 1 July 2019 as Chief Strategy Officer.
- » Taoufiq Boussaid joined Bekaert on 15 July 2019 as Chief Financial Officer and took over the helm from Frank Vromant, Chief Financial Officer ad interim, who retired on 31 December 2019 after a career of 40 years at Bekaert.
- » Curd Vandekerckhove was appointed Divisional CEO of BBRG on 1 August 2019.
- » Oswald Schmid joined Bekaert on 1 December 2019 as Chief Operations Officer.

The biographies of all Bekaert Group Executive members are available on [the Bekaert website](#).

The composition of the BGE will change in 2020

Matthew Taylor has, for personal reasons, decided to retire from his position as CEO and director of Bekaert, and will vacate these positions with effect as of 12 May 2020. Matthew Taylor joined Bekaert in September 2013 as a member of the Bekaert Group Executive, and became CEO in May 2014.

As of 12 May 2020, Oswald Schmid, Chief Operations Officer of Bekaert, will act as the interim CEO, pending the appointment of a new CEO.

The Board of Directors will conduct a comprehensive search process, involving both internal and external candidates, to identify the best candidate to serve as Bekaert's new permanent CEO and lead the Group further in the development and achievement of its strategic ambitions.

OUR STRATEGY

Who we are

Bekaert is a world market and technology leader in steel wire transformation and coating technologies. We pursue to be the preferred supplier for our steel wire products and solutions by continuously delivering superior value to our customers worldwide. Bekaert (Euronext Brussels: BEKB) was established in 1880 and is a global company with 28 000 employees worldwide, headquarters in Belgium and € 5 billion in combined revenue.

What we do

We seek to be the best in understanding the applications for which our customers use steel wire. Knowing how our steel wire products function within our customers' production processes and products helps us to develop and deliver the solutions that best meet their requirements and, through that, we create value for our customers.

Transforming steel wire and applying unique coating technologies form our core business. Depending on our customers' requirements, we draw wire in different diameters and strengths, even as thin as ultrafine fibers of one micron. We group the wires into cords, ropes and strands, weave or knit them into fabric, or process them into an end product. The coatings we apply reduce friction, improve corrosion resistance, or enhance adhesion with other materials.

How we work

better together sums up the unique cooperation within Bekaert and between Bekaert and its business partners. We create value for our customers by co-creating and delivering a quality portfolio of steel wire solutions and by offering customized services on all continents. We believe in lasting relationships with our customers, suppliers and other stakeholders, and are committed to delivering long-term value to all of them. We are convinced that the trust, integrity and irrepressibility that bring our employees worldwide together as one team also create the fundamentals of successful partnerships wherever we do business.

Our strategy

Continuously driving value creation for our shareholders by cost effectively creating superior value for customers is our strategy. Our vision and core strategies form the foundation of a transformation of our business towards higher level performance.

Our Vision - Our Field of Play

Consistent with our *better together* aspiration, we relentlessly pursue to be the preferred supplier for our steel wire products and solutions, by continuously delivering superior value to our customers around the world.

» **Goal Statement for the Heart**
Drive value creation through a One Bekaert team with the passion to win, operating in a *no-harm-to-anyone* working environment

» **Goal Statement for the Head**
Increase Revenue
Profit
ROCE

» **Our Long Term Core Strategies**

1. Drive the customer into the heart of our business
2. Value driven growth
3. Technology leadership and speed
4. Leverage scale, reduce complexity and reach lowest total cost
5. Engage and empower people

» **Our Immediate Must Win Battles**

1. Advance customer excellence
2. Accelerate profit/recession
3. Improve organizational efficiency
4. Enhance operational excellence
5. Optimize working capital

BEKAERT
better together

Our Values
We act with integrity - We earn trust - We are irreplaceable!

Our vision

Consistent with our *better together* aspiration, we relentlessly pursue to be the preferred supplier for our steel wire products and solutions by continuously delivering superior value to our customers around the world.

With this Vision statement, Bekaert has explicitly determined its 'field of play': it describes what we want to be, where we want to compete and invest, and how we want to differentiate ourselves.

Our long term core strategies

Our five core strategies form the basis of Bekaert's priorities and decision-making process towards driving value and growth. These strategies put the company's vision into practice and reflect the direction and priorities over the longer term:

1. Drive the customer into the heart of our business
2. Value driven growth
3. Technology leadership and speed
4. Leverage scale, reduce complexity and reach lowest total cost
5. Engage and empower people

Our Must Win Battles

To give our core strategies a much more immediate focus with dedicated resources and close progress monitoring, we also define our Must Win Battles. Must Win Battles receive a special level of attention from the entire organization and, as a result, enable the deployment of the five core strategies across teams worldwide.

After the disappointing performance of 2018, we redefined our Must Win Battles to give immediate focus and attention to our key priorities for 2019. This approach has once again proven to be successful in making good progress on our goals and in delivering on the priorities set for the year.

Our Must Win Battles in 2019

Improve Organizational Efficiency

We implemented a new organizational structure in early 2019 in order to upgrade our capabilities and to take out complexity from the organization. The new structure enables faster decision making, more agility to respond to change, and enhanced ownership to drive performance and customer centricity.

The four business units (BU) have global P&L accountability for strategy and delivery in their distinct areas and therefore have dedicated production facilities and commercial and technology teams within their respective organizations. This helps them develop a customer-centric approach aligned with the specific needs and dynamics of their markets and enables each BU to bring new technological developments to market faster.

The functions take a role as strategic business partners, accountable for providing specific expertise and services across the Group and ensuring the business has the right capabilities to deliver on short and long-term goals.



Advance Customer Excellence

Through the Customer Excellence transformation program, we expanded our core commercial capabilities in several ways in 2019 and shifted the focal point to superior value creation.

Better customer segmentation and account management have helped us steer our attention more efficiently. Much of the profit restoration progress in the Bridon-Bekaert Ropes Group is about better segmenting the products and markets that help expanding the bottom line.

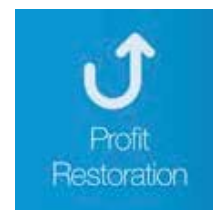
The Bekaert Customer Excellence (BCE) team developed and rolled out a pricing and margin management tool that facilitates the communication of pricing instructions and performance among our sales teams.



Accelerate Profit Restoration

In 2019, Bekaert implemented significant cost savings actions, refinanced a large portion of the debt at better conditions, made robust progress in the profit restoration of some weaker performing business areas, and implemented restructuring and closure decisions where performance and market deterioration had proven to be structural and irreversible.

The impact of the profit restoration approach, already visible in the 2019 results, will deliver additional benefits in the near future. We have successfully managed to turn around some previously loss-generating entities like Bekaert Qingdao in China, Proalco in Colombia and Bekaert Bradford in the UK. Bridon-Bekaert Ropes Group continues to make progress in enhancing the business mix and profit margins, and more than doubled last year's EBITDA margin. The benefits from recently implemented footprint adjustments, including restructuring programs and plant closures in Belgium, the US, Malaysia, Brazil and the UAE, will enhance our profit performance in the future.



Enhance Operational Excellence

In 2019, the 'toolbox' of the Bekaert Manufacturing Excellence (BMS) program was extended with a number of new methods and applications: the ABC (Always Committed, Best Quality, Customer Delight) program, which focuses on quality improvements that directly and visibly benefit our customers, and BMS Digital, which brings digital tools to the shop floor.



With ABC, Bekaert wants to achieve a breakthrough in quality performance, durable problem solving and elimination, and a true customer-centric mindset throughout our operations worldwide. As such, it brings manufacturing and customer excellence together on the shop floor. The pilot plants where ABC was implemented showed immediate and durable results. This worked as a catalyst in the fast deployment of the program in all plants worldwide.

The digital component of BMS brings digital tools to the shop floor that leverage the efforts of the ABC program. For supervisors, the switch to paperless and real-time feedback enables them to respond immediately to process and specification deviations.

Overcoming the growing pains of fast growth

Bekaert's rubber reinforcement plant in Slatina (Romania) expanded considerably in recent years. The introduction of new technologies, the switch to super- and ultra-tensile steel cords, and the fast expansion of our workforce put a strain on the operational efficiencies and the plant's performance. By implementing BMS and the ABC program in particular, the Slatina plant managed to resolve the start-up issues and return to the path of operational excellence.

Making Bekaert a safe place to work

Safety is one of the key priorities in enhancing operational excellence. In 2019, we made a breakthrough in safety performance. The efforts and dedication to improve safety have really started to show results. While every accident or life-altering risk occurring on our premises is one too many, the progress we are making empowers and engages our teams to raise the bar and make Bekaert a no-harm-to-anyone working environment. Read more about our safety programs and progress in [the Sustainability Report](#).

Optimize Working Capital

In order to create a healthy balance sheet and enable the company to restore its capability to invest in future growth, one of the priorities for 2019 was to deleverage our net debt. A key driver in our successful approach was the significant reduction of the working capital.

While optimizing working capital is an ongoing objective of the company, we made it a 'must win battle' in 2019. All teams worldwide organized themselves to work on each and every component of working capital. The 2019 numbers speak for themselves: the working capital reduced by 20% at the close of 2019, compared with the year before. This was a result of much lower inventories, better aligned payment terms, successful cash collection policies, and increased factoring.

Net debt on underlying EBITDA decreased from 2.7 at the close of 2018 to 2.1 at the end of 2019.

In addition to debt deleveraging, we refinanced a large part of our debt through the issue of a *Schuldschein* and a retail bond, hereby spreading the debt maturity over a longer period and decreasing the interest charges by 20%, year-on-year. These actions are restoring a healthy balance sheet in a structural way and will enable us to seize future growth opportunities.



CFO Taoufiq Boussaid and former CFO ad interim Frank Vromant ring the bell at the Brussels Euronext stock exchange to celebrate the successful issue of a new retail bond in October 2019.

Progress on the core strategies

The delivery on the 2019 Must Win Battles was visible in the numbers and drove good progress on the five core strategies of the Group.

1) Drive the customer into the heart of our business

Bekaert has always believed in customer collaboration and co-creation as drivers of sustainable partnerships and customer satisfaction. However, we want to do better and become a truly customer-centric organization. This strategy is about gaining insight into what value means to our customers and acting on it. It is about continuously prioritizing our customers in whatever we do, at all levels and wherever in the world.

In the course of 2019, Bekaert Customer Excellence (BCE) adjusted its course. Where the focus was on creating a well-functioning commercial organization in the first stages of the program, it has evolved towards creating value through customer excellence.

Gaining better insights in our markets, competitors and customers enables us to focus on what creates value to our customers and our business. One way of gauging what our customers expect from us and how satisfied they are is the Net Promoter Survey. The overall score for the Net Promoter Survey of 2019 was 44, a confirmation of the strong results last year, compared to the Net Promoter Score benchmark of 20 for international B2B manufacturing companies.

Mais Valor puts spotlight on value creation in Brazil

One of the 2019 success stories was the introduction of *Mais Valor* in our Brazilian joint ventures. This program is oriented towards value creation across all commercial processes and in the way of working. The objectives of 2019 related to customer segmentation, service levels, account plans, dedicated pricing tools, and people development plans that clearly define all commercial team members' roles, responsibilities and goals.

Building supplier-customer relationships in Russia, Turkey and India

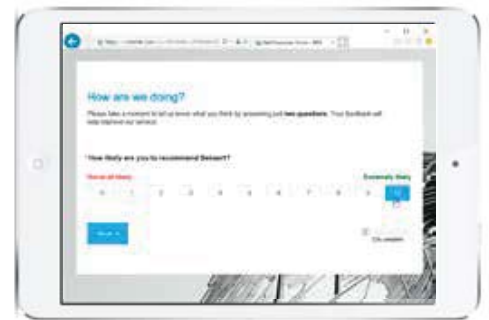
In 2019, multi-functional teams of the Bekaert plants in Russia, Turkey and India visited the respective neighboring tire plants of Yokohama and Bridgestone to learn how our tire cord is processed. They also saw first-hand how important it is to deliver consistent high-quality products, as the slightest variations can have serious effects on the production process of tires.

Such meetings and visits contribute to building constructive customer-supplier relationships. The teams exchanged ideas about customer stewardship, mini-company approaches and safety programs, and concluded that even after working on common goals for many years, they can still learn from each other.

2) Value driven growth

In implementing this strategy, Bekaert is making a clear statement about where we want to grow and how we can provide superior value to differentiate ourselves from the competition.

» The economic slowdown led to a contraction in demand across various sectors in 2019 and prevented us from achieving substantial sales growth in our markets. Other factors that adversely impacted our sales volumes were a deliberate choice we made: better segmentation has helped us focus on value-creating business areas and exit those markets where our competitiveness and margin performance had been structurally affected.



This was most visible in the progress made by Bridon-Bekaert Ropes Group and in some of the restructuring programs of the past two years that dealt with loss-making and low-margin businesses. These programs and other profit restoration actions aimed at turning around weaker performing activities will drive more value creation in coming years.

- » Our actions to further increase the market penetration of more advanced products, which lower the total cost in the value chain and are more value creating for our customers and for our business, gained traction in 2019. This applies particularly to the ever stronger and lighter tire cord constructions that allow tire makers to produce tires with a lower weight, thinner plies, and lower rolling resistance, and to the continuous innovation of the product and services portfolio of our building products platform.
- » To enable value-driven growth, we have defined several target markets with a long-term value growth potential. We have the intention to expand our presence in these target sectors, both in existing and into new markets, and are considering partnerships that will leverage complementary technologies, combined product solutions, and extended sales channels. The goal is simple: we want to take a leading position in the winning markets of tomorrow.
- » Bekaert established a joint venture with AGRO, a world-leading manufacturer of high quality innersprings, to produce high-end steel wire mattress spring systems in Colombia. Where Bekaert will contribute with steel wire technology and regional market expertise, AGRO brings in steel spring technology and sectorial market know-how. A fine example of leveraging strengths in a market with firm growth potential.

AGRO © **BEKAERT**
CARCASAS PARA COLCHONES

3) Technology leadership and speed

Our third core strategy is about accelerating Bekaert's technology leadership and speed in alignment with our strategy to drive value-creating growth. Co-creation is one of the leading principles: we help our customers differentiate themselves in their markets and enable fast progress and effective results through effective collaboration.

Find out more in the Technology and Innovation chapter of this Annual Report.

4) Leverage scale, reduce complexity and reach lowest total cost

This core strategy is designed to leverage our scale to greater effect, by reducing complexity and focusing on our opportunities and strengths with more standardization at best-in-class levels. We also want to ensure that in the process of providing the best value-creating solutions to our customers, we organize ourselves in a very cost-effective way and provide a total cost reduction through effective process and product innovations.

The Bekaert Manufacturing System (BMS) helps us to make progress on this strategy. BMS is a program designed to ensure manufacturing excellence in all our processes and locations worldwide. BMS brings together the collective effort of all Bekaert plants to drive the lowest total cost offering to our customers.

Enabled by the BMS methodology and tools, all plant teams identify and implement actions to increase safety, quality and efficiency, and to reduce costs. With the key elements of the Bekaert Manufacturing System firmly adopted by all plants worldwide, we progressively seize the cost and quality benefits from standardization and best practices.

Maintenance staff goes paperless

Mobile devices and apps become increasingly important on the Bekaert shop floor. The work order management of maintenance employees is now digitized. This means that they can access their planning from anywhere in the plant and receive updates in real-time when new priorities arise. Moreover, the app is linked with the spare parts inventory data, which helps even more in creating efficiencies.



5) Engage and empower people

The engagement and empowerment of people have been key success factors all along our transformation journey. We empower our teams with responsibility, authority and accountability, and count on the engagement of every Bekaert employee to drive higher-levels of performance.

Along with the development and implementation of Bekaert's new Enterprise Performance Management (EPM) model, Bekaert introduced a People Performance Management (PPM) program as our new way of looking at people performance and how we can better achieve our goals in the future. As such, PPM is part of a larger effort to become a much more performance-driven organization.

Enablers for the new people performance management practice are: a clear alignment of team and individual goals with business priorities; frequent performance steering and coaching; fair recognition in line with the achieved performance; and better supporting tools that allow employees to keep track of their performance and 'feedforward' actions throughout the year. These enablers make it easier for everyone to own goals and own the achievement of their objectives.



An engaged organization

It takes some time before a large organizational change is fully understood by everyone in the organization. For that reason, we have organized several communication cascade sessions to ensure that all team members understand the relation between their individual and team objectives and those of Bekaert as a whole, and how the new structure will enable us to revitalize our growth and profitability. With regular surveys, we have measured and increased the understanding and adoption of the benefits of the new organizational set-up.

Bekaert University

2019 saw the full roll-out of the Bekaert University. Through the Bekaert University, we support our employees' development and help them to reach their objectives by offering training that is tailored to different professional areas. The Bekaert University provides our employees with inspiration, knowhow and peer support from colleagues and leaders in order to turn knowledge into action. In close collaboration with internal experts and external learning institutes, we continuously evaluate and develop our training portfolio to make sure that we are always equipped to meet the future demands of our customers and employees.



Commercial Academy teaches how team members can contribute to our bottom-line result

Because not everyone is familiar with financial principles, the Commercial Academy regularly organizes a Basic Finance for Commercial workshop. Participants learn, for instance, which profitability indicators are driving commercial decision-making. Gaining this kind of insight helps them with how they can positively influence Bekaert's performance. As one participant said: "The practical cases make us aware of how we can contribute directly."



TECHNOLOGY & INNOVATION

Technology and innovation

Technology leadership and speed is a core strategy of Bekaert. Our activities in this field are aimed at creating value for our customers in order for our business and all our stakeholders to prosper in the long term. We co-create with customers and suppliers around the globe to develop, implement, upgrade and protect both current and future technologies. We listen to our customers so we understand their innovation and processing needs. Knowing how our products function within their production processes and products is key to developing value-creating solutions.

Transforming steel wire and applying unique coating technologies form our core business. To strengthen our technological leadership in these competencies, Bekaert invests intensively in research and development, and sees innovation as a constant, driving factor in all our activities and processes.

Innovation in practice: continuously redeploying our core competencies

In order to sustain and strengthen our technological leadership, we continue to explore new possibilities in steel wire transformation and coating technologies. Through the combination of these competencies, we influence the properties of steel such as strength, ductility, fatigue, shape, adhesion, and corrosion resistance.

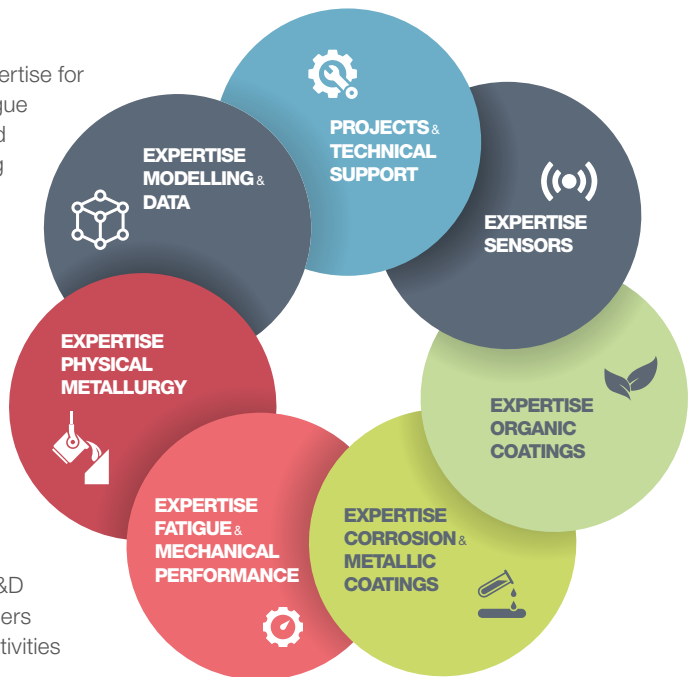
Even after 140 years of expertise, there is still much to be discovered in our search for the optimal bulk and surface properties of steel wire. By maximizing the synergies between the competencies of our technologists and those of our research and business partners, we can make a real difference and draw infinite possibilities.

The Research and Innovation department is the center of expertise for Bekaert's core technology domains : physical metallurgy, fatigue & mechanical performance, corrosion & metallic coatings, and organic coatings. In addition, it also focuses on data modeling and sensor technologies in close cooperation with the engineering and IT departments.

In 2019, we continued to invest in the fundamental research domains that will enable us to detect and explore new opportunities for Bekaert in the future.

Acknowledgement

We wish to thank the Flemish government's Flanders Innovation & Entrepreneurship (VLAIO) agency, as well as the Belgian federal government. Their subsidies and incentives for R&D projects involving highly educated scientific staff and researchers in Flanders are essential for maintaining a foothold for R&D activities in Belgium.



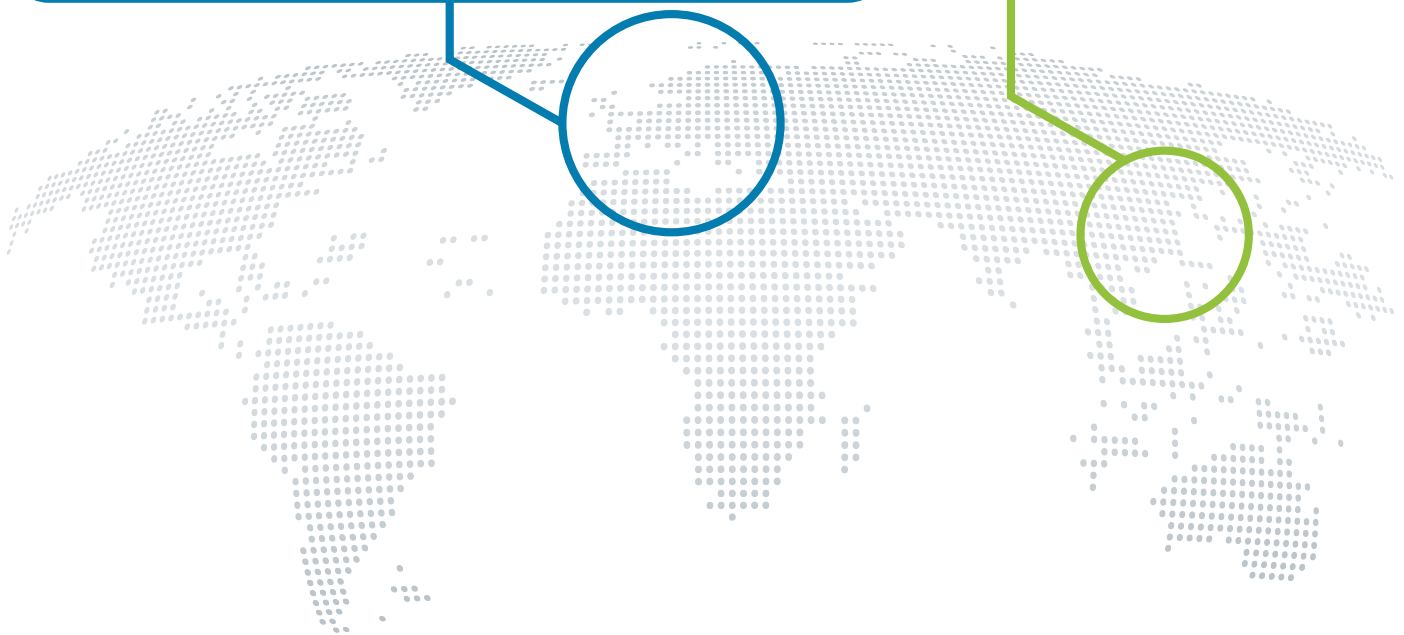
Co-creation and open innovation

Bekaert actively seeks opportunities for cooperation with strategic customers, suppliers and academic research institutes and universities. The academic partnerships particularly focus on physical metallurgy, metallic coatings, modeling, and on special laboratory analysis techniques that are not available in-house.

- University of Antwerp (Belgium)
- University of Leuven (Belgium)
- University of Ghent (Belgium)
- University of Brussels (Belgium)
- OCAS (Gent, Belgium)
- Flanders Make (Lommel & Leuven, Belgium)
- Von Karman Institute (Sint-Genesius-Rode, Belgium)
- CRM Group (Liège, Belgium)
- University of Eindhoven (Netherlands)

- University College Dublin (Ireland)
- Bekaert University Technology Centre (Ireland)
- Imperial College London (UK)
- University of Lille (France)
- CEIT (Centro de Estudios Investigaciones Técnicas, Navarra, Spain)
- Fraunhofer Gesellschaft (München, Germany)
- University of Prague (Czech Republic)
- University of Trnava (Slovakia)
- University of Zagreb (Croatia)

- Tsinghua University (China)
- Qingdao University of Science and Technology (China)
- Nanjing University (China)



A new set-up to speed up new discoveries

To accelerate the creation of new technologies, products and solutions, we have implemented a set-up in line with the new organizational structure.



- » The **Business Units** focus on further developing products for existing markets with existing technologies. In general, business-specific expertise will remain and develop within the related BU, which allows the teams to better align the technology efforts with the BU priorities and with the customer needs. As part of the restructuring in Belgium, some development and lab activities that used to be centralized in the Technology Center in Deerlijk (Belgium), have been moved to production locations abroad. This relocation should bring new developments into production faster and at a lower cost.
- » The market-oriented **Strategy, Portfolio and Innovation** team discovers and transforms ideas into opportunities that bring value to our customers. The team supports the business units in their search for new applications and solutions of which our customers might benefit. In 2019, the team further researched the focus areas polymer & composite reinforcement, digital business, superconductivity and additive manufacturing.
- » When we want to venture into new markets that require competences and technologies that are beyond our core, Bekaert chooses to drive innovation together with **partners** to boost it in an efficient way.
- » Finally, Bekaert's center of expertise in **Research and Innovation (R&I)** continues its fundamental research into our core technology domains and provides expertise to each business unit. In recent years, the sustained push for ultra-tensile wire strengths was a showcase of this type of evolution. R&I also keeps working on process development and cross-unit competence building and sharing.

Research and Innovation as a driver for value creation

Removing cobalt from tire makers' production processes

More key customers are testing tire cord with our revolutionary coating TAWI® or 'Ternary Alloy Wire' coating. This tire cord coating enables tire makers to make their processes cleaner as it eliminates the need to add cobalt to their rubber compounds.

Increasing rubber hose manufacturers' production output

Bekaert has created a double hose reinforcement wire that allows hose manufacturers to add twice the number of wires to a bundle without extra machine investments. Hose manufacturers are limited by the number of spool positions on their rewinders to create wire bundles. By offering a double wire, Bekaert removes this limitation and allows its customers to add two wires per spool to the bundle. An additional benefit is that the wire tension and length are more controlled. This reduces the need to tune the rewriter, while resulting in more consistent processing during braid hose manufacturing.

Intellectual property

The Intellectual Property department of Bekaert takes care of patents, designs, trademarks, domain names and trade secrets for the whole Bekaert Group, including the Bridon-Bekaert Ropes Group and the joint ventures in Brazil, through its teams in Belgium and China. It also advises on IP clauses in various agreements such as joint development agreements and licenses.

Reliable IP protection policies have made Bekaert a trusted partner of customers and suppliers around the world. In the course of 2019, the patent position of the newly developed Murfor® Compact was strengthened with patent grants worldwide. We also stopped various trademark infringements on Dramix® and Bekaert in Turkey, Vietnam and on Chinese websites.

In 2019, we filed 29 first patent applications. At the end of 2019, the Bekaert Group had a portfolio of almost 1 800 patents and patent applications.

Engineering

Equipped for Excellence

Bekaert's in-house engineering department plays a key role in the optimization and standardization of our production processes and machinery. In addition to designing, manufacturing and integrating available engineering solutions, this department installs and services the critical equipment in our production plants worldwide.

Bekaert can quickly react to capacity adjustment needs thanks to its engineering department. Because the technology needs are well known and understood, lead times are short and flexibility is high.

Newly designed equipment always combines innovative solutions for performance improvements in various areas, including product quality, production excellence and flexibility, and cost efficiency. Our main focus areas are machine safety, ergonomics and the environmental impact.

Value engineering

Bekaert Engineering makes make-or-buy decisions based on various factors, including cost-effectiveness, technology lead, and IP protection. To this end, the team actively screens the market for new technologies and trends and explores partnership opportunities to constantly improve Bekaert's equipment and manufacturing excellence.

Our engineers and technicians use their broad experience to participate in creating the "Bekaert factory of the future". They do this by working on high performing, innovative equipment at a low operational cost, machines that require minimal changeover time, and ensuring maximum automation and robotics. Great

effort is taken to automate equipment, allowing machine operators to optimally use their expertise on tasks with added value.

In line with the *better together* philosophy, the engineering teams interact with and stimulate each other to develop and deliver the best solutions for and together with the business. Under the umbrella of Bekaert Manufacturing System, the engineering department collaborates with IT and Research and Innovation to explore Industry 4.0 innovations that offer new inroads for product and process improvements. We are looking at how these advances may enable a new manufacturing set-up in the long term and a vision for servicing the equipment along its lifetime in our plants.

Factory automation and a Manufacturing Execution System (MES) are enablers to optimize productivity. The interconnection and digitalization show in the increased use of sensors and robotics. Advanced sensors and measuring tools are increasingly being integrated into Bekaert's manufacturing equipment in order to control the specification tolerances during various production steps. This enhances Bekaert's product quality testing capability in all critical process stages and guarantees fault-free products for the customers.

Engineering in a nutshell

- » Bekaert's in-house engineering department employs an international team of more than 550 engineers and technicians.
- » The engineering teams are located in Belgium, China, India, Slovakia, the US and Brazil. The Belgian team focuses on the conceptual design and prototyping of new equipment, while the production of standard equipment is done in China and India. The teams in China, India, Slovakia, the US and Brazil provide on-site services to the Bekaert plants worldwide.
- » As Bekaert is expanding worldwide, Bekaert Engineering has positioned its engineering entities within the various regions to ensure optimal and speedy support for the production facilities.
- » As part of the Belgian restructuring and a more focused mission for Bekaert Engineering, the central spare parts sourcing and distribution activities have been moved from Belgium to Slovakia, closer to where they are needed.
- » Bekaert's engineering team is constantly looking for internal and external opportunities for total cost reduction. It also looks for disruptive innovative engineering solutions for new products and processes in close cooperation with the technology centers. Furthermore, Bekaert Engineering ensures excellent assembly, installation and maintenance services, and coordinates global spare parts management.
- » All activities of the engineering department are rooted in two foundations: creating safe equipment and enabling operational excellence throughout the lifetime of the machine.

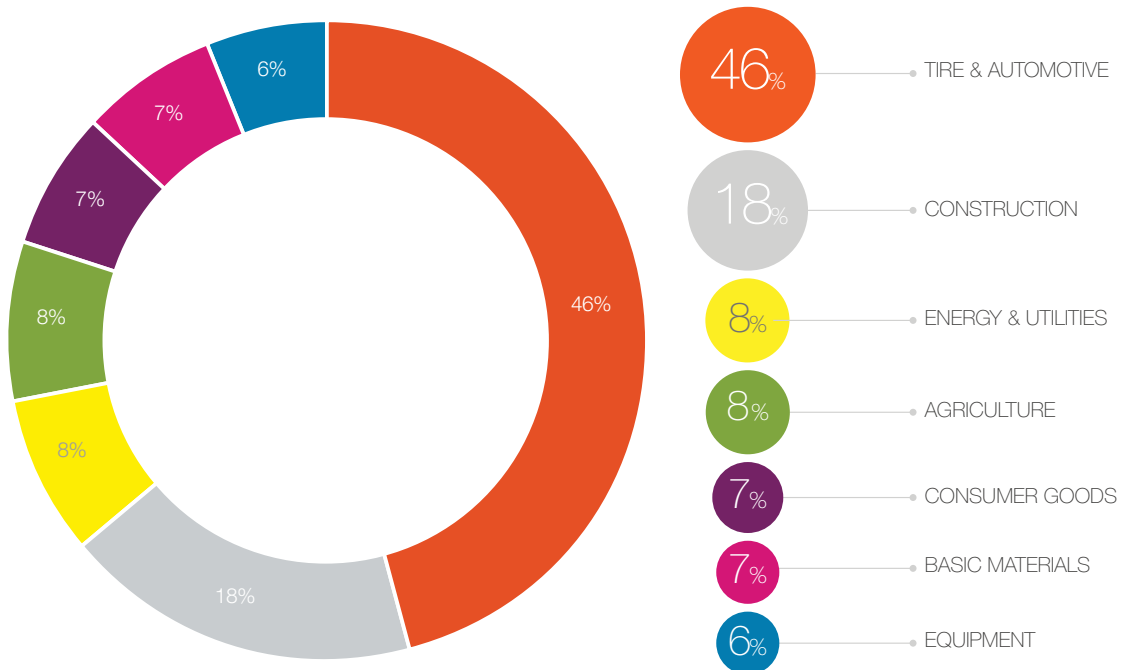


INDUSTRY OFFERINGS

Bekaert has a strong presence in diverse sectors. This makes us less sensitive to sector-specific trends and it also benefits our customers, because solutions we develop for customers in one sector often form the basis of innovations in others.

Bekaert serves customers across a multitude of sectors with a unique portfolio of drawn steel wire products, coated to optimally suit the application needs. Bekaert steel wire is used in cars and trucks, in elevators and mines, in tunnels and bridges, at home and in the office, and in machines and offshore. If it drives, ascends, hoists, filters, reinforces, fences or fastens, there is a good chance Bekaert is inside.

More information about our steel wire products and solutions is available on our website.



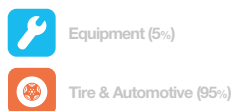
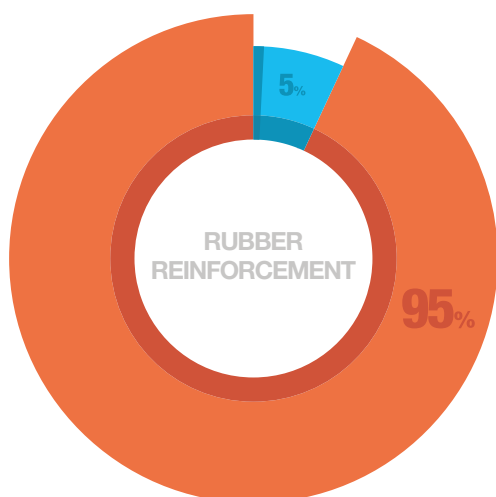


SEGMENT PERFORMANCE

RUBBER REINFORCEMENT

Bekaert's Rubber Reinforcement business unit develops, manufactures and supplies tire cord and bead wire for the tire sector. In serving the equipment market, the product portfolio includes hose reinforcement wire and conveyor belt reinforcement products.

To serve customers worldwide, the business unit has a global presence with manufacturing plants in EMEA, US, Brazil, India, Indonesia, and China. In 2020, Bekaert starts the construction of a new manufacturing plant in Vietnam.



MARKET LEADERSHIP

Global market leadership in the tire cord market

30%

GROWTH DRIVERS

- tire rim size
- mileage driven
- innovation
- sustainability
- CAGR tire markets

LOCAL SERVICE THROUGH OUR GLOBAL FOOTPRINT

- 14 249 employees
- 23 manufacturing plants
- 2.1 billion in combined revenue

OUR AMBITION

be the undisputed technology and quality leader in our market

DID YOU KNOW?



While driving, your car's contact patch with the road equals the size of 4 beverage coasters. Safe driving starts with good tire grip!

SUSTAINABLE TIRES



ST/UT tire cord products of Bekaert save 1.5 billion kg of CO₂ exhaust per year

Bekaert's TAWI® coated steel cord excludes the need for cobalt in rubber compounds for tires

Economic environment and growth indicators

Automotive markets weakened in 2019 and led to a clear drop in new vehicle production volumes globally. OEM vehicle demand is, however, not the main growth indicator for the tire and tire cord business.

The global radial tire production counted 1.8 billion units in 2019, stable from last year and composed of 12% truck radial tires and 88% passenger radial tires. The CAGR over the past 10 years (including the flat growth of 2019) was +2.7% and the future annual growth rate is projected to remain in the range of 2-3%, over the coming years.

Based on available market data, we estimate that the share of replacement tire sales was close to 80% of the total tire sales in 2019 (versus 75% in normalized OEM market circumstances). This was partly driven by lower OEM sales and partly because of a trade-off effect toward higher replacement tire sales, which comes with an ageing vehicle fleet.

The main growth drivers in tire markets are the total mileage driven (for passenger vehicle tires) and freight transport indicators (for truck tires). The increasing tire rim size and the environmentally driven shift to ever thinner and stronger tire cord constructions are additional growth drivers for Bekaert's steel cord products.

Our performance in 2019

Bekaert's Rubber Reinforcement business achieved 2.4% sales growth, driven by higher volumes. The business unit achieved 10% volume growth in China as a result of increased market share and strong demand, particularly in the first half of the year. Sales were about stable in EMEA and North America but fell short in Indonesia and India.

Significant wire rod price decreases led to inventory valuation corrections at year-end and drove underlying EBIT below the level of 2018 to € 172 million, at a margin of 8.7%. The profitability improved significantly in Asia, but declined in EMEA and in the US.

Reported EBIT was € 155 million, slightly above last year. EBIT was impacted by one-off elements in both 2018 (€ -25 million – mainly related to the closure of the Figline plant in Italy) and 2019 (€ -18 million – mainly due to the footprint change in the US).

Underlying EBITDA was € 295 million with a margin on sales of 14.8%. ROCE improved from 12.9% to 13.2% as a result of actions to reduce the capital employed.

Capital expenditure (PP&E) amounted to € 42 million and included investments in all continents. The purchase of land use rights in Vietnam amounted to € 13 million.

Actions to realize our ambitions

Operational excellence

Bekaert has implemented actions to resolve the start-up issues and inefficiencies encountered in production plants with significant expansion programs in recent years. This particularly applied to the Rubber Reinforcement plants in Slovakia, Romania and India. The implemented actions started to show results in the course of 2019 and are expected to deliver more benefits in 2020 and beyond.

“Tires with a rim size above 17” use twice the amount of tire cord compared with 13” tires.”

“Truck tires use more than 10 times the volume of tire cord that is used in a standard rim passenger tire.”

Investing in innovation

Tire makers are advancing innovation in tire design to set or follow new demand and technology trends. These include: tire diversification in line with the increasing range of vehicle variants; the constant improvements in grip, rolling and wear resistance; the search for renewable and recycled raw materials; and game-changing innovations like smart tires and futuristic design concepts.

Bekaert develops tire cord solutions that help tire makers develop their new tire designs. All new trends, including tires for electric and autonomous vehicles, sustainable materials, and airless tire concepts, use steel tire cord. Bekaert spearheads innovation with ever lighter and stronger rubber reinforcement products and with coating technologies that make the addition of cobalt to the rubber compounds redundant.

Investing in future growth

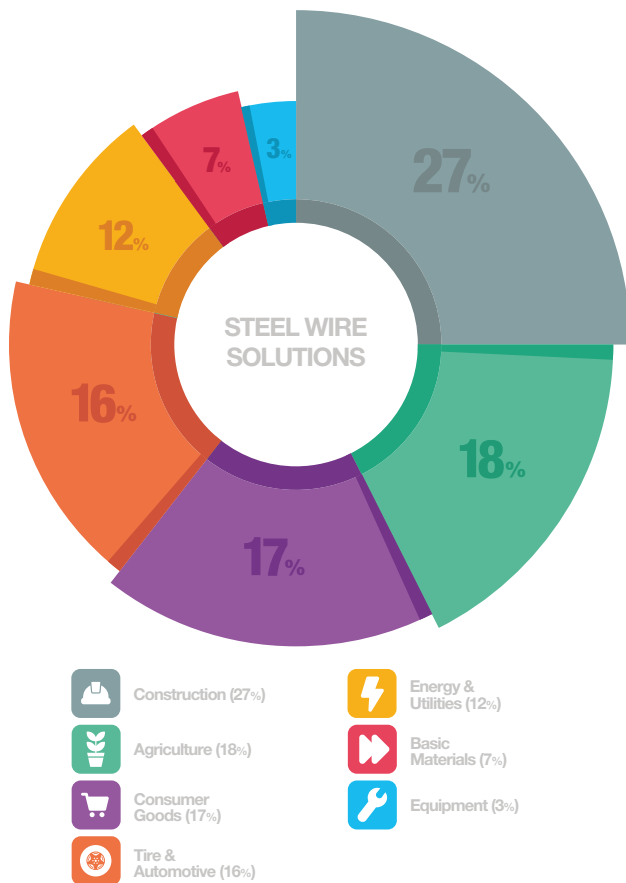
Bekaert is building a new rubber reinforcement plant in Vietnam to serve both regional and export markets. The production start-up is scheduled at the beginning of 2021.

Post-balance sheet date, Bekaert acquired the (20%) shares previously held by Continental Global Holding Netherlands BV in Bekaert Slatina in Romania.

STEEL WIRE SOLUTIONS

Bekaert's Steel Wire Solutions business unit develops, manufactures and supplies a very broad range of steel wire products and solutions for customers in construction markets, consumer goods and agriculture, energy, utilities and mining, and the industrial sector in general.

To serve customers worldwide, the business unit has a global presence with manufacturing plants in EMEA, US, Latin America and Asia and a sales and distribution network worldwide.



DIVERSIFIED PORTFOLIO

GROWTH DRIVERS

- technology
- infrastructure spending
- 5G data
- renewable energy
- downstream integration
- GDP growth

LOCAL SERVICE THROUGH OUR GLOBAL FOOTPRINT

- 8337 employees
- 26 manufacturing plants
- 2.1 billion in combined revenue

OUR AMBITION

solidify our business through footprint optimization, technology leadership and strategic partnering in growth markets

DID YOU KNOW?

Every year, more than 1 billion bottles of sparkling wines are uncorked by removing the muselet (cork cage) made of Bekaert steel wire

In 1881, Leo Leander Bekaert acquired a first patent for a newly designed barbed wire crown. Today, Motto® barbed wire is still one of the strongest agricultural fencing brands

PART OF YOUR LIFE!

Toasting bread in the morning, using a soap pump in the shower, a grill in the oven, driving your car, opening a fence, using electricity and data transmission all day long, uncorking champagne at a party, or taking a rest on an innerspring mattress ... did you ever realize how present Bekaert's steel wire solutions are in your life?

Economic environment and growth indicators

The extended diversity of sectors, geographies, and competitive landscapes in which the business unit Steel Wire Solutions is active makes it impossible to identify the economic evolutions and growth indicators that fit all. When focusing on our main markets, the following indicators are key in evaluating the business climate in 2019 and the growth drivers in the coming years:

- » The **construction** markets of Bekaert Steel Wire Solutions are largely tied to developments in public infrastructure, which are driven by government spending. Bekaert has a good presence via global customers in bridge construction works and a very strong market position in the construction markets in Latin America. Limited public spending in Peru and Ecuador continued to weigh on the demand for Bekaert's construction products in 2019. Demand in Chile and Brazil held up well throughout the year.
- » **Agriculture** is the second-largest sector for the business unit and uses both the traditional product offering of fencing systems and tensioning wire, as well as advanced solutions in horticulture and aquaculture applications. Demand from agricultural markets in the US has been weak for several years and was increasingly affected in 2019 due to trade barriers. In Latin America, another high-consumption region in this sector, Bekaert's strong market position and leading product brands enabled continued good business in most countries in the first half of 2019. Political turmoil and social protest across the region impacted demand particularly in the last quarter of the year.

Our performance in 2019

The business unit Steel Wire Solutions reported a sales decrease of -3.3% compared with last year. The positive effects of price-mix (+3.7%) and currency movements (+0.8%) partially offset the impact from passed-on wire rod price decreases (-2.6%) and lower volumes (-5.2%).

The economic uncertainty affecting the automotive, other industrial and agricultural market demand drove sales down in EMEA, North America, and South East Asia. The business climate in Latin America further worsened due to significant protest actions across the region in the last quarter of 2019. The steel wire activities in India and China delivered robust growth.

Underlying EBIT was € 51 million, 11% lower than last year and resulting in a margin on sales of 3.4%. Several factors accounted for the profit decline: the low volumes in North America, South East Asia and some business areas in EMEA; the structurally weak performance of a number of plants, which drove the decision to close two production plants; and the sharp wire rod price decreases and obsolete inventories led to inventory valuation corrections at year-end.

In 2019, we also started to see the benefits from recent profit restoration programs and we expect to see further margin improvement in 2020.

The one-off items related to the plant closures and various restructuring programs totaled € -25 million and are driving the decline in reported EBIT.

Capital expenditure (PP&E) was € 28 million and mainly included investments in Slovakia, China, the US and Chile.

Actions to realize our ambitions

Footprint adjustments and turnaround programs

To restore profitability and react to the deteriorating market conditions in certain markets, we have decided to close the production facilities in Shelbyville (Kentucky, US) and Ipoh (Malaysia).

Where we do see possibilities for a successful turnaround, we invest in new markets, in production capacity, and in team capabilities. Examples of such profit restoration programs where we have started to see the benefits in the course of 2019 are Qingdao (China), Bradford (UK), and Proalco (Colombia).

Turning around business activities in China and Colombia

Bekaert **Qingdao** in China improved its operational capabilities with new technologies and investments. They succeeded in significantly improving the product quality and mix and in growing volumes to much higher levels. Doing so, the team turned the plant profitable and realized good margins in 2019.

Proalco-Bekaert in Colombia had been suffering from weak competitiveness and margins in the past years. The turnaround actions implemented in 2019 have proven to be very successful. The new management team engaged all employees in implementing the Bekaert Manufacturing System, hereby realizing major cost savings and better standardization. In addition, several actions were implemented to improve the product mix of the plant. In 2019 Proalco-Bekaert achieved strong margin growth and brought down the working capital to less than 3% on sales at year-end.

Downstream integration in growth markets

The business unit sees downstream integration and strategic alliances as an opportunity to grow good margin business activities in promising markets. A first partnership was concluded at the end of 2019 with the creation of the AGRO-Bekaert joint venture.

Bekaert and AGRO International establish joint venture to produce mattress spring systems in Colombia

To expand beyond our core, we have established a joint venture with AGRO, a world leading manufacturer of high quality innersprings, to develop and produce high-end steel wire mattress spring systems in Colombia. Where Bekaert will contribute steel wire technology and regional market expertise, AGRO brings in steel spring technology and sectorial market know-how. AGRO-Bekaert Colombia SAS will start operations in the 2nd quarter of 2020 and will co-develop, manufacture and promote superior value solutions for mattress and upholstery manufacturers in Colombia, Central America and the Caribbean. Experience and expertise come together in a brand new production site in Barranquilla, Colombia, to make this ambition real.



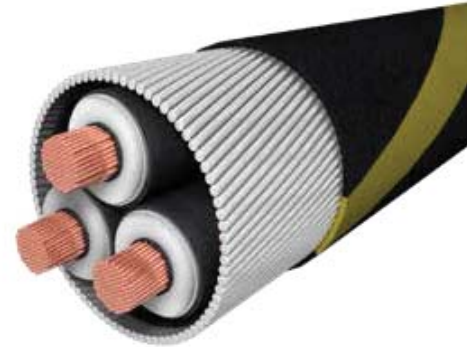
Winds of change in energy markets

Renewable energy trends create opportunities for the armoring wire portfolio of Bekaert Steel Wire Solutions.

A-magnetic armoring wire helps reduce wind power energy losses

Submarine power cables transfer electricity from offshore wind farms to land. Bekaert's a-magnetic armoring wire with galvanized stainless steel lowers the total cost of ownership by reducing energy losses and heat dissipation, and offering a predictable and reliable coating lifetime.

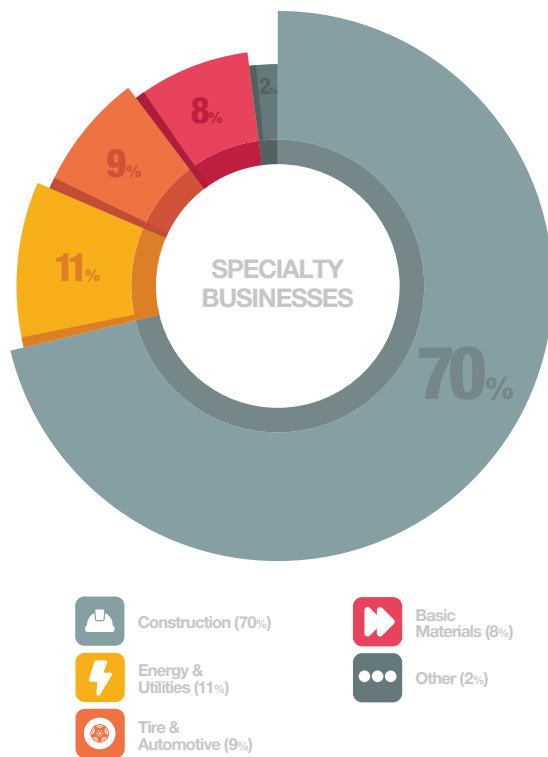
Thanks to its low permeability, stainless steel reduces energy losses in the armoring that otherwise occur by the cable's magnetic field. This increases the cable's efficiency without having to change the cable design, as is the case with other armoring solutions. In addition, a-magnetic armoring helps reduce the need for insulation materials to prevent heat dissipation, which is a technical and environmental concern for HVAC cable manufacturers. Finally, the heavy zinc layer protects the wire against pitting and crevice corrosion.



SPECIALTY BUSINESSES

The business unit Specialty Businesses comprises four sub-segments that serve different markets. These sub-segments are: Building Products; Fiber Technologies; Combustion Technology; and Sawing Wire. The characteristics they all four have in common are their high-end product portfolio and advanced technologies, and their continuous search for lightweight solutions and environmentally-friendly applications.

Building Products develops and manufactures products that reinforce concrete, masonry, plasterwork and asphalt. Fiber Technologies offers high-end products for filtration, heat-resistant textiles, electroconductive textiles, the safe discharge of static energy, and sensor technologies. Combustion Technologies targets heating markets with environmentally-friendly gas burners and residential and commercial heat exchangers. Sawing wire develops and produces core wire and diamond wire for photovoltaic and semiconductor wafer markets.



TECHNOLOGY LEADERSHIP

Our market share in steel fibers for concrete reinforcement and in thin metal fiber markets **40%**

GROWTH DRIVERS

- technology
- infrastructure spending
- sustainability trends
- lightweight solutions

LOCAL SERVICE THROUGH OUR GLOBAL FOOTPRINT

- 1492** employees
- 11** manufacturing plants
- 414** million in revenue

OUR AMBITION

expand our leading positions in growth markets and push the boundaries of application opportunities

DID YOU KNOW?

Dramix® steel fibers use 50% of the steel weight of traditional concrete reinforcement solutions and reduce the thickness of concrete slabs up to 15%

4m » 40000km

From 4 meters of wire rod, we draw a 1µ thin fiber long enough to span the globe

NEW PRODUCTS AND APPLICATIONS

- ★ Murfor® Compact masonry reinforcement
- ★ Fortifix® asphalt reinforcement
- ★ Aluminum heat exchangers
- ★ Thin metal fibers for smart glazing and (RFID) textiles, hydraulic fluid filtration, sensor technologies, and composite reinforcement

Economic environment and growth indicators

Building Products represents the largest part of the business unit's sales. Demand for Bekaert's Dramix® steel fibers for concrete reinforcement was strong throughout the year. The recently launched Murfor® Compact masonry reinforcement and Fortifix® asphalt reinforcement generated steady growth from a still limited - start-up - production basis.

The Fiber Technologies activities saw a demand drop in diesel particulate filter media due to the slowdown in automotive OEM, offset by increased business in other sectors. The sudden stop of subsidies supporting the coal-to-gas conversion program in China affected demand for gas burners and heat exchangers in the country. The sawing wire market remained very competitive.

Our performance in 2019

The business unit Specialty Businesses reported about stable sales, with significant differences between the respective activity platforms.

Building products achieved +6% revenue growth in 2019. The organic growth (+5%) was equally driven by strong volumes and a positive price-mix and currency movements added +1%. Fiber technologies reported stable sales for the year after a strong fourth quarter and the combustion activities ended the year 4% below the revenue of 2018. Sales of (diamond) sawing wire were limited.

Underlying EBIT doubled to € 52 million at a margin of 12.2%, mainly driven by a strong underlying performance of the building products activities and reduced losses in the sawing wire business. Reported EBIT included one-off elements (€ -18 million) that are mainly related to the closure of the Belgian building products plant and to losses generated by social actions in the Belgian sites of the business unit.

Actions to realize our ambitions

Expanding our footprint and market territory

Building Products is targeting new regions with its latest generation of products, including Murfor® Compact for masonry reinforcement, Fortifix® asphalt reinforcement and Dramix® 4D and 5D steel fibers for concrete reinforcement.

We are ramping up production capacity in the Czech Republic and India. Those two locations will, together with Indonesia, act as global export hubs next to a number of smaller production units that address local market needs in, e.g., China, Russia and the US.

Accelerating growth in underground applications

With the buy-out of Maccaferri's 50% stake in Bekaert-Maccaferri Underground Solutions, Bekaert confirmed its ambition to grow faster in the tunneling market and other underground applications of Dramix® steel fibers for concrete reinforcement.



Murfor® Compact, Bekaert's high-performance masonry reinforcement is a sturdy mesh of high tensile strength steel cords, supplied on a roll for thin joint masonry and glued brickwork. The strong structure of the reinforcement controls cracks and strengthens masonry. This lightweight product is easy to handle and install. As the product can be cut to size on-site, there is almost no material loss.

Pushing the boundaries of strength in lightweight materials

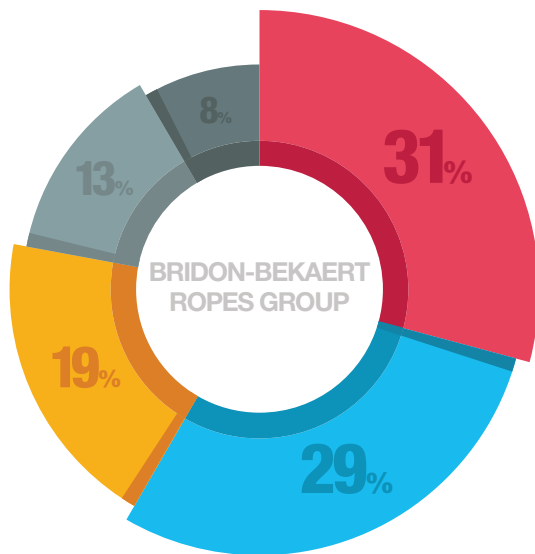
Fiber Technologies has developed innovative thin metal fibers to reinforce composite materials. Lightweight composite materials are usually prone to explosive and unexpected breaking, which is a current struggle for the composite industry. Adding metal fibers creates a composite material that absorbs more energy, is stronger and electrically conductive. This promising technology brings advantages to segments where impact resistance, durability and safety are essential, without compromising on weight. Bekaert is targeting applications in sports, aerospace and automotive.

BRIDON-BEKAERT ROPES GROUP

As a truly global ropes and advanced cords solution provider, Bridon-Bekaert Ropes Group is committed to be the leading innovator and supplier of the best performing ropes and A-Cords for its customers worldwide. The unique combination of technologies in steel wire ropes, synthetic ropes and advanced cords (A-Cords) enables strong differentiation in high-end markets.

BBRG-ropes has a leading position in a very wide range of sectors, including surface and underground mining, offshore and onshore oil & gas, crane & industrial, fishing & marine, and structures.

The A-Cords business of BBRG develops and supplies fine steel cords for elevator and timing belts used in construction and equipment markets respectively, and window regulator and heating cords for the automotive sector.



THE WORLD'S PREMIER ROPES AND ADVANCED CORDS SOLUTION PROVIDER

GROWTH DRIVERS

- technology
- oil & gas investments
- mining activity
- infrastructure spending

LOCAL SERVICE THROUGH OUR GLOBAL FOOTPRINT

- 2 200** employees
- 17** manufacturing plants
- 489** million in revenue

OUR AMBITION

be the leading innovator and provider of the best performing ropes and a-cords globally

DID YOU KNOW?

- Our high-performance ropes challenge temperatures as low as -60 degrees Celcius to mine ores & minerals at extreme depths
- The 165 meter diameter ferris wheel in Singapore uses our ropes to let passengers enjoy the skyline

STEERING FOR GOLD

- The steering system of the 2019 winning car in the Australian solar race was equipped with a light-weight a-cord developed by Bridon-Bekaert Ropes Group

Economic environment and growth indicators

2019 saw continued challenging market dynamics in BBRG's core ropes sectors. The oil extraction companies remained in balance sheet repair mode with rather limited capital expenditure. Mining markets returned to modest growth in a transformed competitive and operating landscape, which also applied to the crane & industrial sector.

Weak automotive OEM activity affected demand for regulator and heating cords in the A-Cords business, while demand from hoisting and timing belt markets held up well.

In ropes markets, BBRG is a market and technology leader competing with four other global players and a very high number of local and regional players. Growth drivers for the ropes business of BBRG are: the activity levels and investments in mining and oil & gas; the technology shift to smart mining solutions and high-performance and long-lifetime steel; synthetic and hybrid ropes; and value creation to customers driven by a reduction in total cost of ownership and excellence in servicing.

In advanced cords (A-Cords) markets, BBRG is a market and technology leader in elevator and timing belt markets. Co-creation, continuous innovation, and investments in construction and industrial markets are considered the main growth drivers for the business.

Our performance in 2019

Bridon-Bekaert Ropes Group (BBRG) achieved 5.5% top line growth, which stemmed from solid organic growth (+4.2%) and favorable currency movements (+1.2%). The organic growth was the result of an improved product- and price-mix in ropes and firm sales growth in advanced cords (A-Cords).

The ropes business of BBRG booked solid sales growth in oil & gas, mining, and crane & industrial applications. In fishing and marine markets, sales volumes were about stable compared to last year. The project business applications reported lower sales than the previous year due to a slow start in construction markets at the beginning of 2019.

The ropes activities made significant progress in enhancing the business mix by focusing on quality business and by reducing their presence in the lower margin segments. This strategy accounted for a volume decrease of 8% compared with last year, while increasing revenues and margins.

The A-Cords activities saw continued strong demand in timing belt markets and an uplift in hoisting applications in the second half of the year.

Underlying EBIT and EBITDA improved significantly as a result of successful profit restoration actions. Reported EBIT was € 9 million and included € -3 million in one-offs. The EBITDA margin more than doubled from last year to reach 8.1%.

BBRG invested € 14 million in PP&E, most of which in the A-Cords platform and in the ropes plants in the UK and the US.

Actions to realize our ambitions

Profit restoration

Profit restoration is a key priority for Bridon-Bekaert Ropes Group. The actions implemented in 2019 have started to show their effect in the margins. The business unit will continue to improve its business mix by better segmentation and further innovation. Cost-efficiency actions, scale improvement and footprint optimization will add to the profitability of the business in coming years.

Ropes 360

To develop its potential as a total solution provider, Bridon-Bekaert Ropes Group has created Ropes 360 services. Through Ropes 360, we support and advise our customers throughout the lifecycle of the ropes, maximizing the safety of their operations and the ropes' operational life and hence, reducing the cost.

Our dedicated rope technicians and engineers offer complete solutions from rope installation, over rope inspection to post-retirement feedback. This enables our customers to avoid the high costs associated with equipment downtime. The Ropes 360 model acts as an infinite continuous improvement cycle: the more we know, the better we can develop high-quality ropes and services in support of our customers.

Largest crane in the world uses Bridon-Bekaert Ropes

BBRG has supplied the ropes used for the world's largest landside crane, designed and operated by Sarens. The crane can lift 5 000 tons thanks to a maximum load moment of 250 000 tons and addresses a demand from construction clients to transport and lift pre-assembled large and heavy modules.





REPORT THE BOARD

KEY FIGURES

Combined key figures

in millions of €	2018	2019	Delta
Sales	5 074	5 132	1.1%
Capital expenditure (PP&E)	226	135	-40.3%
Employees as at 31 December	29 406	28 411	-3.4%

Consolidated financial statements

in millions of €	2018	2019	Delta
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Income statement

Sales	4 305	4 322	0.4%
EBIT	147	155	5.4%
EBIT-underlying	210	242	15.2%
Interests and other financial results	-111	-85	-23.4%
Income taxes	-58	-51	-12.1%
Group share joint ventures	25	29	16.0%
Result for the period	3	48	
attributable to equity holders of Bekaert	40	41	2.5%
attributable to non-controlling interests	-37	7	
EBITDA-underlying	426	468	9.9%
Depreciation PP&E	197	212	7.6%
Amortization and impairment	42	37	-11.9%

Balance sheet

Equity	1 516	1 532	1.1%
Non-current assets	2 050	2 048	-0.1%
Capital expenditure (PP&E)	198	98	-50.5%
Balance sheet total	4 449	4 305	-3.2%
Net debt	1 153	977	-15.3%
Capital employed	2 598	2 408	-7.3%
Working capital	875	699	-20.1%
Employees as at 31 December	25 915	25 090	-3.2%

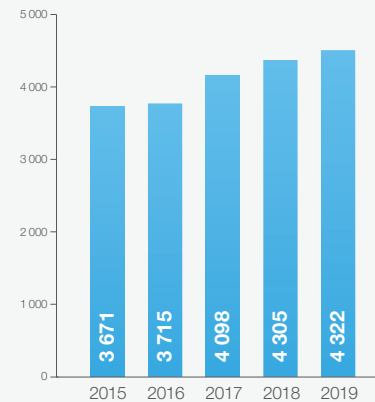
Ratios

EBITDA on sales	9.0%	9.3%
Underlying EBITDA on sales	9.9%	10.8%
EBIT on sales	3.4%	3.6%
Underlying EBIT on sales	4.9%	5.6%
EBIT interest coverage	1.8	2.5
ROCE-underlying	8.0%	9.5%
ROE	0.2%	3.2%
Financial autonomy	34.1%	35.6%
Gearing (net debt on equity)	76.0%	63.8%
Net debt on EBITDA-underlying	2.7	2.1

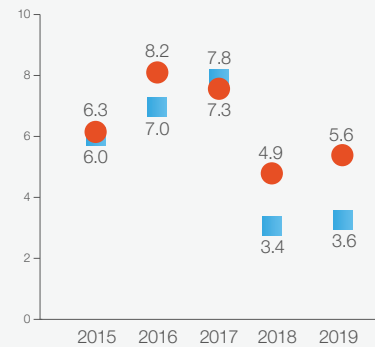
Joint ventures and associates

in millions of €	2018	2019	Delta
Sales	769	809	5.2%
Operating result	84	90	7.1%
Net result	66	73	10.6%
Capital expenditure (PP&E)	28	37	32.1%
Depreciation	18	18	0.0%
Employees as at 31 December	3 491	3 321	-4.9%
Group's share net result	25	29	16.0%
Group's share equity	154	161	4.5%

Consolidated sales in millions of €

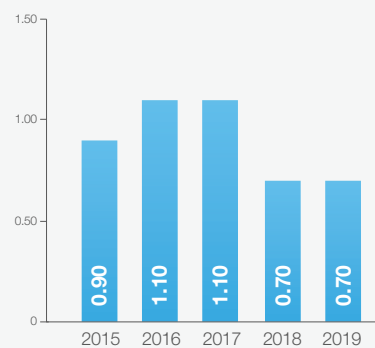


EBIT on sales in %



■ Reported
● Underlying

Gross dividend¹ in €



⁽¹⁾ The dividend is subject to approval by the General Meeting of Shareholders 2020

Key figures per share

NV Bekaert SA	2018	2019	Delta
Number of shares as at 31 December	60 408 441	60 408 441	=
Market capitalization as at 31 December (in millions of €)	1 272	1 601	25.9%

Per share

in €	2018	2019	Delta
EPS	0.70	0.73	4.3%
Gross dividend*	0.70	0.70	=
Net dividend**	0.49	0.49	=

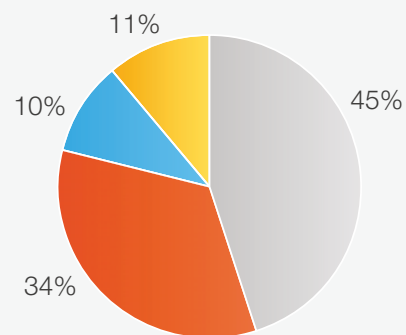
Valorization

in €	2018	2019	Delta
Price as at 31 December	21.06	26.50	25.8%
Price (average)	28.21	23.96	-15.1%

* Subject to approval by the General Meeting of Shareholders 2020

** Subject to the applicable tax legislation

Consolidated third party sales by segment



KEY FIGURES PER SEGMENT

Rubber reinforcement

Underlying	2018	2019
EBIT on sales	9.1%	8.7%
EBITDA on sales	15.7%	14.8%
ROCE	12.9%	13.2%
Combined Sales	2 073	2 124
% of total combined sales	41%	41%

Steel wire solutions

Underlying	2018	2019
EBIT on sales	3.7%	3.4%
EBITDA on sales	6.6%	7.1%
ROCE	8.5%	7.9%
Combined Sales	2 118	2 102
% of total combined sales	42%	41%

Specialty businesses

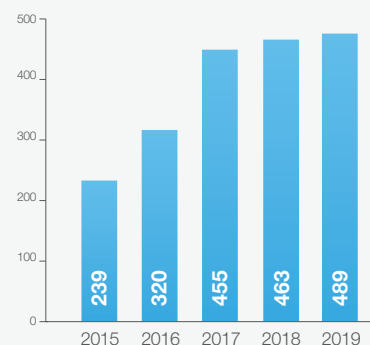
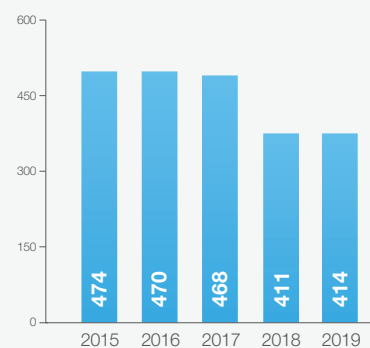
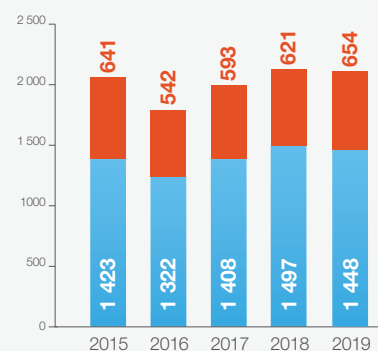
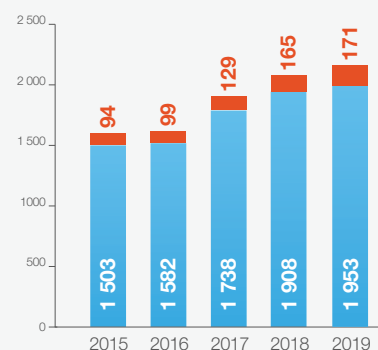
Underlying	2018	2019
EBIT on sales	6.0%	12.2%
EBITDA on sales	11.3%	15.7%
ROCE	11.4%	22.4%
Combined Sales	411	414
% of total combined sales	8%	8%

BBRG

Underlying	2018	2019
EBIT on sales	-1.5%	2.4%
EBITDA on sales	4.8%	9.0%
ROCE	-1.5%	2.5%
Combined Sales	463	489
% of total combined sales	9%	10%

SALES

in millions of €



■ Consolidated companies
■ Joint ventures and associates

SUMMARY OF FINANCIAL REVIEW

Notes

Besides IFRS accounts, Bekaert also presents the key underlying business performance parameters of profitability and cash generation, to provide a more consistent and comparable view on the Group's financial performance. These underlying business performance indicators adjust the IFRS figures for the one-off accounting impacts of restructuring costs, provisions for environmental sanitization programs, asset impairments, M&A related fees, and other such non-recurring items that would distort the analysis of the Group's underlying Business performance. 'REBIT' and 'REBITDA' - reflecting the 'recurring' or 'underlying' business performance - are now named⁽¹⁾ EBIT-Underlying and EBITDA-Underlying respectively. EBIT and EBITDA according to IFRS are referred to as such or as EBIT-reported and EBITDA-reported when specification adds clarity.

(1) Definitions of financial parameters are described in the Financial Review of this Annual Report

Underlying EBIT bridge performance, year-on-year

Bekaert's underlying EBIT was € 242 million, reflecting a margin of 5.6% and an increase of € 32 million or +15% compared with last year. The overhead cost reduction and improved operational cost effectiveness contributed € +36 million in the year-on-year comparison. The small decline in sales volumes (-1%) had a positive impact of € +1 million on underlying EBIT due to a favorable mix effect across business units. The steep decline in wire rod prices resulted in major adverse non-cash inventory valuation adjustments which accounted for € -59 million (the aggregate effect of € +24 million in 2018 and € -35 million in 2019). Better pricing and an improved mix accounted for a total effect of € +57 million. Depreciation, the weaker results of the engineering department and the improved performance of activity platforms that use other performance indicators than volume as a result of lightweight materials and unit sales, offset the underlying EBIT performance by € -4 million.

Sales and financial review

Sales

Bekaert achieved consolidated sales of € 4.3 billion in 2019, about stable (+0.4%) compared with last year. The organic volume decline (-1.2%), the effect of passed-on lower wire

rod prices (-2.0%) and the small impact from divestments (-0.1%) were more than offset by price-mix effects (+2.4%) and favorable currency movements (+1.3%). Combined sales totaled € 5.1 billion for the year, up +1.1% from 2018 as a result of the revenue growth in the joint ventures in Brazil.

Dividend

The Board of Directors will propose to the Annual General Meeting of Shareholders of 13 May 2020, a gross dividend of 70 eurocent, unchanged from last year. The dividend will, upon approval by the General Meeting of Shareholders, become payable as of 18 May 2020.

Financial results

Bekaert achieved an operating result (EBIT-underlying) of € 242 million (versus € 210 million last year). This resulted in a margin on sales of 5.6% (4.9% in 2018). The one-off items amounted to € -87 million (€ -63 million in 2018) and mainly included restructuring expenses in the US (Rome and Shelbyville), Malaysia (Ipoh), Belgium (Moen and Group functions) and the operational losses from strikes and go-slow actions following the announcement of the restructuring and plant closure in Belgium. Including the one-off items, EBIT was € 155 million, representing an EBIT margin on sales of 3.6% (versus € 147 million or 3.4% in 2018). Underlying EBITDA was € 468 million (10.8% margin) compared with € 426 million (9.9%) and EBITDA reached € 403 million, or a margin on sales of 9.3% (versus 9.0%).

Overhead expenses (underlying) decreased by € 28 million to 8.4% on sales (versus 9.1% in 2018). Selling and administrative expenses decreased by € 26 million due to lower consultancy costs and other savings. Research and development expenses amounted to € 62 million, compared with € 64 million in 2018. The one-off impact from the restructuring programs on overheads was € -24 million and mainly related to lay-off costs. Underlying other operating revenues and expenses were about stable (€ +1.5 million). Reported other operating revenues and expenses (€ +15 million) were lower in comparison with last year (€ +33 million) which included the gain on the sale of land and buildings related to the plant closures in Huizhou (China) and Shah Alam (Malaysia).

Interest income and expenses amounted to € -66 million, down from € -85 million in 2018 and a result of debt refinancing at lower interest rates, which was partly offset by the

additional interest expense (€ -4 million) related to IFRS 16 ('Leases'). Other financial income and expenses decreased from € 26 million in 2018 to € 18 million.

Income taxes decreased from € -58 million to € -51 million due to enhanced tax incentives. The overall effective tax rate was 73%, down from 161% in 2018.

The share in the result of joint ventures and associated companies was € +29 million (versus € +25 million in last year), reflecting the improved performance of the joint ventures in Brazil.

The result for the period thus totaled € 48 million, compared with € 3 million in 2018. The result attributable to non-controlling interests was € +7 million (versus € -37 million last year which reflected the net loss representation of BBRG as non-controlling interest for the share then held by a minority shareholder). After non-controlling interests, the result for the period attributable to equity holders of Bekaert was € +41 million almost stable compared with last year. Earnings per share amounted to € +0.73, up from € +0.70 in 2018.

Balance sheet

As at 31 December 2019, equity represented 35.6% of total assets, up from 34.1% at year-end 2018. The gearing ratio (net debt to equity) was 64% (versus 76% at year-end 2018).

Net debt was € 977 million, down from € 1 153 million as at 31 December 2018 and down from € 1 253 million as at 30 June 2019. Net debt on underlying EBITDA was 2.1, compared with 2.6 on 30 June 2019 and 2.7 on 31 December 2018.

Cash flow statement

Cash from operating activities amounted to € +524 million (versus € +244 million in 2018) as a result of higher cash generation and a reduction in cash-outs to fund working capital by tight inventory control, significant efforts done in collecting outstanding receivables, and extended use of off-balance sheet factoring.

Cash flow attributable to investing activities amounted to € -91 million (versus € -102 million in 2018): cash-out from capital expenditure was substantially lower in 2019 (€ -99 million versus € -185 million last year). The 2019 cash-out from investing activities additionally included the payment related to the land use right in Vietnam (€ -13 million). The 2018 cash flow included the cash from the sale of land and buildings in China and Malaysia (€ +56 million).

Cash flows from financing activities totaled € -269 million, compared with € -157 million last year. The cash-in from the *Schuldschein* (€ 320.5 million) and the retail bond (€ 200 million) was used to repay the bridge loan (€ 410 million) and the retail bond that matured in December 2019 (€ 195 million).

Investment update and other information

Net debt was € 977 million at year-end 2019, down from € 1 153 million at the close of 2018 and € 1 253 million on 30 June 2019. Net debt on underlying EBITDA was 2.1, compared with 2.7 last year. The introduction of IFRS 16 (Leases) added € 83.5 million to net debt in 2019. Excluding this impact, net debt on underlying EBITDA would have been 2.0 at the close of 2019. The working capital decreased by € -176 million year-on-year, which was the result of lower inventories, successful cash collection efforts, better aligned payment terms, and an extended use of off-balance sheet factoring (€ 121 million, compared with € 73 million at the end of 2018). Working capital on sales was 16.2% at the close of the year - a record low in the last 25 years - and the average working capital on sales was 18.2%; down from 20.4% in 2018.

On 9 October 2019, Bekaert launched a new issuance of bonds with a maturity of 7 years for a total amount of € 200 million, all of which was raised in one day. The retail bond, with an annual coupon of 2.75%, enables Bekaert to optimize its debt maturity and decrease the interest charges in coming years. On 6 December 2019 the 8-year tenor tranche of the 2011 retail bond matured and was repaid (€ 195 million).

Investments in property, plant and equipment amounted to € 98 million in 2019, € -100 million below the level of 2018. In addition, Bekaert also invested € 13 million in land use rights for the greenfield investment project in Vietnam.

On 31 October 2019, Bekaert concluded the buy-out of Maccaferri's 50% share in 'Bekaert-Maccaferri Underground Solutions' (BMUS). Bekaert considers the buy-out as an opportunity to grow faster in the underground applications of *Dramix* steel fibers for concrete reinforcement.

On 17 December 2019, Bekaert and AGRO, a world-leading manufacturer of high quality innersprings, signed and closed an agreement for the establishment of the AGRO-Bekaert joint venture. The shareholders in the joint venture are AGRO Holding (50%) and Bekaert Ideal Holding (50%), in which Bekaert holds 80%. The new joint venture will develop, manufacture and promote value solutions for mattress and upholstery manufacturers in Colombia, Central America and the Caribbean. The production plant will be located in Barranquilla, Colombia and will become operational in the 2nd quarter of 2020.

Post-balance sheet event: Bekaert acquired on 29 February 2020 the (20%) shares previously held by Continental Global Holding Netherlands BV in Bekaert Slatina in Romania.

On 31 December 2018, the Company held 3 902 032 treasury shares. Of these 3 902 032 treasury shares, 13 787 shares were transferred to the Chairman of the Board of Directors as part of his fixed remuneration and 13 670 shares were transferred to members of the BGE pursuant to the Company share-matching plan. In addition, 1 500 stock options were exercised under the Stock Option Plan 2015-

2017 and 1 500 treasury shares were used for that purpose. The Company did not purchase any shares in the course of 2019 and no treasury shares were cancelled. As a result, the Company held an aggregate 3 873 075 treasury shares on 31 December 2019.

Segment reports

Rubber Reinforcement

Bekaert's Rubber Reinforcement business achieved 2.4% sales growth, driven by higher volumes. The effect of passed-on lower raw material prices (-1.8%) was entirely offset by favorable currency movements.

The business unit achieved 10% volume growth in China as a result of increased market share and strong demand, particularly in the first half of the year. Sales were about stable in EMEA and North America but fell short in Indonesia and India.

Significant wire rod price decreases led to inventory valuation corrections at year-end and drove underlying EBIT below the level of 2018 to € 172 million, at a margin of 8.7%. The profitability improved significantly in Asia, but declined in EMEA and in the US.

Reported EBIT was € 155 million, slightly above last year. EBIT was impacted by one-off elements in both 2018 (€ -25 million – mainly related to the closure of the Figline plant in Italy) and 2019 (€ -18 million – mainly due to the footprint change in the US).

Underlying EBITDA was € 295 million with a margin on sales of 14.8%.

Capital expenditure (PP&E) amounted to € 42 million and included investments in all continents. The purchase of land use rights in Vietnam amounted to € 13 million.

Steel Wire Solutions

The business unit Steel Wire Solutions reported a sales decrease of -3.3% compared with last year. The positive effects of price-mix (+3.7%) and currency movements (+0.8%) partially offset the impact from passed-on wire rod price decreases (-2.6%) and lower volumes (-5.2%).

The economic uncertainty affecting the automotive, other industrial and agricultural market demand drove sales down in EMEA, North America, and South East Asia. The business climate in Latin America further worsened due to significant protest actions across the region in the last quarter of 2019. The steel wire activities in India and China delivered robust growth.

Underlying EBIT was € 51 million, 11% lower than last year and resulting in a margin on sales of 3.4%. Several factors accounted for the profit decline:

- » The low volumes in North America, South East Asia and some business areas in EMEA
- » The structurally weak performance of a number of plants, which drove the decision to close the production sites in Shelbyville (Kentucky, US) at year-end 2019 and in Ipoh (Malaysia) by March 2020.
- » Sharp wire rod price decreases and obsolete inventories led to inventory valuation corrections at year-end.

In 2019 we also started to see the benefits from recent profit restoration programs in Qingdao (China), Bradford (UK), and Proalco (Colombia) and we expect to see further margin improvement in 2020.

The one-off items related to the plant closures and various restructuring programs totaled € -25 million and are driving the decline in reported EBIT.

Capital expenditure (PP&E) was € 28 million and mainly included investments in Slovakia, China, the US and Chile.

Specialty Businesses

The business unit Specialty Businesses reported about stable sales, with significant differences between the respective activity platforms.

Building products achieved +6% revenue growth in 2019. The organic growth (+5%) was equally driven by strong volumes and a positive price-mix and currency movements added +1%. Fiber technologies reported stable sales for the year after a strong fourth quarter and the combustion activities ended the year 4% below the revenue of 2018. Sales of (diamond) sawing wire were limited.

Underlying EBIT doubled to € 52 million at a margin of 12.2%, mainly driven by a strong underlying performance of the building products activities and reduced losses in the sawing wire business. Reported EBIT included one-off elements (€ -18 million) that are mainly related to the closure of the Belgian building products plant and to losses generated by social actions in the Belgian sites of the business unit.

Bridon-Bekaert Ropes Group

Bridon-Bekaert Ropes Group (BBRG) achieved 5.5% top line growth, which stemmed from solid organic growth (+4.2%) and favorable currency movements (+1.2%). The organic growth was the result of an improved product- and price-mix in ropes and firm sales growth in advanced cords (A-Cords).

The ropes business of BBRG booked solid sales growth in oil & gas, mining, and crane & industrial applications. In fishing and marine markets, sales volumes were about stable compared to last year. The project business applications

reported lower sales than the previous year due to a slow start in construction markets at the beginning of 2019.

The ropes activities made significant progress in enhancing the business mix by focusing on quality business and by reducing their presence in the lower margin segments. This strategy accounted for a volume decrease of 8% compared with last year, while increasing revenues and margins.

The advanced cords (A-Cords) activities saw continued strong demand in timing belt markets and an uplift in hoisting applications in the second half of the year.

Underlying EBIT and EBITDA improved significantly as a result of successful profit restoration actions. Reported EBIT was € 9 million and included € -3 million in one-offs. The EBITDA margin more than doubled from last year to reach 8.1%.

BBRG invested € 14 million in PP&E, most of which in the A-Cords platform and in the ropes plants in the UK and the US.

Update Covid-19 – post balance sheet

The outbreak of Covid-19 initially did not raise concerns about Bekaert's ability, as a global company, to ensure business continuity for our customers and in our operations. The rigorous measures implemented in China to contain the virus spread had proven to be successful and allowed us to restart operations in the country on 10 February 2020.

Developments in March 2020 started to become indicative of the potential effects on populations and economies all over the world. In the second half of March 2020, Bekaert has been forced to temporarily shut down plants as a result of government-mandated lockdowns and plant shutdowns by customers. As per the issuance date of this Annual Report, it is not yet clear to what extent and within which timeframe the markets will recover from the impact of Covid-19. Bekaert is taking all actions necessary to safeguard the health and safety of our people and their families, to understand and serve the customer needs, and to mitigate as far as possible the impact of the pandemic on our liquidity and results.

More details in Events after the balance sheet date, section 7.5 of this annual report, page 185.

ALTERNATIVE PERFORMANCE MEASURES: definitions and reasons of use

Capital employed (CE)	Working capital + net intangible assets + net goodwill + net property, plant and equipment + net RoU Property, plant and equipment. The weighted average CE is weighted by the number of periods that an entity has contributed to the consolidated result.	Capital employed consists of the main balance sheet items that operating management can actively and effectively control to optimize its financial performance, and serves as the denominator of ROCE.
Capital ratio (financial autonomy)	Equity relative to total assets.	This ratio provides a measure of the extent to which the Group is equity-financed.
Current ratio	Current assets to Current liabilities.	This ratio provides a measure for the liquidity of the company. It measures whether a company has enough resources to meet its short-term obligations.
Combined figures	Sum of consolidated companies + 100% of joint ventures and associates after elimination of intercompany transactions (if any). Examples: sales, capital expenditure, number of employees.	In addition to Consolidated figures, which only comprise controlled companies, combined figures provide useful insights of the actual size and performance of the Group including its joint ventures and associates.
EBIT	Operating result (earnings before interest and taxation).	EBIT consists of the main income statement items that operating management can actively and effectively control to optimize its profitability, and a.o. serves as the numerator of ROCE and EBIT interest coverage.
EBIT – underlying	EBIT before operating income and expenses that are related to restructuring programs, impairment losses, business combinations, business disposals, environmental provisions or other events and transactions that have a material one-off effect that is not inherent to the business.	EBIT – underlying is presented to enhance the reader's understanding of the operating profitability before one-off items, as it provides a better basis for comparison and extrapolation.
EBITDA	Operating result (EBIT) + depreciation, amortization and impairment of assets + negative goodwill.	EBITDA provides a measure of operating profitability before non-cash effects of past investment decisions and working capital assets.
EBITDA – underlying	EBITDA before operating income and expenses that are related to restructuring programs, impairment losses, business combinations, business disposals, environmental provisions or other events and transactions that have a material one-off effect that is not inherent to the business.	EBITDA – underlying is presented to enhance the reader's understanding of the operating profitability before one-off items and non-cash effects of past investment decisions and working capital assets, as it provides a better basis for comparison and extrapolation.
EBIT interest coverage	Operating result (EBIT) divided by net interest expense.	The EBIT interest coverage provides a measure of the Group's capability to service its debt through its operating profitability.
Gearing	Net debt relative to equity.	Gearing is a measure of the Group's financial leverage and shows the extent to which its operations are funded by lenders versus shareholders.
Margin on sales	EBIT, EBIT-underlying, EBITDA and EBITDA-underlying on sales.	Each of these ratios provides a specific measure of operating profitability expressed as a percentage on sales.
Net capitalization	Net debt + equity.	Net capitalization is a measure of the Group's total financing from both lenders and shareholders.
Net debt	Interest-bearing debt net of current loans, non-current financial receivables and cash guarantees, short-term deposits, cash and cash equivalents.	Net debt is a measure of debt after deduction of financial assets that can be deployed to repay the gross debt.
Net debt on EBITDA	Net debt divided by EBITDA.	Net debt on EBITDA provides a measure of the Group's capability (expressed as a number of years) to repay its debt through its operating profitability.
Return on capital employed (ROCE)	Operating result (EBIT) relative to the weighted average capital employed.	ROCE provides a measure of the Group's operating profitability relative to the capital resources deployed and managed by operating management.
Return on equity (ROE)	Result for the period relative to average equity.	ROE provides a measure of the Group's net profitability relative to the capital resources provided by its shareholders.
WACC	Cost of debt and cost of equity weighted with a target gearing of 50% (net debt/equity structure) after tax.	WACC is used to assess an investor's return on an investment in the Company.
Working capital (operating)	Inventories + trade receivables + bills of exchange received + advanced paid - trade payables - advances received - remuneration and social security payables - employment-related taxes.	Working capital includes all current assets and liabilities that operating management can actively and effectively control to optimize its financial performance. It represents the current component of capital employed.

APM reconciliations

in millions of €	Note annual report 2019	2018	2019	2019 excluding IFRS 16
Net debt				
Non-current interest-bearing debt		685	1 116	1 116
L/T Lease Liability - non-current		2	69	1
Current interest-bearing debt		941	404	404
L/T Lease Liability - current		1	20	1
Total financial debt	6.18	1 629	1 608	1 522
Non-current financial receivables and cash guarantees		(7)	(7)	(7)
Current loans		(20)	(9)	(9)
Short-term deposits		(50)	(50)	(50)
Cash and cash equivalents		(398)	(566)	(566)
Net debt	6.18	1 153	977	890
Capital employed				
Intangible assets		115	60	122
Goodwill		149	150	150
Property, plant and equipment		1 460	1 350	1 357
RoU Property plant and equipment		-	149	-
Working capital (operating)	6.8	875	699	699
Capital employed		2 598	2 408	2 328
Weighted average capital employed		2 632	2 540	2 463
Working capital (operating)				
Inventories		932	783	783
Trade receivables		773	645	645
Bills of exchange received		58	60	60
Advances paid		20	16	16
Trade payables		(778)	(652)	(652)
Advances received		(11)	(19)	(19)
Remuneration and social security payables		(112)	(125)	(125)
Employment-related taxes		(6)	(9)	(9)
Working capital (operating)	6.8	875	699	699
EBIT Underlying to EBIT	5.2			
EBITDA				
EBIT		147	155	153
Amortization intangible assets		10	10	12
Depreciation property, plant & equipment		197	186	187
Depreciation RoU property, plant & equipment		-	25	-
Write-downs/(reversals of write-downs) on inventories and receivables		11	7	7
Impairment losses/ (reversals of depreciation and impairment losses) on fixed assets		22	19	19
EBITDA		387	403	378

in millions of €	Note annual report 2019	2018	2019	2019 excluding IFRS 16
EBITDA - Underlying				
EBIT - Underlying		210	242	240
Amortization intangible assets		10	10	12
Depreciation property, plant & equipment		197	186	187
Depreciation RoU property, plant & equipment		-	25	-
Write-downs/(reversals of write-downs) on inventories and receivables		7	4	4
Impairment losses/ (reversals of impairment losses) on fixed assets		2	1	1
EBITDA - Underlying		426	468	443
ROCE				
EBIT		147	155	153
Weighted average capital employed		2 632	2 540	2 463
ROCE		5.6%	6.1%	6.2%
EBIT interest coverage				
EBIT		147	155	153
(Interest income)	5.4	(3)	(3)	(3)
Interest expense	5.4	88	69	66
(interest element of discounted provisions)	5.4	(4)	(4)	(4)
Net interest expense		81	62	58
EBIT interest coverage		1.8	2.5	2.6
ROE (return on equity)				
Result for the period		3	48	50
Average equity (period-weighted)		1 550	1 524	1 525
ROE		0.2%	3.2%	3.3%
Capital ratio (Financial autonomy)				
Equity		1 516	1 532	1 533
Total assets		4 449	4 305	4 225
Financial autonomy		34.1%	35.6%	36.3%
Gearing				
Net debt		1 153	977	890
Equity		1 516	1 532	1 533
Gearing (net debt on equity)	7.2	76.0%	63.8%	58.1%
Net debt on EBITDA				
Net debt		1 153	977	890
EBITDA		387	403	378
Net debt on EBITDA		3.0	2.4	2.4
Net debt on EBITDA- Underlying				
Net debt		1 153	977	890
EBITDA-Underlying		426	468	443
Net debt on EBITDA-underlying		2.7	2.1	2.0
Current Ratio				
Current Assets		2 400	2 257	2 257
Current liabilities		2 027	1 406	1 387
Current Ratio		1.2	1.6	1.6

CORPORATE GOVERNANCE STATEMENT

Board of Directors and Executive Management

In accordance with the original Belgian Code on Corporate Governance published in 2004, the Board of Directors has adopted the Bekaert Corporate Governance Charter on 16 December 2005. Following the publication of the 2009 Belgian Code on Corporate Governance, the Board of Directors adopted the 2009 Code on 22 December 2009 as the reference code for Bekaert and revised the Bekaert Corporate Governance Charter accordingly.

On 1 January 2020, the 2020 Belgian Code on Corporate Governance and the new Code on Companies and Associations entered into force and became applicable to Bekaert. The Board of Directors revised the Bekaert Corporate Governance Charter and convened the Extraordinary General Meeting of Shareholders of 26 March 2020 (or of 13 May 2020 should the required quorum not be reached on 26 March 2020) to amend the Articles of Association of the Company to bring both of them in line with the 2020 Belgian Code on Corporate Governance and the new Code on Companies and Associations. The new Bekaert Corporate Governance Charter will become effective together with the amended Articles of Association.

During 2019, Bekaert complied in principle with the 2009 Belgian Code on Corporate Governance, and explains in the current Bekaert Corporate Governance Charter and in this Corporate Governance Statement why it departs from some of its provisions.

Bekaert intends to comply with the provisions of the 2020 Belgian Code on Corporate Governance, except with provisions 7.3 and 7.6 as further described in section 2 of the Remuneration Report.

The 2009 Belgian Code on Corporate Governance and the 2020 Belgian Code on Corporate Governance are available at www.corporategovernancecommittee.be.

The current Bekaert Corporate Governance Charter is available at www.bekaert.com. The new Bekaert Corporate Governance Charter will be made available at www.bekaert.com when it becomes effective.

Board of Directors

The Company has adopted the one-tier governance structure, consisting of the Board of Directors. The Board of Directors is authorized to carry out all actions that are necessary or useful to achieve the Company's purpose, except for those for which the General Meeting of Shareholders is authorized by law or by the Articles of Association.

The Board of Directors consists of thirteen members, who are appointed by the General Meeting of Shareholders.

Seven of the Directors are appointed from among candidates nominated by the principal shareholder. The Chairman and the Chief Executive Officer are never the same individual. The Chief Executive Officer is the only Board member with an executive function. All other members are non-executive Directors.

Five of the Directors are independent in accordance with the criteria of Article 7:87, §1 of the new Code on Companies and Associations and provision 3.5 of the 2020 Belgian Code on Corporate Governance: Celia Baxter (first appointed in 2016), Pamela Knapp (first appointed in 2016), Colin Smith (first appointed in 2018), Jürgen Tinggren (first appointed in 2019) and Mei Ye (first appointed in 2014).

Contrary to provision 4.5 of the 2009 Belgian Code on Corporate Governance, according to which non-executive directors should not consider taking on more than five directorships in listed companies, Martina Merz accepted a sixth directorship in a listed company in November 2018 (Chairwoman of the Supervisory Board of thyssenkrupp AG). Therefore, Martina Merz resigned as Director of the Company at the close of the Annual General Meeting of 8 May 2019.

On 8 May 2019, Jürgen Tinggren succeeded Bert De Graeve as Chairman of the Board of Directors.

The Board met on eight occasions in 2019: there were six regular meetings and two extraordinary meetings. In addition to its statutory powers and powers under the Articles of Association and the Bekaert Corporate Governance Charter, the Board of Directors discussed the following matters, among others, in 2019:

- » the corporate strategy and strategic projects;
- » the succession planning at the Board and Executive Management levels;
- » the new organizational structure and segment reporting;
- » the restructuring process and plans in Belgium;

- » the issue of a Schuldschein and retail bonds;
- » the corporate governance structure;
- » the mandatory auditor rotation in 2021;
- » the remuneration and long-term incentives for the Chief Executive Officer and the other members of the Executive Management;
- » governance, risk and compliance;
- » continuous monitoring of the debt and liquidity situation of the Group.

Name	First appointed	Expiry of current Board term	Principal occupation ⁽⁴⁾	Number of regular/extraordinary meetings attended
Chairman				
Jürgen Tinggren ⁽¹⁾	2019	2023	NV Bekaert SA	5
Bert De Graeve ⁽²⁾	2006	2019	NV Bekaert SA	3
Chief Executive Officer				
Matthew Taylor	2014	2022	NV Bekaert SA	8
Members nominated by the principal shareholder				
Leon Bekaert ⁽³⁾	1994	2019	Director of companies	3
Gregory Dalle	2015	2023	Managing Director, Credit Suisse International, Investment Banking and Capital Markets (UK)	8
Charles de Liedekerke	1997	2022	Director of companies	8
Christophe Jacobs van Merlen	2016	2020	Managing Director, Bain Capital Private Equity (Europe), LLP (UK)	7
Hubert Jacobs van Merlen	2003	2022	Director of companies	8
Maxime Jadot ⁽³⁾	1994	2019	CEO and Chairman of the Executive Board, BNP Paribas Fortis (Belgium)	3
Caroline Storme ⁽⁴⁾	2019	2023	Head Financial Planning Analyst R&D, UCB S.A. (Belgium)	5
Emilie van de Walle de Ghelcke	2016	2020	Senior Legal Counsel, Sofina (Belgium)	8
Henri Jean Velge	2016	2020	Director of Companies	8
Independent Directors				
Celia Baxter	2016	2020	Director of companies	8
Pamela Knapp	2016	2020	Director of companies	8
Martina Merz ⁽³⁾	2016	2019	Director of companies	3
Colin Smith	2018	2022	Independent director of and advisor to companies	7
Mei Ye	2014	2022	Independent director of and advisor to companies	8

⁽¹⁾ As of the Annual General Meeting in May 2019, Jürgen Tinggren is an independent director.

⁽²⁾ Until the Annual General Meeting in May 2019, Bert De Graeve was first appointed as Board Member in 2006. In 2014, he became Chairman of the Board.

⁽³⁾ Until the Annual General Meeting in May 2019.

⁽⁴⁾ As of the Annual General Meeting in May 2019.

⁽⁵⁾ The detailed résumés of the Board members are available at www.bekaert.com

Matthew Taylor decided to resign from his position as Director of the Company with effect as of 12 May 2020. The Board of Directors co-opted Oswald Schmid as Director with effect as of 12 May 2020 and will submit the mandate of Oswald Schmid as Director for confirmation to the Annual General Meeting of Shareholders of 13 May 2020.

Committees of the Board of Directors

Until the end of 2019, the Board of Directors had four advisory Committees.

Audit and Finance Committee

The Audit and Finance Committee is composed as required by Article 7:99 of the new Code on Companies and Associations (and before 1 January 2020: Article 526bis of the former Companies Code): all of its four members are non-executive Directors and two of its members, Pamela Knapp and Jürgen Tinggren, are independent. Pamela Knapp's competence in accounting and auditing is demonstrated by her former position as Chief Financial Officer of the Power Transmission and Distribution Division of Siemens (from 2004 to 2009) and her position as Chief Financial Officer of GfK SE (from 2009 to 2014). The Committee members as a whole have competence relevant to the sector in which the Company is operating. Hubert Jacobs van Merlen chairs the Committee.

Contrary to provision 5.2/4 of the 2009 Belgian Code on Corporate Governance, according to which at least a majority of the members had to be independent, Bekaert took the view that the Audit and Finance Committee had to reflect the balanced composition of the full Board. Such requirement is no longer applicable under the 2020 Belgian Code on Corporate Governance since as from 1 January 2020.

The Chief Executive Officer and the Chief Financial Officer are not members of the Committee, but are invited to attend its meetings. This arrangement guarantees the essential interaction between the Board of Directors and the Executive Management.

Name	Expiry of current board term	Number of regular and extraordinary meetings attended
Hubert Jacobs van Merlen	2022	6
Charles de Liedekerke ⁽¹⁾	2022	4
Pamela Knapp	2020	6
Jürgen Tinggren ⁽¹⁾	2023	4
Christophe Jacobs van Merlen ⁽²⁾	2020	2
Bert De Graeve ⁽²⁾	2019	2

⁽¹⁾ As of the Annual General Meeting in May 2019.

⁽²⁾ Until the Annual General Meeting in May 2019.

The Committee had four regular and two extraordinary meetings in 2019. In addition to its statutory powers and its powers under the Bekaert Corporate Governance Charter, the Committee discussed the following main subjects:

- » the financing structure of the Group;
- » the debt and liquidity situation;
- » the activity reports of the internal audit department;
- » the reports of the Statutory Auditor;
- » governance, risk and compliance and review of the major risks and the related mitigation plans under Bekaert's enterprise risk management program;
- » the issue of a Schuldschein and retail bonds;
- » the mandatory auditor rotation in 2021.

Nomination and Remuneration Committee

The Nomination and Remuneration Committee is composed as required by Article 7:100 of the new Code on Companies and Associations (and before 1 January 2020: Article 526quater of the former Companies Code): all of its three members are non-executive Directors and the majority of the members is independent. It is chaired by the Chairman of the Board. The Committee's competence in the field of remuneration policy is demonstrated by the relevant experience of its members.

Name	Expiry of current board term	Number of meetings attended
Jürgen Tinggren ⁽¹⁾	2023	3
Celia Baxter	2020	5
Christophe Jacobs van Merlen ⁽¹⁾	2020	3
Bert De Graeve ⁽²⁾	2019	2
Martina Merz ⁽²⁾	2020	1

⁽¹⁾ As of the Annual General Meeting in May 2019.

⁽²⁾ Until the Annual General Meeting in May 2019.

One of the Directors nominated by the principal shareholder and the Chief Executive Officer are invited to attend the Committee meetings without being a member.

The Committee met five times in 2019. In addition to its statutory powers and its powers under the Bekaert Corporate Governance Charter, the Committee discussed the following main subjects:

- » the new organizational structure and the composition of the Bekaert Group Executive;
- » talent review and succession planning at top management levels;
- » the results of a global employee engagement surveys;
- » the succession planning at the Board;
- » the variable remuneration for the Chief Executive Officer and the other members of the Executive Management for their performance in 2018;

- » the base remuneration for the Chief Executive Officer and the other members of the Executive Management for 2019;
- » target setting for 2019 and 2020;
- » Directors' compensation.

Strategic Committee

In 2019, the Board of Directors reflected on the role of the Strategic Committee. As a transitional measure, the size of the Committee was reduced to two members, being the Chairman of the Board and the Chief Executive Officer. Eventually, the Board of Directors decided to abolish its Strategic Committee immediately following the entry into force of the new Articles of Association.

Name	Expiry of current board term	Number of meetings attended
Jürgen Tinggren ⁽¹⁾	2023	2
Matthew Taylor	2022	4
Bert De Graeve ⁽²⁾	2019	2
Leon Bekaert ⁽²⁾	2019	2
Charles de Liedekerke ⁽²⁾	2022	2
Maxime Jadot ⁽²⁾	2019	2
Martina Merz ⁽²⁾	2019	1

⁽¹⁾ As of June 2019.

⁽²⁾ Until the Annual General Meeting in May 2019.

The Committee met four times in 2019 and discussed the Bekaert strategy as well as various strategic projects.

BBRG Committee

In the course of 2018, the Board of Directors established an ad hoc advisory committee that focuses on the Bridon-Bekaert Ropes Group ("BBRG"), in accordance with Section II.5.2 of the Bekaert Corporate Governance Charter.

On 14 November 2019, the Board of Directors decided to abolish the BBRG Committee as of 2020, considering the further integration of BBRG in the Bekaert Group. On 1 August 2019, the Divisional CEO BBRG became a permanent member of the Bekaert Group Executive.

The BBRG Committee had three members and was chaired by Gregory Dalle

Name	Expiry of current board term	Number of meetings attended
Gregory Dalle	2023	11
Colin Smith ⁽¹⁾	2022	4
Matthew Taylor ⁽¹⁾	2022	6
Henri Jean Velge ⁽¹⁾	2020	6
Charles de Liedekerke ⁽²⁾	2022	5
Martina Merz ⁽³⁾	2019	4

⁽¹⁾ As of June 2019.

⁽²⁾ Until June 2019.

⁽³⁾ Until the Annual General Meeting in May 2019.

The Committee met eleven times in 2019.

Evaluation

The main features of the process for evaluating the Board of Directors, its Committees and the individual Directors are described in this section and in paragraph II.3.4 of the Bekaert Corporate Governance Charter. The Chairman is in charge of organizing periodic performance appraisals through an extensive questionnaire that addresses:

- » the functioning of the Board or Committee;
- » the effective preparation and discussion of important issues;
- » the individual contribution of each Director;
- » the present composition of the Board or Committee against its desired composition;
- » the interaction of the Board with the Executive Management.

Mid-2019 a self-assessment was conducted of the Board of Directors and the Board Committees, focusing on the processes, practices and effectiveness of the Board of Directors and its Committees.

Executive Management

The Board of Directors has delegated its management and operational powers to the Bekaert Group Executive (BGE), under the leadership of the Chief Executive Officer. In the framework of the amendment of the Articles of Association and the revision of the Corporate Governance Charter to bring them in line with the 2020 Belgian Code on Corporate Governance and the new Code on Companies and Associations, certain changes will be made to the powers and operation of the BGE, including the setting up of a Delegation of Authority.

In the course of 2019, the composition of the BGE changed substantially. Since 1 March 2019, the BGE is composed of members representing the global Business Units and the global functions. Four Executive Managers joined the Company and the BGE: Arnaud Lesschaeve as Divisional CEO Rubber Reinforcement on 3 June 2019, Juan Carlos

Alonso as Chief Strategy Officer on 1 July 2019, Taoufiq Boussaid as Chief Financial Officer on 15 July 2019 and Oswald Schmid as Chief Operations Officer on 2 December 2019. Curd Vandekerckhove was appointed Divisional CEO Bridon-Bekaert Ropes Group, effective 1 August 2019. Since then, the Divisional CEO Bridon-Bekaert Ropes Group is a permanent member of the BGE. Before, the CEO Bridon-Bekaert Ropes Group was invited to attend its meetings without being a member.

Matthew Taylor will retire from his position as Chief Executive Officer with effect as of 12 May 2020. As of 12 May 2020, Oswald Schmid will act as the interim Chief Executive Officer, pending the appointment of a new Chief Executive Officer.

Name	Position	Appointed
Matthew Taylor	Chief Executive Officer	2013
Taoufiq Boussaid ⁽¹⁾	Chief Financial Officer	2019
Rajita D'Souza	Chief Human Resources Officer	2017
Oswald Schmid ⁽²⁾	Chief Operations Officer	2019
Juan Carlos Alonso ⁽³⁾	Chief Strategy Officer	2019
Curd Vandekerckhove	Chief Operations Officer ⁽⁴⁾ and Divisional CEO Bridon-Bekaert Ropes Group ⁽⁵⁾	2012
Arnaud Lesschaeve ⁽⁶⁾	Divisional CEO Rubber Reinforcement	2019
Jun Liao	Divisional CEO Specialty Businesses	2018
Stijn Vanneste	Divisional CEO Steel Wire Solutions	2016
Lieven Larmuseau ⁽⁷⁾	Divisional CEO Rubber Reinforcement ad interim	2014
Frank Vromant ⁽⁸⁾	Chief Financial Officer ad interim	2011

⁽¹⁾ As of 15 July 2019.

⁽²⁾ As of 2 December 2019.

⁽³⁾ As of 1 July 2019.

⁽⁴⁾ Until 1 August 2019.

⁽⁵⁾ As of 1 August 2019.

⁽⁶⁾ As of 3 June 2019.

⁽⁷⁾ Until 3 June 2019.

⁽⁸⁾ Until 15 July 2019.

Until 1 March 2019, the BGE was composed of members representing the global business platforms, the regional operations and the global functions:

Name	Position	Appointed
Matthew Taylor	Chief Executive Officer	2013
Rajita D'Souza	Chief Human Resources Officer	2017
Frank Vromant	Chief Financial Officer ad interim	2011
Lieven Larmuseau	Executive Vice President Rubber Reinforcement Business Platforms	2014
Jun Liao	Executive Vice President North Asia	2018
Curd Vandekerckhove	Executive Vice President Global Operations	2012
Stijn Vanneste	Executive Vice President Europe, South Asia and South East Asia	2016
Piet Van Riet	Executive Vice President Industrial Products and Specialty Products Business Platforms, Marketing & Commercial Excellence	2014

Diversity

As a truly global company, Bekaert embraces diversity across all levels in the organization, which is a major source of strength for the Company. This applies to diversity in terms of nationality, cultural background, age or gender, but also in terms of capabilities, business experience, insights and views.

Nationality diversity

Bekaert employs people of 50 different nationalities in 44 countries around the world. This diversity is mirrored in all levels of the organization, as well as in the composition of the Board of Directors and the BGE.

	# people	# nationalities	# non-native ⁽¹⁾	% non-native
Board of Directors	13	6	5	38%
BGE	9	8	7	78%

⁽¹⁾ Non-native = nationality other than the one of the Company, i.e. Belgium.

Gender diversity

Since the Annual General Meeting of 11 May 2016, the Company is compliant with the legal requirement that at least one third of the members of the Board of Directors are of the opposite gender.

	# people	% male	% female
Board of Directors	13	62%	38%
BGE	9	89%	11%

By 2025, Bekaert aims to reach a gender diversity ratio of 33% at the Bekaert leadership level (BGE + Management functions B13 and above (Hay classification reference)).

Age diversity

	# people	30-50 years old	over 50 years old
Board of Directors	13	31%	69%
BGE	9	44%	56%

More information on diversity is available in the separate Sustainability Report, issued on 27 March 2020.

Conduct policies

Statutory conflicts of interest in the Board of Directors

In accordance with Article 523 of the former Companies Code (or as from 1 January 2020: Article 7:96 of the new Code on Companies and Associations), a member of the Board of Directors should give the other members prior notice of any agenda items in respect of which he has a direct or indirect conflict of interest of a financial nature with the Company, and should refrain from participating in the discussion of and voting on those items. A conflict of interest arose on two occasions in 2019, and the provisions of Article 523 were complied with on such occasions.

On 28 February 2019, the Board had to determine the remuneration of the Chief Executive Officer. Excerpt from the minutes:

RESOLUTION

On the motion of the Nomination and Remuneration Committee, the Board:

- » resolves that no short-term variable remuneration is paid to the Chief Executive Officer on account of his performance in 2018;
- » approves the proposed base salary increase for the Chief Executive Officer, to apply as from 1 July 2019.

RESOLUTION

On the motion of the Nomination and Remuneration Committee, the Board approves the proposed short-term variable remuneration objectives for the Chief Executive Officer in respect of 2019.

On 14 November 2019, the Board discussed and had to decide on the performance metrics and targets with respect to the performance share units that were granted in January 2020. The targets are also applicable to the Chief Executive Officer. Excerpt from the minutes:

RESOLUTION

On the motion of the Nomination and Remuneration Committee, the Board approves the proposed performance metrics and targets with respect to the performance share units that will be granted in January 2020.

Other transactions with Directors and Executive Management

The Bekaert Corporate Governance Charter contains conduct guidelines with respect to direct and indirect conflicts of interest of the members of the Board of Directors and the BGE that fall outside the scope of Article 523 of the former Companies Code (or as from 1 January 2020: Article 7:96 of the new Code on Companies and Associations). Those members are deemed to be related parties to Bekaert and have to report, on an annual basis, their direct or indirect transactions with Bekaert or its subsidiaries. Bekaert is not aware of any potential conflict of interest concerning such transactions occurring in 2019 (cf. Note 7.5 to the consolidated financial statements).

Code of Conduct

The Board of Directors has approved the Bekaert Code of Conduct, which was first issued on 1 December 2004 and last updated on 14 November 2019.

The Bekaert Code of Conduct describes how the Bekaert values (We act with integrity – We earn trust – We are irrepensible!) are put into practice. It provides principles to follow when confronted with ethical choices and compliance matters.

The Bekaert Code of Conduct is included in its entirety in the Bekaert Corporate Governance Charter as Appendix 3.

Market abuse

In accordance with provision 3.7 of the 2009 Belgian Code on Corporate Governance, the Board of Directors has, on 27 July 2006, promulgated the Bekaert Dealing Code. Because of the EU Market Abuse Regulation, the Board of Directors has adopted a new version of the Bekaert Dealing Code, which became effective on 3 July 2016. The Bekaert Dealing Code is included in its entirety in the Bekaert Corporate Governance Charter as Appendix 4.

The Bekaert Dealing Code restricts transactions in Bekaert financial instruments by members of the Board of Directors, the BGE, senior management and certain other persons during closed and prohibited periods. The Code also contains rules concerning the disclosure of executed transactions by leading managers and their closely associated persons through a notification to the Company and to the Belgian Financial Services and Markets Authority (FSMA). The Company Secretary is the Dealing Code Officer for purposes of the Bekaert Dealing Code

Remuneration Report

1. Description of the procedure used in 2019 for (i) developing a remuneration policy for the non-executive Directors and Executive Management and (ii) setting the remuneration of the individual Directors and Executive Managers

The remuneration policy and the remuneration for the non-executive Directors is determined by the General Meeting of Shareholders on the motion of the Board of Directors, acting upon proposals from the Nomination and Remuneration Committee. The policy was approved by the Annual General Meeting of 10 May 2006 and amended by the Annual General Meetings of 11 May 2011 and of 14 May 2014.

The remuneration policy and the remuneration for the Chief Executive Officer is determined by the Board of Directors, acting upon proposals from the Nomination and Remuneration Committee. The Chief Executive Officer is absent from this process, and does not take part in the voting nor the deliberations in this regard. The Nomination and Remuneration Committee ensures that the Chief Executive Officer's contract with the Company reflects the remuneration policy. A copy of the Chief Executive Officer's contract is available to any Director upon request to the Chairman.

The remuneration policy and the remuneration for the members of the BGE other than the Chief Executive Officer is determined by the Board of Directors acting upon proposals from the Nomination and Remuneration Committee. The Chief Executive Officer has an advisory role in this process. The Committee ensures that the contract of each BGE member with the Company reflects the remuneration policy. A copy of each such contract is available to any Director upon request to the Chairman.

2. Statement of the remuneration policy used in 2019 for the non-executive Directors and Executive Management

Non-executive Directors

The remuneration of the non-executive Directors is determined on the basis of six regular meetings of the full Board of Directors per year. A portion of the remuneration is paid on the basis of the number of regular meetings attended in person by the non-executive Director.

Non-executive Directors who are members of a Board Committee receive an additional attendance fee for each Committee meeting attended in person. As an executive Director, the Chief Executive Officer does not receive such attendance fee.

If the Board of Directors requests the assistance of a Director in a specific matter on account of his or her independence and/or competence, such Director will be entitled, in respect of each session warranting specific travel and time, to a remuneration equal to the applicable amount payable in respect of the Board Committee meeting attended in person. The actual amount of the remuneration of the Directors is determined by the Annual General Meeting for the running financial year.

The remuneration of the Directors is regularly benchmarked with a selected panel of relevant publicly traded industrial Belgian and international references, in order to ensure that persons with competences matching the Group's international ambitions can be attracted.

Non-executive Directors are not entitled to performance related remuneration such as bonuses, stock related long-term incentive schemes, fringe benefits or pension benefits, nor to any other type of variable remuneration.

Expenses that are reasonably incurred in the performance of their duties are reimbursed to Directors, upon submission of suitable justification. In making such expenses, the Directors should take into account the Board Member Expense Policy.

The remuneration of the Chairman of the Board of Directors is determined at the beginning of his term of office, and is set for the duration of such term. On the motion of the Nomination and Remuneration Committee, it is determined by the Board of Directors subject to approval by the Annual General Meeting. In making its proposal, the Nomination and Remuneration Committee should consider a clear description of the duties of the Chairman, the professional profile that has been attracted, the time expected to be effectively available for the Group, and an adequate remuneration corresponding to the formulated expectations and regularly benchmarked with a selected panel of relevant publicly traded industrial Belgian and international references. The Chairman, when attending or chairing the meetings of the Board of Directors or any Board Committees, will not be entitled to any additional attendance fee or other remuneration as this is deemed to be included in his global remuneration package.

Executive managers

Remuneration policy

The main elements of the Group's remuneration policy are a base remuneration, a short-term and a long-term variable remuneration, a pension contribution and various other components.

The Group offers competitive total remuneration packages with the objective to attract and retain the best executive and management talent in every part of the world in which the Group is operating. The remuneration of the Executive Management is regularly benchmarked with a selected panel of relevant publicly traded industrial Belgian and international references.

A performance driven culture is important for achieving the Group's growth aspirations. The following performance processes underpin remuneration decisions:

- » Enterprise Performance Management (EPM), a process managing the Group's business cycle, including the planning and monitoring of targets and resources, value creation and team accountabilities; and
- » People Performance Management (PPM), a process focusing on the clear alignment of team and individual targets with business priorities, including frequent performance steering and coaching.

The Group's short-term variable remuneration program is designed to motivate Executive Managers to support and drive the Company's short-term goals over a one-year performance horizon. Group performance, business unit performance and individual performance drive the ultimate payout. Business performance is measured and monitored by the EPM process, whilst individual performance is measured and monitored by the PPM process.

The Group's long-term variable remuneration program rewards Executive Managers for their contribution to the achievement of the long-term materialization of the Company's strategy. The long-term variable remuneration program is delivered by a performance share plan granting awards depending on the achievement of pre-agreed performance conditions set by the Board of Directors over a three-year performance horizon.

Executive Managers are required to build up a personal investment in Company shares and maintain it throughout their assignment as a member of the BGE (in compliance with principle 7.9 of the 2020 Belgian Code on Corporate Governance).

In order to facilitate such personal investment in Company shares, Executive Managers are eligible to participate in a voluntary share-matching plan. A personal investment in Company shares, up to 15% of the gross annual short term variable pay, in year x is matched by the Company with a direct grant of Company shares at the end of year $x + 2$ provided the Executive Manager holds on to the personal shares.

Remuneration Chief Executive Officer

The remuneration package of the Chief Executive Officer consists of a base remuneration, a short-term and a long-term variable remuneration, a pension contribution and various other components. The Chief Executive Officer is entitled to participate in the voluntary share-matching plan for building a personal investment in Company shares.

The remuneration package aims to be competitive and is aligned with the responsibilities of a Chief Executive Officer leading a globally operating industrial group with various business platforms.

The Nomination and Remuneration Committee recommends each year a set of objectives directly derived from the business plan and from any other priorities to be assigned to the Chief Executive Officer. These objectives include both Group and individual financial and non-financial targets and are measured over a predetermined time period (up to three years). Those objectives, and the year-end evaluation of the achievements, are documented and submitted by the Nomination and Remuneration Committee to the full Board of Directors. The final evaluation leads to an assessment, based on measured results, by the Board of Directors of all performance related elements of the remuneration package of the Chief Executive Officer.

The actual amount of the remuneration of the Chief Executive Officer in his capacity as Executive Manager is determined by the Board of Directors acting on a reasoned recommendation from the Nomination and Remuneration Committee.

Remuneration other members of the BGE

The remuneration package of the BGE members other than the Chief Executive Officer consists of a base remuneration, a short-term and long-term variable remuneration, a pension contribution and various other components. The BGE members are entitled to participate in the voluntary share-matching plan for building a personal investment in Company shares.

The remuneration package aims to be competitive and is aligned with the role and responsibilities of each BGE member leading a globally operating industrial group with various business platforms.

The Chief Executive Officer evaluates the performance of each of the other BGE members and submits his assessment to the Nomination and Remuneration Committee. Objectives are directly derived from the business plan and take into account the specific responsibilities of each BGE member. The achievements measured against those objectives will determine all performance-related elements of the remuneration package. The objectives include Group, business unit and individual targets - both financial and non-financial - and are measured and monitored over a predetermined time period (up to three years) through the EPM and PPM performance processes.

The actual amount of the remuneration of BGE members other than the Chief Executive Officer is determined by the Board of Directors acting on a reasoned recommendation from the Nomination and Remuneration Committee.

Future changes to the remuneration policy

Remuneration policy

Contrary to provision 7.3 of the 2020 Belgian Code on Corporate Governance according to which the Board of Directors should submit the Company's remuneration policy for non-executive Directors and Executive Management to the General Meeting of Shareholders, the Company will not submit its remuneration policy for approval to the Annual General Meeting of 13 May 2020.

In light of the upcoming implementation of the European Shareholder Rights Directive II⁽¹⁾ into Belgian law, the Board of Directors will submit the Company's remuneration policy when the impact of this new Belgian law will be fully known.

(1) Directive (EU) 2017/828 of the European Parliament and of the Council of 17 May 2017 amending Directive 2007/36/EC as regards the encouragement of long-term shareholder engagement.

Proposed changes in remuneration for non-executive Directors

The Board will submit a proposal to change the remuneration mechanism of non-executive Directors to the upcoming Annual General Meeting of 13 May 2020.

The changes include:

- » a proposal to remunerate non-executive Directors with a fixed annual fee, without additional attendance fees, for the performance of the duties as a member of the Board or as a member of a Board Committee;
- » a proposal to offer non-Executive Directors, other than the Chairman, the option to receive part of their fixed annual fee in Company shares.

Contrary to provision 7.6 of the 2020 Belgian Code on Corporate Governance according to which non-executive Directors should receive part of their remuneration in the form of shares in the Company, non-executive Directors will be recommended (but not required) to hold the value of one fixed annual fee in Company shares. Despite the non-mandatory character of this share-holding principle, the Company believes that the long-term view of shareholders is fairly represented at the Board considering that:

- » the Chairman is partly remunerated in Company shares subject to a three year lock-up; and
- » seven of the twelve non-executive Directors are appointed upon nomination by the reference shareholder and already hold Company shares (or certificates relating thereto).

3. Remuneration of the Directors in respect of 2019

The amount of the remuneration and other benefits granted directly or indirectly to the Directors, by the Company or its subsidiaries, in respect of 2019 is set forth on an individual basis in the table below.

The remuneration of the Chairman for the performance of all his duties in the Company was set as follows:

- » a one-time welcome award of € 150 000;
- » a fixed amount of € 200 000 per year;
- » a fixed amount of € 300 000 per year converted into a number of Company shares by applying an average share price; the applied average share price will be the average of the last five closing prices preceding the date of the grant; the Company shares will be granted on the last trading day of May 2019, 2020, 2021 and 2022 and will be blocked for a period of three years as from the grant date.

The remuneration of each Director, except the Chairman, for the performance of the duties as a member of the Board was a set amount of € 42 000, and an amount of € 4 200 for each meeting of the Board attended in person (with a maximum of € 25 200 for six meetings per year).

The remuneration of the Chairman of the Audit and Finance Committee, in the capacity as Chairman and member of such a Committee, was an amount of € 4 000 for each Committee meeting attended in person.

The remuneration of each Director, except the Chairman and the Chief Executive Officer, for the performance of the duties as a member of a Board Committee (other than the BBRG Committee) was an amount of € 3 000 for each Committee meeting attended in person.

The remuneration of each Director, except the Chairman of the Board and the Chief Executive Officer, for the performance of the duties as Chairman or member of the BBRG Committee was an amount of € 3 000 for each BBRG Committee meeting held in person and € 1 500 for each BBRG Committee meeting held per conference call (with a maximum of € 21 000 per year).

in €	Fixed amount	Amount for board attendance	Amount for committee attendance	Total
Chairman				
Bert De Graeve (until May 2019)	104 167			104 167
Jürgen Tinggren (as of June 2019) ⁽¹⁾	466 666			466 666
Chief Executive Officer				
Matthew Taylor	42 000	25 200	0	67 200
Other Board members				
Celia Baxter	42 000	25 200	12 000	79 200
Leon Bekaert	21 000	12 600	3 000	36 600
Gregory Dalle	42 000	25 200	21 000	88 200
Charles de Liedekerke	42 000	25 200	25 500	92 700
Christophe Jacobs van Merlen	42 000	25 200	15 000	82 200
Hubert Jacobs van Merlen	42 000	25 200	24 000	91 200
Maxime Jadot	21 000	12 600	3 000	36 600
Pamela Knapp	42 000	25 200	17 000	84 200
Martina Merz	21 000	12 600	15 000	48 600
Colin Smith	42 000	25 200	7 500	74 700
Caroline Storme	21 000	21 000	0	42 000
Emilie van de Walle de Ghelcke	42 000	25 200	0	67 200
Henri Jean Velge	42 000	25 200	12 000	79 200
Mei Ye	42 000	25 200	0	67 200
Total Directors' Remuneration				1 607 833

⁽¹⁾ Combination of a fixed fee, a one-time welcome award of € 150 000 and a share grant of € 300 000.

4. Remuneration of the Chief Executive Officer in respect of 2019 in his capacity as a Director

In his capacity as a Director, the Chief Executive Officer is entitled to the same remuneration as the non-executive Directors, except the remuneration for attending Board Committee meetings for which he receives no compensation (cf. the table above).

The remuneration received by the Chief Executive Officer as a Director is included in the base remuneration mentioned in the table in section 6 below.

5. Performance-related remuneration: criteria, term and method of performance evaluation

The remuneration package of the Chief Executive Officer and the other members of the BGE comprises the following performance related elements:

- » a short-term variable remuneration, with objectives related to the annual business plan. The objectives are set at the beginning of the year by the Nomination and Remuneration Committee and are approved by the Board of Directors. Those objectives include a weighted average of Group, business unit and individual targets, both financial and non-financial, which are relevant in evaluating the annual performance of the Group and progress achieved against the agreed strategic objectives; they are evaluated annually by the Board of Directors. One third of the annual short-term variable remuneration of the Chief Executive Officer is deferred over a period of twenty-four months; no deferral is applicable for the other members of the BGE.

- » a long-term variable remuneration in the form of a grant of performance share units which will vest following a vesting period of three years, conditional to the achievement of pre-set performance targets.

The set of 2019 performance criteria used to evaluate the short-term remuneration is a basket of financial targets (sales, underlying EBITDA, capital expenditure and working capital) and non-financial targets (such as safety, implementation of transformation programs, improvement on engaged and empowered teams), combined with specific individualized objectives.

The target value of the short-term variable remuneration of the Chief Executive Officer is 75% of fixed pay, and 60% of fixed pay for the other members of the BGE. The maximum opportunity is 200% of this target.

The performance criteria used to evaluate the long-term remuneration are specific company financials; more in particular an EBITDA growth target and a cumulative cash flow target.

The target value of the long-term variable remuneration of the Chief Executive Officer is 85% of fixed pay, and 65% of fixed pay for the other members of the BGE. The maximum vesting is 300% of the target.

At par level, the value of the variable remuneration elements of the Chief Executive Officer and the other members of the BGE exceeds 25% of their total remuneration. More than half of this variable remuneration is based on criteria over a period of minimum three years.

6. Remuneration of the Chief Executive Officer in respect of 2019

The amount of the remuneration and other benefits granted directly or indirectly to the Chief Executive Officer, by the Company or its subsidiaries, in respect of 2019 for his Chief Executive Officer role is set forth below.

Matthew Taylor	Remuneration ⁽¹⁾	Comments
Base remuneration	822 265	Includes base remuneration as well as foreign board fees ⁽²⁾
Short-term variable remuneration	623 102	Annual variable remuneration, based on 2019 performance
Long-term variable remuneration	32 671	Number of performance share units granted (performance period 2019-2021)
Pension	168 203	Defined Contribution Plan
Share-matching	4 581 units	2019 Company matching of 2017 personal investment in Company shares
Other remuneration elements	52 880	Includes company car and risk insurances

⁽¹⁾ In respect of 2019, in €.

⁽²⁾ The base remuneration includes the remuneration received by the Chief Executive Officer in his capacity as a Director.

7. Remuneration of the other Bekaert Group Executive members in respect of 2019

The amount of the remuneration and other benefits granted directly or indirectly to the BGE members other than the Chief Executive Officer, by the Company or its subsidiaries, in respect of 2019 is set forth below on a global basis.

	Remuneration ⁽¹⁾	Comments
Base remuneration	2 610 542	Includes base remuneration as well as foreign board fees
Short-term variable remuneration	1 535 147	Annual variable remuneration, based on 2019 performance
Long-term variable remuneration	104 935 units	Number of performance share units granted (performance period 2019-2021)
Pension	392 043	Defined Contribution and Defined Benefit Plan
Share-matching	7 668 units	2019 Company matching of 2017 personal investment in Company shares
Other remuneration elements	377 273	Includes company car, risk insurances, school fees and housing allowance

⁽¹⁾ In respect of 2019, in €.

The above table includes pro rata remuneration reflecting changes in the composition of the BGE as described in an earlier section of this Corporate Governance Statement.

8. Stock Options and Performance Share Units for Executive Management granted in 2019

As of 2018, the long-term incentives are delivered solely through performance share units granted under the 2018-2020 Performance Share Plan proposed by the Board of Directors and approved by the Annual General Meeting on 9 May 2018.

Up to 2017 long-term incentives have been based on a combination of stock options (or, outside of Europe, stock appreciations rights) and performance share units.

The Chief Executive Officer and the other members of the BGE participate in a voluntary share-matching plan, whereby a personal investment in Company shares in year x is matched by the Company in year x+2 provided the Executive Manager holds on to the personal shares.

Performance Share Units

The 2018-2020 Performance Share Plan offers rights with respect to Company shares to the members of the BGE, the senior management and a limited number of management staff members of the Company and a number of its subsidiaries (the rights, "performance share units" and the shares, "performance shares").

Each performance share unit entitles the beneficiary to acquire one performance share for free subject to the conditions of the performance share plan. These performance share units will vest following a vesting period of three years, conditional to the achievement of pre-set performance targets.

The performance targets are set annually by the Board of Directors, in line with the Company strategy. Company financials retained as performance targets covering the 2019-2021 performance period are EBITDA growth and elements of cumulative cash flow.

The precise vesting level of the performance share units will depend upon the actual achievement level of the vesting criterion, with no vesting at all if the actual performance is below the defined minimum threshold. Upon achievement of said threshold, there will be a minimum vesting of 50% of the granted performance share units; full achievement of the agreed vesting criterion will lead to a par vesting of 100% of the granted performance share units, whereas there will be a maximum vesting of 300% of the granted performance share units if the actual performance is at or above an agreed ceiling level.

Upon vesting, the beneficiaries will also receive the value of the dividends relating to the previous three years with respect to such (amount of) performance shares to which the effectively vested performance share units relate.

The target value of the performance share units of the Chief Executive Officer is 85% of fixed pay, and 65% of fixed pay

for the other members of the BGE. The performance share units are granted to the beneficiaries for free.

Performance share units related to the performance period 2019-2021 have been granted to the Chief Executive Officer and the other members of the BGE in February 2019. BGE members appointed during the year were granted performance share units during the mid-year grant in July 2019.

The vesting criterion with regard to the performance share units issued in December 2016, in relation to the 2017-2019 performance horizon, did not meet the threshold level. Consequently, none of the performance share units granted in December 2016 vested.

Name	Number of performance share units granted in 2019 (performance period 2019-2021)	Number of performance share units vested in 2019 (performance period 2017-2019)
Matthew Taylor	32 671	-
Juan Carlos Alonso ⁽¹⁾	9 391	-
Taoufiq Boussaid ⁽¹⁾	10 478	-
Rajita D'Souza	11 897	-
Arnaud Lesschaeve	6 142	-
Jun Liao	12 663	-
Oswald Schmid	-	-
Curd Vandekerckhove	11 962	-
Stijn Vanneste	9 321	-
Lieven Larmuseau ⁽²⁾	10 503	-
Piet Van Riet ⁽²⁾	10 612	-
Frank Vromant ⁽²⁾	11 966	-

⁽¹⁾ Grant in 2019 includes a one-time sign on award.

⁽²⁾ The table includes Executive Managers who were a member of the BGE prior to year-end 2019. Changes in the composition of the BGE are disclosed in an earlier section of this Corporate Governance Statement.

Stock Options

Set out below are the number of stock options exercised or forfeited in 2019 in relation to the previous long-term incentive plans.

The options were offered to the beneficiaries free of charge. Each accepted option entitles the holder to acquire one existing share of the Company against payment of the exercise price, which is conclusively determined at the time of the offer and which is equal to the lower of: (i) the average closing price of the Company shares during the thirty days preceding the date of the offer, and (ii) the last closing price preceding the date of the offer.

Subject to the closed and prohibited trading periods and to the plan rules, the options can be exercised as from the

beginning of the fourth calendar year following the date of their offer until the end of the tenth year following the date of their offer.

The stock options that were exercisable in 2019 are based on the grants of the Stock Option Plan 2015-2017 and on the predecessor plans to the Stock Option Plan 2015-2017.

The terms of the earlier plans are similar to those of the Stock Option Plan 2015-2017, but the options that were granted to employees under the predecessor plans to the Stock Option Plan 2010-2014 took the form of subscription rights entitling the holders to acquire newly issued Company shares, while self-employed beneficiaries were entitled to acquire existing shares.

Name	Number of stock options exercised in 2019	Number of stock options forfeited in 2019
Matthew Taylor	-	0
Rajita D'Souza	-	0
Jun Liao ⁽¹⁾	-	0
Curd Vandekerckhove	-	5 400
Stijn Vanneste	-	0
Lieven Larmuseau ⁽²⁾	-	0
Piet Van Riet ⁽²⁾	-	0
Frank Vromant ⁽²⁾	-	5 400

⁽¹⁾ Stock Appreciation Rights.

⁽²⁾ The table includes Executive Managers who were a member of the BGE prior to year-end 2019. Changes in the composition of the BGE are disclosed in an earlier section of this Corporate Governance Statement.

Share-matching Plan

The Chief Executive Officer and the other members of the BGE are required to build and maintain a personal shareholding in Company shares. In order to facilitate this, the Company offers a voluntary share-matching plan.

The share-matching plan matches a personal investment in Company shares in year x with a direct grant of Company shares at the end of year x + 2 provided the Executive Manager holds on to the personal shares.

The table below sets forth the number of shares matched by the Company in December 2019 in relation to the personal investment in Company Shares in March 2017:

Name	Number of matched shares
Matthew Taylor	4 581
Rajita D'Souza	1 254
Curd Vandekerckhove	1 421
Stijn Vanneste	1 043
Lieven Larmuseau ⁽¹⁾	1 266
Piet Van Riet ⁽¹⁾	1 383
Frank Vromant ⁽¹⁾	1 301

⁽¹⁾ The table includes Executive Managers who were a member of the BGE prior to year-end 2019. Changes in the composition of the BGE are disclosed in an earlier section of this Corporate Governance Statement.

9. Severance pay for Executive Management

All Executive Managers' contractual arrangements provide for a notice period of twelve months except for the Divisional CEO Steel Wire Solutions and the Divisional CEO BBRG. These two Executive Managers entered into a labor contract before their appointment as Executive Manager and therefore existing labor law forms the basis for their severance arrangement.

10. Departure of Executive Managers

No member of the Executive Management has left the Company during 2019.

11. Company's right of reclaim

The Board has discretion to adjust (malus) or reclaim (claw back) some or all of the value of awards of performance related payments to the Executive Management in the event of

- » significant downward restatement of the financial results of Bekaert,
- » material breach of Bekaert's Code of Conduct or any other Bekaert compliance policies,
- » breach of restrictive covenants by which the individual has agreed to be bound,
- » gross misconduct or gross negligence by the individual, which results into significant losses or serious reputation damage to Bekaert.

Shares

The Bekaert share in 2019

The Bekaert share gained almost 26% in 2019 when comparing the year-end close price of 2019 with 2018, slightly below the performance of our reference index, Euronext Brussels BEL Mid. Where Bekaert's share price initially surged in the run-up to the full-year results 2018 announcement - to reach €25 on 22 February 2019 - the share dropped below €21 at the end of March, following the Bekaert 2018 results and Belgian restructuring announcements. The share steadily recovered after the dividend distribution in May 2019, to reach a year-high of €28 on 12 November 2019. The share was volatile throughout the year with strong reactions to announcements and policy changes related to US-China trade tensions and to profit warnings and restructuring announcements in sectors relevant to Bekaert.



Share identification

The Bekaert share is listed on NYSE Euronext Brussels as ISIN BE0974258874 (BEKB) and was first listed in December 1972. The ICB sector code is 2727 Diversified Industrials.

Share performance

in €	2013	2014	2015	2016	2017	2018	2019
Price as at 31 December	25.72	26.34	28.38	38.48	36.45	21.06	26.50
Price high	31.11	30.19	30.00	42.45	49.92	40.90	28.26
Price low	20.01	21.90	22.58	26.56	33.50	17.41	19.38
Price average closing	24.93	27.15	26.12	37.06	42.05	28.21	23.96
Daily volume	126 923	82 813	120 991	123 268	121 686	154 726	96 683
Daily turnover (in millions of €)	3.1	2.1	3.1	4.5	5.0	4.4	2.3
Annual turnover (in millions of €)	796	527	804	1 147	1 279	1 121	592
Velocity (% annual)	54	35	52	53	51	65	41
Velocity (% adjusted free float)	90	59	86	88	86	109	68
Free float (%)	59.9	55.7	56.7	59.2	59.6	59.3	59.3

Volumes traded

The average daily trading volume was about 97 000 shares in 2019. The volume peaked on 21 June, when 399 611 shares were traded.



On 31 December 2019, Bekaert had a market capitalization of € 1.6 billion and a free float market capitalization of € 1 billion. The free float was 59.31% and the free float band 60%.

In connection with the entry into force of the Act of 2 May 2007 on the disclosure of significant participations (the Transparency Act) Bekaert has, in its Articles of Association, set the thresholds of 3% and 7.50% in addition to the legal thresholds of 5% and each multiple of 5%. An overview of the notifications of participations of 3% or more, if any, can be found in the Parent Company Information section of this Annual Report cf. page 193 (Interests in share capital).

Stichting Administratiekantoor Bekaert (principal shareholder) owns 34.28% of the shares, while institutional shareholders are estimated to hold 35% of the shares. Retail represents 11.08%, Private Banking 13.16% and treasury shares 6.41%.

On 8 December 2007, Stichting Administratiekantoor Bekaert disclosed in accordance with Article 74 of the Act of 1 April 2007 on public takeover bids that it was holding individually more than 30% of the securities with voting rights of the Company on 1 September 2007.

Capital structure

As of 31 December 2019 the registered capital of the Company amounts to € 177 793 000, and is represented by 60 408 441 shares without par value. The shares are in registered or dematerialized form. All shares have the same rights.

Authorized capital

The Board of Directors has been authorized by the General Meeting of Shareholders of 11 May 2016 to increase the Company's registered capital in one or more times by an aggregate maximum amount of € 176 000 000 (before any issue premium). The authority is valid for five years from 20 June 2016 and can be renewed in accordance with the

applicable statutory provisions. Pursuant to this authorization, the Board of Directors may, among others, effect a capital increase under the authorized capital by means of issuing ordinary shares, subscription rights or convertible bonds and may limit or disapply the preferential subscription right of the Company's shareholders in accordance with the new Code on Companies and Associations.

Furthermore, the Board of Directors has been authorized, for a period of three years from 14 June 2018, to make use of the authorized capital upon receipt by the Company of a notice from the FSMA of a public takeover bid for the Company's securities.

The Board of Directors will propose to the Extraordinary General Meeting of Shareholders of 26 March 2020 (or of 13 May 2020 should the required quorum not be reached on 26 March 2020) the renewal of the above authorities as part of the amendment to the Articles of Association.

Convertible bonds

The Board of Directors has made use of its powers under the authorized capital when it resolved on 18 May 2016 to issue senior unsecured convertible bonds due June 2021 for an aggregate amount of € 380 000 000 (the "Convertible Bonds"). These Convertible Bonds carry a zero-coupon and their conversion price amounts to € 50.71 per share.

In connection with the issuance of the Convertible Bonds, the Board of Directors resolved to disapply the preference subscription right of existing shareholders set forth in Articles 596 and following of the former Companies Code applicable at that time. The terms of the Convertible Bonds allow the Company, upon the conversion of the bonds, to either deliver new shares or existing shares or pay a cash alternative amount.

In order to mitigate dilution for existing shareholders upon conversion of the Convertible Bonds, the Board of Directors intends where possible, to repay the principal amount of the Convertible Bonds in cash and, if the then prevailing share price is above the conversion price, pay the upside in existing shares of the Company. The conversion of the Convertible Bonds would then have no dilutive effect for existing shareholders.

Furthermore, the terms of the Convertible Bonds allow the Company to redeem the bonds at their principal amount together with accrued and unpaid interest in certain circumstances, for example on or after 30 June 2019, if the Company's shares trade at a price higher than 130% of the conversion price during a certain period.

Stock option plans, performance share plans and share-matching plan

The total number of outstanding subscription rights under the Stock Option Plan 2005-2009 and convertible into Bekaert shares is 173 570. In 2019, no subscription rights were exercised under the Stock Option Plan 2005-2009.

On 31 December 2018, the Company held 3 902 032 treasury shares. Of these 3 902 032 treasury shares, 13 787 shares were transferred to the Chairman of the Board of Directors as part of his fixed remuneration and 13 670 shares were transferred to members of the BGE pursuant to the Company share-matching plan. In addition, 1 500 stock options were exercised under the Stock Option Plan 2015-2017 and 1 500 treasury shares were used for that purpose. The Company did not purchase any shares in the course of 2019 and no treasury shares were cancelled. As a result, the Company held an aggregate 3 873 075 treasury shares on 31 December 2019.

A first grant of 178 233 equity settled performance share units under the Performance Share Plan 2018-2020 was made on 15 February 2019. In addition, a mid-year grant of 35 663 performance share units was made on 26 July 2019 under the Performance Share Plan 2018-2020. Each performance share unit entitles the beneficiary to acquire one performance share subject to the conditions of the Performance Share Plan 2018-2020.

These performance share units will vest following a vesting period of three years, conditional to the achievement of a preset performance target. The precise vesting level of the performance share units will depend upon the actual achievement level of the vesting criterion, with no vesting at all if the actual performance is below the defined minimum threshold. Upon achievement of said threshold, there will be a minimum vesting of 50% of the granted performance share units; full achievement of the agreed vesting criterion will lead to a par vesting of 100% of the granted performance share units, whereas there will be a maximum vesting of 300% of the granted performance share units if the actual performance is at or above an agreed ceiling level.

Detailed information about capital, shares, stock option plans and performance share plans is given in the Financial Review (Note 6.12 to the consolidated financial statements).

Dividend policy

The Board of Directors will propose that the Annual General Meeting to be held on 13 May 2020 approve the distribution of a gross dividend of € 0.70 per share, unchanged from last year.

The Board reconfirms the Dividend Policy which foresees, insofar as the profit permits, a stable or growing dividend while maintaining an adequate level of cash flow in the Company for investment and self-financing in support of growth. Over the longer term, the Company strives for a pay-out

ratio of 40% of the result for the period attributable to equity holders of Bekaert.

in €	2014	2015	2016	2017	2018	2019 ⁽¹⁾
Total gross dividend	0.850	0.900	1.100	1.100	0.700	0.700
Net dividend ⁽²⁾	0.638	0.657	0.770	0.770	0.490	0.490
Coupon number	6	7	8	9	10	11

⁽¹⁾ The dividend is subject to approval by the General Meeting of Shareholders 2020.

⁽²⁾ Subject to the applicable tax legislation.

General Meeting of Shareholders 2019

The Annual General Meeting was held on 8 May 2019. An Extraordinary General Meeting was held on the same day. A second Extraordinary General Meeting was held on 3 July 2019. The resolutions of the meetings are available at www.bekaert.com.

Investor Relations

Bekaert is committed to providing transparent financial information to all shareholders.

All shareholders can count on access to information and on our commitment to share relevant updates on market evolutions, performance progress and other relevant information. All such updates can be found online in the investors section of the website and are presented live in meetings with analysts, shareholders, and investors. The calendar of investor relations conferences, roadshows and group visits to our premises is published on our website.

On Friday 15 November 2019 Bekaert hosted a Capital Markets Day at its headquarters in Zwevegem, Belgium. Such event is organized to provide financial stakeholders the opportunity to meet the executive management of the company, get more information on the company in general, and an update on the strategy.

The event comprised a series of presentations by Bekaert's Executive Management providing insights on performance, outlook and strategy. 16 analysts and fund/portfolio managers attended the live meeting. The Capital Markets event coincided with the day of Bekaert's third quarter trading update.



Elements pertinent to a take-over bid

Restrictions on the transfer of securities

The Articles of Association contain no restrictions on the transfer of Company shares, except in the case of a change of control, for which the prior approval of the Board of Directors has to be requested in accordance with Article 11 of the Articles of Association.

Subject to the foregoing, the shares are freely transferable.

The Board is not aware of any restrictions imposed by law on the transfer of shares by any shareholder.

Restrictions on the exercise of voting rights

According to the Articles of Association, each share entitles the holder to one vote. The Articles of Association contain no restrictions on the voting rights, and each shareholder can exercise his voting rights provided he was validly admitted to the General Meeting and his rights had not been suspended. The admission rules to the General Meeting are laid down in the new Code on Companies and Associations and in the Articles of Association. Pursuant to the Articles of Association, the Company is entitled to suspend the exercise of rights attaching to securities belonging to several owners.

No person can vote at General Meetings of Shareholders using voting rights attaching to securities that had not been timely reported in accordance with the law.

The Board is not aware of any other restrictions imposed by law on the exercise of voting rights.

Agreements among shareholders

The Board of Directors is not aware of any agreements among shareholders that may result in restrictions on the transfer of securities or the exercise of voting rights.

Appointment and replacement of Directors

The Articles of Association and the Bekaert Corporate Governance Charter contain specific rules concerning the (re)appointment, induction and evaluation of Directors.

Directors are appointed for a term not exceeding four years by the General Meeting of Shareholders, which can also dismiss them at any time. An appointment or dismissal requires a simple majority of votes. The candidates for the office of Director who have not previously held that position in the Company must inform the Board of Directors of their candidacy at least two months before the Annual General Meeting.

Only if and when a position of Director prematurely becomes vacant, can the remaining Directors appoint (co-opt) a new Director. In such a case, the next General Meeting will make the definitive appointment.

The appointment process for Directors is led by Chairman and the Nomination and Remuneration Committee, which submits a reasoned recommendation to the full Board. On the basis of such recommendation, the Board decides which candidates will be nominated to the General Meeting for appointment. Directors can, as a rule, be reappointed for an indefinite number of terms, provided they are at least 30 and at most 66 years of age at the moment of their initial appointment and they have to resign in the year in which they reach the age of 69.

Amendments to the Articles of Association

The Articles of Association can be amended by an Extraordinary General Meeting in accordance with the new Code on Companies and Associations. Each amendment to the Articles requires a quorum of at least 50% of the share capital (if the quorum is not met, a second meeting with the same agenda should be called, for which no quorum requirement applies) and a qualified majority of 75% of the votes cast at the meeting (a majority of 80% applies for changes to the corporate purpose and the transformation of the legal form of the company).

Authority of the Board of Directors to issue or buy back shares

The Board of Directors is authorized by Article 44 of the Articles of Association to increase the registered capital in one or more times by a maximum amount of € 176 000 000. The authority is valid for five years from 20 June 2016, but can be extended by the General Meeting.

Within the framework of that authority the Board can also, during a period of three years from 14 June 2018, increase the registered capital, upon receipt by the Company of a notice from the FSMA of a public takeover bid, and provided that:

- » the shares to be issued are fully paid up upon issue;
- » the issue price of such shares is not lower than the price of the bid; and
- » the number of shares to be issued does not exceed 10% of the issued shares representing the capital prior to the capital increase.

This authority can also be extended by the General Meeting.

The Board of Directors is authorized by Article 12 of the Articles of Association to acquire a maximum number of own shares that, in the aggregate, represent no more than 20% of the issued capital, during a period of five years from 20 June 2016 (that can be extended by the General Meeting), at a price ranging between minimum € 1.00 and maximum 30% above the arithmetic average of the closing price of the Bekaert share during the last thirty trading days preceding

the Board's resolution to acquire. The Board is authorized to cancel all or part of the purchased shares during such five-year period.

The Board is also authorized by Article 12 of the Articles of Association to acquire own shares, if required to prevent a threatened serious harm to the Company, including a public takeover bid. Such authority is granted for a period of three years from 5 September 2019 and can be extended by the General Meeting.

Articles 12bis and 12ter of the current Articles of Association provide rules for the disposal of purchased shares and for the acquisition and disposal of Company shares by subsidiaries.

The Board of Directors will propose to the Extraordinary General Meeting of Shareholders of 26 March 2020 (or of 13 May 2020 should the required quorum not be reached on 26 March 2020) the renewal of the above authorities as part of the amendment of the Articles of Association.

The powers of the Board of Directors are more fully described in the applicable legal provisions, the Articles of Association and the Bekaert Corporate Governance Charter.

Change of control

The Company is a party to a number of significant agreements that take effect, alter or terminate upon a change of control of the Company following a public takeover bid or otherwise.

To the extent that those agreements grant rights to third parties that affect the assets of the Company or that give rise to a debt or an obligation of the Company, those rights were granted by the Special General Meetings held on 13 April 2006, 16 April 2008, 15 April 2009, 14 April 2010 and 7 April 2011 and by the Annual General Meetings held on 9 May 2012, 8 May 2013, 14 May 2014, 13 May 2015, 11 May 2016, 10 May 2017, 9 May 2018 and 8 May 2019 in accordance with Article 556 of the former Companies Code; the minutes of those meetings were filed with the Registry of the Commercial Court of Gent, division Kortrijk on 14 April 2006, 18 April 2008, 17 April 2009, 16 April 2010, 15 April 2011, 30 May 2012, 23 May 2013, 20 June 2014, 19 May 2015, 18 May 2016, 2 June 2017, 7 February 2019 and 23 May 2019 respectively and are available at www.bekaert.com.

Most agreements are joint venture contracts (describing the relationship between the parties in the context of a joint venture company), contracts whereby financial institutions, retail investors or other investors commit funds to the Company or one of its subsidiaries, and contracts for the supply of products or services by or to the Company. Each of those contracts contains clauses that, in the case of a change of control of the Company, entitle the other party, in certain cases and under certain conditions, to terminate the contract prematurely and, in the case of financial contracts, also to demand early repayment of the loan funds. The joint

venture contracts provide that, in the case of a change of control of the Company, the other party can acquire the Company's shareholding in the joint venture (except for the Chinese joint ventures, where the parties have to agree whether one of them will continue the joint venture on its own, whereupon that party has to purchase the other party's shareholding), whereby the value for the transfer of the shareholding is determined in accordance with contractual formulas that aim to ensure a transfer at an arm's length price.

Other elements

- » The Company has not issued securities with special control rights.
- » The control rights attaching to the shares acquired by employees pursuant to the long-term incentive plans are exercised directly by the employees.
- » No agreements have been concluded between the Company and its Directors or employees providing for compensation if, as a result of a takeover bid, the Directors resign or are made redundant without valid reason or if the employment of the employees is terminated.

Control and ERM

Internal control and risk management systems in relation to the preparation of the consolidated financial statements

The following description of Bekaert's internal control and risk management systems is based on the Internal Control Integrated Framework (1992) and the Enterprise Risk Management Framework (2004) published by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO").

The Board of Directors has approved a framework of internal control and risk management for the Company and the Group set up by the BGE, and monitors the implementation thereof. The Audit and Finance Committee monitors the effectiveness of the internal control and risk management systems, with a view to ensuring that the main risks are properly identified, managed and disclosed according to the framework adopted by the Board of Directors. The Audit and Finance Committee also makes recommendations to the Board of Directors in this respect.

Control environment

The accounting and control organization consists of three levels: (i) the accounting team in the different legal entities or shared service centers, responsible for the preparation and reporting of the financial information, (ii) the controllers at the different levels in the organization (such as plant and region), responsible inter alia for the review of the financial information in their area of responsibility, and (iii) the Group Finance Department, responsible for the final review of the financial information of the different legal entities and for the preparation of the consolidated financial statements.

Next to the structured controls outlined above, the Internal Audit Department conducts a risk based audit program to validate the internal control effectiveness in the different processes at legal entity level to assure a reliable financial reporting.

Bekaert's consolidated financial statements are prepared in accordance with the International Financial Reporting Standards (IFRS), which have been endorsed by the European Union. These financial statements are also in compliance with the IFRS as issued by the International Accounting Standards Board.

All IFRS accounting principles, guidelines and interpretations, to be applied by all legal entities, are grouped in the Bekaert Accounting Manual, which is available on the Bekaert intranet to all employees involved in financial reporting. Such manual is regularly updated by Group Finance in the case of relevant changes in IFRS, or interpretations thereof, and the users are informed of any such changes. IFRS trainings take place in the different regions when deemed necessary or appropriate. E-learning modules on IFRS are also made available by Group Finance to accommodate individual training.

The vast majority of the Group companies use Bekaert's global enterprise resource planning ("ERP") system, and the accounting transactions are registered in a common operating chart of accounts, whereby accounting manuals describe the standard way of booking of the most relevant transactions. Such accounting manuals are explained to the users during training sessions, and are available on the Bekaert intranet.

All Group companies use the same software to report the financial data for consolidation and external reporting purposes. A reporting manual is available on the Bekaert intranet and trainings take place when deemed necessary or appropriate.

Risk assessment

Appropriate measures are taken to assure a timely and qualitative reporting and to reduce the potential risks related to the financial reporting process, including: (i) proper coordination between the Corporate Communication Department and Group Finance, (ii) careful planning of all activities, including owners and timings, (iii) guidelines which are distributed by Group Finance to the owners prior to the quarterly reporting, including relevant points of attention, and (iv) follow-up and feedback of the timeliness, quality and lessons learned in order to strive for continuous improvement.

A quarterly review takes place of the financial results, findings by the Internal Audit Department, and other important control events, the results of which are discussed with the Statutory Auditor.

Material changes to the IFRS accounting principles are coordinated by Group Finance, reviewed by the Statutory Auditor, reported to the Audit and Finance Committee, and acknowledged by the Board of Directors of the Company.

Material changes to the statutory accounting principles of a Group company are approved by its Board of Directors.

Control activities

The proper application by the legal entities of the accounting principles as described in the Bekaert Accounting Manual, as well as the accuracy, consistency and completeness of the reported information, is reviewed on an ongoing basis by the control organization (as described above).

In addition, all relevant entities are controlled by the Internal Audit Department on a periodic basis. Policies and procedures are in place for the most important underlying processes (sales, procurement, investments, treasury, etc.), and are subject to (i) an evaluation by the respective management teams using a self-assessment tool, and (ii) control by the Internal Audit Department on a rotating basis.

A close monitoring of potential segregation of duties conflicts in the ERP system is carried out.

Information and communication

Bekaert has deployed in the majority of the Group companies a global ERP system platform to support the efficient processing of business transactions and provide its management with transparent and reliable management information to monitor, control and direct its business operations.

The provision of information technology services to run, maintain and develop those systems is to large extent outsourced to professional IT service delivery organizations, which are directed and controlled through appropriate IT governance structures and monitored on their delivery performance through comprehensive service level agreements.

Together with its IT providers, Bekaert has implemented adequate management processes to assure that appropriate measures are taken on a daily basis to sustain the performance, availability and integrity of its IT systems. At regular intervals the adequacy of those procedures is reviewed and audited and where needed further optimized.

Proper assignment of responsibilities, and coordination between the pertinent departments, assures an efficient and timely communication process of periodic financial information to the market. In the first and third quarters, a trading update is released, whereas at midyear and year-end all relevant financial information is disclosed. Prior to the external reporting, the sales and financial information is subject to (i) the appropriate controls by the above-mentioned control organization, (ii) review by the Audit and Finance Committee, and (iii) approval by the Board of Directors of the Company.

Monitoring

Any significant change of the IFRS accounting principles as applied by Bekaert is subject to review by the Audit and Finance Committee and approval by the Company's Board of Directors.

On a periodic basis, the members of the Board of Directors are updated on the evolution and important changes in the underlying IFRS standards. All relevant financial information is presented to the Audit and Finance Committee and the Board of Directors to enable them to analyze the financial statements. All related press releases are approved prior to communication to the market.

Relevant findings by the Internal Audit Department and/or the Statutory Auditor on the application of the accounting principles, as well as the adequacy of the policies and procedures, and segregation of duties, are reported to the Audit and Finance Committee.

In addition, a periodic treasury update is submitted to the Audit and Finance Committee.

A procedure is in place to convene the appropriate governing body of the Company on short notice if and when circumstances so dictate.

General internal control and ERM

The Board of Directors has approved the Bekaert Code of Conduct, which was first issued on 1 December 2004 and last updated in November 2019. The Code of Conduct sets forth the Bekaert mission and values as well as the basic principles of how Bekaert wants to do business.

Implementation of the Code of Conduct is mandatory for all companies of the Group. The Code of Conduct is included in the Bekaert Corporate Governance Charter as Appendix 3 and available at www.bekaert.com.

More detailed policies and guidelines are developed as considered necessary to ensure consistent implementation of the Code of Conduct throughout the Group.

Bekaert's internal control framework consists of a set of group policies for the main business processes, and applies Group-wide. Bekaert has different tools in place to constantly monitor the effectiveness and efficiency of the design and the operation of the internal control framework.

The Internal Audit Department monitors the internal control performance based on the global framework and reports to the Audit and Finance Committee at each of its meetings. The Governance, Risk and Compliance Department reports to the Audit and Finance Committee at each of its meetings on risk and compliance matters.

The BGE regularly evaluates the Group's exposure to risk, the potential financial impact thereof and the actions to monitor, mitigate and control the exposure.

At the request of the Board of Directors and the Audit and Finance Committee, management has developed a permanent global enterprise risk management ("ERM") framework to assist the Group in managing uncertainty in Bekaert's value creation process.

The framework consists of the identification, assessment and prioritization of the major risks confronting Bekaert, and of the continuous reporting and monitoring of those major risks (including the development and implementation of risk mitigation plans).

The risks are identified in five risk categories: strategic, operational, legal, financial, and country risks. The identified risks are classified on two axes: probability and impact or consequence.

Decisions are made and action plans defined to mitigate the identified risks. Also the risk sensitivity evolution (decrease, increase, stable) is evaluated.

Below are the main risks included in Bekaert's 2019 ERM report, which has been reported to the Audit and Finance Committee and the Board of Directors.

Strategic risks	<ul style="list-style-type: none"> • Like many global companies, Bekaert is exposed to risks arising from global economic trends. Strategically, Bekaert defends itself against economical and cyclical risks by being active in different regions and different sectors. Bekaert operates manufacturing sites and offices in 44 countries and its markets can be clustered in seven sectors. This sectorial spread is an advantage as it makes Bekaert less sensitive to sector-specific trends. Nevertheless, a global economic crisis can impact the most important sectors in which Bekaert is active, i.e., tire and automotive, energy and utilities, and construction. For example, in tire and automotive and construction markets, a global recession can lead to a significant demand decline driven by weak consumer confidence and postponed investments. The resulting upstream and downstream overcapacity can lead to price erosion across the supply chain. In oil and gas markets, the oil price level and trend has an influence on demand for Bekaert's products related to those markets. Most important for Bekaert's flat and shaped wire activity and for Bridon-Bekaert Ropes Group's offshore steel ropes activity are the actual investments in offshore oil extraction. Such investments have been postponed or put on hold as a result of the steep oil price drop in 2015. Although the Company is in process of making the activities less oil-dependent and better aligned with the market reality (restructuring in flat and shaped activity at Bekaert Bradford, UK and restructuring in the ropes footprint of Bridon-Bekaert Ropes Group in Brazil) and although, Bekaert will be ready to seize opportunities from a reactivation of investments in oil extraction in the future, it cannot be excluded that the current oil price level will continue to have an influence on the demand for Bekaert's products and hence on its results. • Wire rod price volatility may result in further margin erosion Wire rod, Bekaert's main raw material, is purchased from steel mills from all over the world. Wire rod represents about 45% of the cost of sales. In principle, price movements are passed on in the selling prices as soon as possible, through contractually agreed pricing mechanisms or through individual negotiation. If Bekaert is unsuccessful in passing on cost increases to the customers in due time, this may negatively influence the profit margins of Bekaert. Also the opposite price trend entails profit risks: if raw materials prices drop significantly and Bekaert has higher priced material in stock, then the profitability may be hit by (non-cash) inventory valuation corrections at the balance sheet date of a reporting period. • Globalizing competition could have an adverse impact on the results of Bekaert The competitive landscape consists of international, regional and local actors, which can be integrated or independent and active in several sectors or in one specific product/market segment. Local actors becoming global competitors can have a negative impact on Bekaert's profit margins. In some markets, customers or suppliers can also be competitors. Previously local steel cord competitors like Xingda (China) and Hyosung (South Korea) have become active on the international market through investments in steel cord production capacity abroad. Examples of other competitors are: KIS-Wire (South Korea, internationally active in steel cord, bead wire, hose reinforcement wire and steel ropes); WireCo (ropes) and Teufelberger who acquired Redaelli in 2017 (ropes); Davis Wire (USA: galvanized steel wire for industrial needs and spring wire); Keystone Steel & Wire (USA, integrated steel mill (wire rod producer) and steel wire maker: fencing products, PC strand, welded mesh); and Gerdau (Americas: integrated player: wire rod, vineyard wire, galvanized wire, ...). To face the future and ever-stronger competition, Bekaert invests significantly in Research and Development (R&D) for an amount of around € 65-70 million each year. • Bekaert is exposed to certain labor market risks A competitive labor market can increase costs for Bekaert and as such decrease profitability. The success of Bekaert depends mainly on its capacity to hire and to retain talent at all levels. Bekaert competes with other companies on its markets for hiring people. A shortage of qualified people could force Bekaert to increase wages or other benefits in order to be effectively competitive when hiring or retaining qualified employees or retaining expensive temporary employees. An increasingly mobile, young population in emerging markets further enhances the people continuity risk. It is uncertain that higher labor cost can be compensated by efforts to increase effectiveness in other activity areas of Bekaert. • Adverse business performances or changes in underlying economic climate may result in impairment of assets In accordance with the International Accounting Standards regarding the impairment of assets (i.e. IAS36), an asset must not be carried in a company's financial statements at more than the highest recoverable amount (i.e. by selling or using the asset). In the event the carrying amount (i.e. book value) exceeds the recoverable amount, the asset is impaired. Bekaert regularly examines its groups of assets that do not generate cash flows individually (i.e. Cash Generating Units (CGUs) and more specifically CGUs to which goodwill is allocated. Nevertheless, Bekaert may also be required to recognize impairment losses on other assets due to (external) unexpected adverse events that may have an impact on its expected performance. Although impairment charges do not have an impact on Bekaert's cash position, impairment losses are indicators of a potential shortfall in Bekaert's (expected) business plan, which might have an indirect impact on the expected profit generating capability of Bekaert. For further information on Bekaert's goodwill on the balance sheet (and impairment losses relating thereto), please refer to the note 6.2 (Goodwill) of this Report. More specifically, this note describes in more detail the impairment testing findings on goodwill arising from the Bridon-Bekaert Ropes Group business combination, which represents the majority of the goodwill amount carried at the balance sheet. A strict execution and implementation of the various initiatives included in the Bridon-Bekaert Ropes Group profit restoration plan is key to not incurring an impairment loss.
Operational risks	<ul style="list-style-type: none"> • Source dependency might impact Bekaert's business activities and profitability Trade policy changes in the US have forced Bekaert to turn to alternative sourcing for all of its US wire rod needs that cannot be sourced locally in the US (in particular wire rod for rubber reinforcement products, as this quality is not available in the US), corresponding to approximately half of the wire rod needs of the Group in the US, which represents about 7% of the Group's total wire rod needs. While this risk has been mitigated in 2019 (as Bekaert can source duty-free from Brazil again and has received exemptions from all other, relevant countries), the US has increased the import tariff (to 25 per cent.) on finished (tire cord) product imported from China. Further escalation of the US China trade war may lead to even higher import duties.

Operational risks	<p>On 1 July 2019, the second year of safeguard measures by the EU on imported steel products started. These safeguard measures include a risk of duties when tax free volume quota are reached. This entails a risk of higher raw material costs for Bekaert, if and when the quota are surpassed. Bekaert imported about 3% of its wire rod needs in the EU in 2018-2019. This represents 1 per cent of the total wire rod purchases of the Group, on a consolidated basis. This share may increase in the case of higher market demand and of Brexit (since British Steel is one of Bekaert's suppliers in the EU).</p> <ul style="list-style-type: none"> Failure to adequately protect the Bekaert's intellectual property could substantially harm its business and operating result Bekaert is a global technology leader in steel wire transformation and coatings and invests intensively in continued innovation. It considers its technological leadership as a differentiator versus the competition. Consequently, intellectual property protection is a key concern and risk. Intellectual property leakages can harm Bekaert and help the competition, both in terms of product development, process innovation and machine engineering. By the end of 2019, Bekaert (including Bridon-Bekaert Ropes Group) had a portfolio of 1 795 patent rights. Bekaert also initiates patent infringement proceedings against competitors in the case infringements are observed. Bekaert cannot assure that its intellectual property will not be objected to, infringed upon or circumvented by third parties. Furthermore, Bekaert may fail to successfully obtain patent authorization, complete patent registration or protect such patents, which may materially and adversely affect our business, financial position, results of operations and prospects. Bekaert is subject to stringent environmental laws Bekaert is subject to environmental laws, regulations and decrees. Those laws, regulations and decrees (which are becoming more stringent all over the world) could force Bekaert to pay for cleaning up and for damages at sites where the soil is contaminated. Under the environmental laws, Bekaert can be liable for repairing the environmental damage and be subject to related costs in its production sites, warehouses and offices as well as the soil on which they are located, irrespective of the fact that Bekaert owns, rents or sublets those production sites, warehouses and offices and irrespective of whether the environmental damage was caused by Bekaert or by a previous owner or tenant. Costs for research, repair or removal of environmental damage can be substantial and adversely affect the Group's business, financial condition and results of operations. It is Bekaert's practice to recognize provisions (per entity) for potential environmental liabilities. Prevention and risk management play an important role in Bekaert's environmental policy. This includes measures against soil and ground water contamination, responsible use of water and worldwide ISO14001 certification. Bekaert's global procedure to ensure precautionary measures against soil and ground water contamination (ProSoil) is continuously monitored in relation to regulations, best practices and actual implementation. Responsible use of water is also an ongoing priority. Bekaert constantly monitors its water consumption and has implemented programs that aim to reduce water usage in the long term. 93.7% of the Bekaert plants worldwide are ISO 14001 certified. ISO 14001 is part of the ISO 14000 internationally recognized standards providing practical tools to companies who wish to manage their environmental responsibilities. ISO 14001 focuses on environmental systems. Bekaert's full worldwide certification is an ongoing goal; it is an element in the integration process of newly acquired entities and of companies that are added to the consolidation perimeter. Bekaert also received a group-wide certification for ISO 14001 and ISO 9001. The ISO 9000 family addresses various aspects of quality management. Bekaert complies with the European RoHS regulation on hazardous substances. Bekaert is subject to cyber security risks Many operational activities of Bekaert depend on IT systems, developed and maintained by internal and external experts. A cyber attack in one of these IT systems could interrupt Bekaert's activities, which could result in a negative influence on its sales and profitability.
Legal risks	<ul style="list-style-type: none"> Bekaert is exposed to regulatory and compliance risks As a global company, Bekaert is subject to many laws and regulations across all of the countries where it is active. Such laws and regulations are becoming more complex, more stringent and change faster and more frequently than before. These numerous laws and regulations include, among others, data privacy requirements (such as the European General Data Protection Regulation), intellectual property laws, labour relation laws, tax laws, anti-competition regulations, import and trade restrictions (for example the trade policies in the US and the EU), exchange laws, anti-bribery and anti-corruption regulations. Compliance with those laws and regulations could lead to additional costs or capital expenditures, which could negatively impact the possibilities of Bekaert to develop its activities. In addition, given the high level of complexity of these laws, there is also the risk that Bekaert may inadvertently breach some provisions. Violations of these laws and regulations could result in fines, criminal sanctions against Bekaert, cessation of business activities in sanctioned countries, implementation of compliance programs and prohibitions on the conduct of Bekaert's business. Bekaert has developed a GRC framework (Governance, Risk, Control) to anticipate and cope with different aspects of compliance. Bekaert is also training the organization in legal awareness and a Central Compliance Committee and Compliance Workgroup monitor and steer the actions that are needed to ensure compliance. Bekaert has a Code of Conduct in place. Management and white collars worldwide go through an annual mandatory acceptance process with the principles of the Code of Conduct. Bekaert could further also become subject to government investigations (including by tax authorities). Such investigations have in the recent years become much more regular in the emerging markets such as China and India and could require significant expenditures and result in liabilities or governmental orders that could have a material adverse effect on Bekaert's business, operating results and financial condition. It is Bekaert's practice to recognize provisions (per entity) for certain identified regulatory and compliance risks.

Financial risks	<ul style="list-style-type: none"> <p>• Bekaert is exposed to a currency exchange risk which could materially impact its results and financial position Bekaert's assets, income, earnings and cash flows are influenced by movements in exchange rates of several currencies. The Group's currency risk can be split into two categories: translational and transactional currency risk. A translational currency risk arises when the financial data of foreign subsidiaries are converted into the Group's presentation currency, the euro. The main currencies are Chinese renminbi, US dollar, Czech koruna, Brazilian real, Chilean peso, Russian ruble, Indian rupee and pound sterling. The Group is further exposed to transactional currency risks resulting from its investing (the acquisition and disposal of investments in foreign companies), financing (financial liabilities in foreign currencies) and operating (commercial activities with sales and purchases in foreign currencies). Bekaert has a hedging policy in place to limit the impact of currency exchange risks.</p> <p>• Bekaert is exposed to tax risks, in particular by virtue of the international nature of its activities in a rapidly changing international tax environment As an international group operating in multiple jurisdictions, Bekaert is subject to tax laws in many countries throughout the world. Bekaert structures and conducts its business globally in light of diverse regulatory requirements and Bekaert's commercial, financial and tax objectives. As a general rule, Bekaert seeks to structure its operations in a tax efficient manner, while complying with the applicable tax laws and regulations. Although it is anticipated that these are likely to achieve their desired effect, if any of them were successfully challenged by the relevant tax authorities, Bekaert and its subsidiaries could incur additional tax liabilities, which could adversely affect its effective tax rate, results of operations and financial condition. Furthermore, given that tax laws and regulations in the various jurisdictions in which Bekaert operates often do not provide clear-cut or definitive guidance, Bekaert and its subsidiaries' structure, business conduct and tax regime is based on Bekaert's interpretations of the tax laws and regulations in Belgium and the other jurisdictions in which Bekaert and its subsidiaries operate. Although supported by tax consultants and specialists, Bekaert cannot guarantee that such interpretations will not be questioned by the relevant tax authorities or that the relevant tax and export laws and regulations in some of these countries will not be subject to change (in particular in the context of the rapidly changing international tax environment), varying interpretations and inconsistent enforcement, which could adversely affect Bekaert's effective tax rate, results of operations and financial condition. It is Bekaert's practice to recognize provisions (per entity) for certain potential tax liabilities.</p> <p>• Bekaert is exposed to a credit risk on its contractual and trading counterparties Bekaert is subject to the risk that the counterparties with whom it conducts its business (including in particular its customers) and who have to make payments to Bekaert are unable to make such payment in a timely manner or at all. While Bekaert has determined a credit policy which takes into account the risk profiles of the customers and the markets to which they belong, this policy can only limit some of its credit risks. If amounts that are due to Bekaert are not paid or not paid in a timely manner, this may not only impact its current trading and cash-flow position but also its financial and commercial position. Bekaert has a credit insurance policy in place to limit such risks.</p>
Country risks	<ul style="list-style-type: none"> <p>• Bekaert faces asset and profit concentration risks in China While Bekaert is a truly global company with a global network of manufacturing platforms and sales and distribution offices, reducing the asset and profit concentration to a minimum, it still faces a risk of asset and profit concentration in certain locations (such as Jiangyin, China). In the case another risk would materialize, such as a political, social or pandemic risk, or an environmental risk with major damage, then the risk of asset and profit concentration could materialize. As part of a business continuity plan, Bekaert has measures in place to reduce this risk through back-up scenarios and delivery approvals from other locations. For example, in highly regulated sectors such as the automotive sector, Bekaert aims to have more than one production plant approved to supply the tire makers.</p> <p>• Bekaert is exposed to the political and economical instability in Venezuela In Venezuela, Bekaert's activities have been affected in the past years due to shortages of raw material, power supply, and the extreme devaluation of the currency. Bekaert has over the past years downsized the business in Venezuela and the assets on Venezuelan soil have been impaired since 2010 in order to minimize any outstanding risk. In spite of the political and monetary instability, management was able to keep the company operational and hence concluded that it is still in control. At year-end 2019, the cumulative translation adjustments amount to € -59.7 million, which - in the case of loss of control - would be recycled to income statement.</p>

An effective internal control and ERM framework is necessary to reach a reasonable level of assurance related to Bekaert's financial reports and in order to prevent fraud. Internal control on financial reporting cannot prevent or trace all errors due to limits peculiar for control, such as possible human errors, misleading or circumventing controls, or fraud. That is why an effective internal control only generates reasonable assurance for the preparation and the fair presentation of the financial information. Failure to pick up an error due to human errors, misleading or circumventing controls, or fraud could negatively impact Bekaert's reputation and financial results.

This may also result in Bekaert failing to comply with its ongoing disclosure obligations.

SUSTAINABILITY

The world around us, our shared concern

Our company values distinguish us and guide our actions. We conduct business in a socially responsible and ethical manner. To us, sustainability is about economic success, about the safety and development of our employees, about lasting relationships with our business partners, and about environmental stewardship and social progress. This way, Bekaert translates sustainability into a benefit for all stakeholders.

Our sustainability efforts and activities are focused in such a way that balanced consideration is given to the interests of all respective stakeholders, including employees, customers, shareholders, partners, local governments and the communities in which we are active. We do this in a structured way and have translated our ambitions for improvement into clear targets for the short term and over the longer run.

Sustainability standards

Bekaert's Sustainability Report 2019 was conducted based on the GRI Sustainability Reporting Standards, in accordance Core option. Global Reporting Initiative (GRI) is a non-profit organization that promotes economic, environmental and social sustainability. Bekaert has been confirmed for inclusion in the Ethibel Excellence Investment Register. This selection by Forum Ethibel indicates that the company performs better than average in its sector in terms of Corporate Social Responsibility.

Bekaert's responsible performance in 2019 has also been recognized by its inclusion in the Ethibel Excellence Index (ESI) Europe - a reference benchmark for top performers in terms of corporate social responsibility based on Vigeo Eiris' research - as well as in Kempen SRI. In 2019, rating agencies MSCI and ISS- oekom have analyzed the Environment, Social and Governance performance of our company, based on our publicly available information. Their reports are used by institutional investors and financial service companies.

For the third year in a row, Bekaert was awarded a gold recognition level from EcoVadis, an independent sustainability rating agency whose methodology is built on international CSR standards. The agency states that Bekaert forms part of the top 3% of all companies assessed in the same industry category.

In response to growing interest throughout the supply chain to report on the carbon footprint of operations and logistics, Bekaert also participates in the Climate Change and Supply Chain questionnaires of CDP (formerly known as the Carbon Disclosure Project).

Our responsibility in the workplace

As a company and as individuals, we act with integrity and commit to the highest standards of business ethics. We promote equal opportunity, foster diversity and we create a no-harm-to-anyone working environment across our organization. Our values are ingrained in our culture and connect us all as One Bekaert team.

We act with integrity · We earn trust · We are irrepensible!

People engagement and empowerment have been crucial all along our transformation journey. We empower our teams with responsibility, authority and accountability, and count on the engagement of every Bekaert employee in driving a higher-level performance.

It is our goal to create a no-harm-to-anyone working environment at Bekaert. We commit to do whatever is necessary to eliminate accidents in the workplace.

We set our ambitions high when it comes to gender diversity, compliance to our Code of Conduct and safety. We refer to our Sustainability Report to read more about the initiatives for our employees and our HR and safety related data.

Within Bekaert we value and stimulate continuous learning & development. During 2019, our manufacturing plant Inchalam in Chile, implemented a “Formador de formadores” program, which aims at standardizing the competence of giving training to co-workers. 46 operators who have the role of instructors participated in a one-year training program. Their role as trainers will be crucial to ensure knowledge is passed on to the next generation of employees.



We refer to our Sustainability Report to read more about the initiatives for our employees and our HR and safety related data.

Our responsibility in the markets

We promote and apply responsible and sustainable business practices in all our business and community relationships. Our sourcing and innovation programs enhance sustainability throughout the value chain.

We deal openly and honestly with our business partners. We expect our business partners to adhere to business principles consistent with internationally accepted ethical standards.

Building supplier-customer relationships in Russia, Turkey and India

In 2019, multi-functional teams of the Bekaert plants in Russia, Turkey and India visited the respective neighboring tire plants of Yokohama and Bridgestone to learn how our tire cord is processed. They also saw first-hand how important it is to deliver consistent high-quality products, as the slightest variations can have serious effects on the production process of tires.

Such meetings and visits contribute to building constructive customer-supplier relationships. The teams exchanged ideas about customer stewardship, mini-company approaches and safety programs, and concluded that even after working on common goals for many years, they can still learn from each other.

We continue our engagement with suppliers to enhance sustainability awareness and control and we set our ambitions high by targeting distinct benefits in terms of health & safety and the environments in our R&D projects. We refer to our Sustainability Report to read how we are *better together* with the communities we are active in, with our customers and with our suppliers.

Our responsibility towards the environment

We care for the climate and promote a circular economy: we develop and install manufacturing equipment that reduces energy consumption and optimizes recycling. We use renewable energy sources wherever possible and avoid the discharge of untreated effluents and waste.

We continuously strive to develop processes that use less material, cut energy consumption and reduce waste. We set our ambitions high to improve our green energy share and reduce our GHG emissions.

In November 2019, 3 500 solar panels were installed on the roof of the BBRG A-Cords facility in Aalter (Belgium). This solar installation will cover a part of the plant's electricity consumption from 2020 onward.

We refer to our Sustainability Report for examples of our products that contribute to a cleaner environment and for a full overview of the 2019 data of our electricity usage, green energy share, GHG emissions and water usage.



Our responsibility towards society

We support and develop initiatives that help improve the social conditions in the communities where we are active. Education projects form the backbone of Bekaert's social funding and other community-building activities, because we believe that education and learning help create a sustainable future.

To celebrate the 10th anniversary of Bekaert in Lipetsk (Russia), the team built a playground for children in Gryazi. This was a joint initiative between Bekaert and the local authorities.

We refer to our Sustainability Report to read more about the initiatives that our colleagues worldwide organized to support children, students and communities.



References

- The overview of the development and the results of the business and of the position of the whole of the companies included in the consolidation is included in the Financial Review of the 2019 Annual Report.
A description of the principal risks and uncertainties is included in the Corporate Governance Statement of the 2019 Annual Report. In addition, reference is made to Notes 3 and 7.2 to the consolidated financial statements of the Financial Review in the 2019 Annual Report.
- The significant events occurring after the balance sheet date are described in Note 7.5 to the consolidated financial statements of the Financial Review in the 2019 Annual Report.
- The research and development activities are described in the Chapter Technology & Innovation of the 2019 Annual Report. In addition, reference is made to Notes 5.1 and 5.2 to the consolidated financial statements of the Financial Review in the 2019 Annual Report.
- The information concerning the use of financial instruments is included in Note 7.2 to the consolidated financial statements of the Financial Review in the 2019 Annual Report.
- The non-financial information is included in the separate Sustainability Report, issued 27 March 2020.



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CONSOLIDATED FINANCIAL STATEMENTS

Consolidated income statement

in thousands of € - Year ended 31 December	Notes	2018	2019
Sales	5.1.	4 305 269	4 322 450
Cost of sales	5.2.	-3 778 660	-3 795 320
Gross profit	5.2.	526 609	527 131
Selling expenses	5.2.	-179 651	-188 606
Administrative expenses	5.2.	-167 346	-127 676
Research and development expenses	5.2.	-65 368	-70 729
Other operating revenues	5.2.	72 578	27 655
Other operating expenses	5.2.	-39 942	-12 758
Operating result (EBIT)	5.2.	146 880	155 017
of which			
EBIT - Underlying	5.2. / 5.3.	210 140	241 909
One-off items	5.2.	-63 260	-86 891
Interest income	5.4.	3 035	2 841
Interest expense	5.4.	-87 990	-69 166
Other financial income and expenses	5.5.	-25 547	-18 371
Result before taxes		36 378	70 322
Income taxes	5.6.	-58 465	-51 081
Result after taxes (consolidated companies)		-22 087	19 241
Share in the results of joint ventures and associates	5.7.	24 875	28 959
RESULT FOR THE PERIOD		2 788	48 200
Attributable to			
<i>equity holders of Bekaert</i>		39 768	41 329
<i>non-controlling interests</i>	6.15.	-36 980	6 871
Earnings per share			
in € per share	5.8.	2018	2019
Result for the period attributable to equity holders of Bekaert			
<i>Basic</i>		0.704	0.731
<i>Diluted</i>		0.507	0.730

The accompanying notes are an integral part of this income statement.

Consolidated statement of comprehensive income

in thousands of € - Year ended 31 December	Notes	2018	2019
Result for the period		2 788	48 200
Other comprehensive income (OCI)	6.14.		
<i>Other comprehensive income reclassifiable to income statement in subsequent periods</i>			
Exchange differences			
Exchange differences arising during the year on subsidiaries		-22 628	16 563
Exchange differences arising during the year on joint ventures and associates		-13 696	-2 171
Reclassification adjustments relating to entity disposals or step acquisitions		599	-
Inflation adjustments		2 535	-
Cash flow hedges			
Reclassification adjustments for amounts recognized in income statement		475	-
Deferred taxes relating to reclassifiable OCI	6.7.	-76	-
OCI reclassifiable to income statement in subsequent periods, after tax		-32 791	14 392
<i>Other comprehensive income non-reclassifiable to income statement in subsequent periods</i>			
Remeasurement gains and losses on defined-benefit plans		-1 387	-833
Net fair value gain (+) / loss (-) on investments in equity instruments designated as at fair value through OCI		-5 311	2 372
Share of non-reclassifiable OCI of joint ventures and associates		21	11
Deferred taxes relating to non-reclassifiable OCI	6.7.	-3 707	1 822
OCI non-reclassifiable to income statement in subsequent periods, after tax		-10 384	3 372
Other comprehensive income for the period		-43 175	17 764
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD		-40 387	65 964
Attributable to			
equity holders of Bekaert		-79	62 506
non-controlling interests	6.15.	-40 308	3 458

The accompanying notes are an integral part of this statement of comprehensive income.

Consolidated balance sheet

Assets as at 31 December in thousands of €	Notes	2018	2019
Intangible assets	6.1.	114 502	60 266
Goodwill	6.2.	149 255	149 784
Property, plant and equipment	6.3.	1 459 449	1 349 657
RoU Property, plant and equipment	6.4.	-	149 051
Investments in joint ventures and associates	6.5.	153 671	160 665
Other non-current assets	6.6.	34 279	36 281
Deferred tax assets	6.7.	138 403	142 333
Non-current assets		2 049 559	2 048 037
Inventories	6.8.	931 808	783 030
Bills of exchange received	6.8.	57 727	59 904
Trade receivables	6.8.	772 731	644 908
Other receivables	6.9. / 6.21.	130 379	111 615
Short-term deposits	6.10.	50 036	50 039
Cash and cash equivalents	6.10.	398 273	566 176
Other current assets	6.11.	58 430	40 510
Assets classified as held for sale	6.12.	546	466
Current assets		2 399 930	2 256 647
Total		4 449 489	4 304 684

Equity and liabilities as at 31 December

in thousands of €

	Notes	2018	2019
Share capital	6.13.	177 793	177 793
Share premium		37 751	37 751
Retained earnings	6.14.	1 484 600	1 492 028
Treasury shares	6.14.	-108 843	-107 463
Other Group reserves	6.14.	-194 370	-165 000
Equity attributable to equity holders of Bekaert		1 396 931	1 435 110
Non-controlling interests	6.15.	119 071	96 430
Equity		1 516 002	1 531 540
Employee benefit obligations	6.16.	141 550	123 409
Provisions	6.17.	29 031	25 005
Interest-bearing debt	6.18.	686 665	1 184 310
Other non-current liabilities	6.19.	11 402	265
Deferred tax liabilities	6.7.	37 892	34 182
Non-current liabilities		906 540	1 367 171
Interest-bearing debt	6.18.	942 041	424 184
Trade payables	6.8.	778 438	652 384
Employee benefit obligations	6.8. / 6.16.	118 427	148 784
Provisions	6.17.	37 194	30 222
Income taxes payable	6.21.	88 128	82 411
Other current liabilities	6.20.	62 634	67 988
Liabilities associated with assets classified as held for sale	6.12.	85	-
Current liabilities		2 026 947	1 405 973
Total		4 449 489	4 304 684

The accompanying notes are an integral part of this balance sheet.

Consolidated statement of changes in equity

Attributable to equity holders of Bekaert ¹

in thousands of €	Share capital	Share premium	Retained earnings	Treasury shares	Cumulative translation adjustments	Hedging reserve
Balance as at						
1 January 2018	177 690	37 278	1 536 923	-103 037	-105 723	-296
Result for the period	-	-	39 768	-	-	-
Other comprehensive income	-	-	2 827	-	-31 049	296
Capital contribution by non-controlling interests	-	-	-	-	-	-
Effect of NCI purchase ⁴	-	-	-33 668	-	6 410	-
Effect of other changes in Group structure	-	-	-221	-	260	-
Equity-settled share-based payment plans	-	-	6 599	-	-	-
Creation of new shares	103	473	-	-	-	-
Treasury shares transactions	-	-	-5 475	-5 806	-	-
Dividends	-	-	-62 153	-	-	-
Balance as at						
31 December 2018	177 793	37 751	1 484 600	-108 843	-130 102	-
Balance as at						
1 January 2019 (as previously reported)	177 793	37 751	1 484 600	-108 843	-130 102	-
Restatements ³	-	-	-4 365	-	-	-
1 January 2019 (restated)	177 793	37 751	1 480 235	-108 843	-130 102	-
Result for the period	-	-	41 329	-	-	-
Other comprehensive income	-	-	11	-	16 138	-
Capital contribution by non-controlling interests	-	-	-	-	-	-
Reclassifications	-	-	-18	-	-	-
Effect of NCI purchase ⁵	-	-	6 973	-	-	-
Effect of other changes in Group structure	-	-	-	-	-	-
Equity-settled share-based payment plans	-	-	4 390	-	-	-
Treasury shares transactions	-	-	-1 341	1 380	-	-
Dividends	-	-	-39 557	-	-	-
Balance as at						
31 December 2019	177 793	37 751	1 492 022	-107 463	-113 964	-

¹ See note 6.14. 'Retained earnings and other Group reserves'.

² See note 6.15. 'Non-controlling interests'.

³ See note 2.8. 'Restatement effects'.

⁴ In October 2018, the Group acquired the remaining 40% non-controlling interests in BBRG for a consideration of € 7.7 million. As part of the transaction, the seller, Ontario Teachers' Pension Plan, converted a shareholders' loan with a nominal amount of € 60.9 million into capital. The carrying amount of this loan constituted a gain in equity of € 52.6 million.

⁵ In December 2019, the Group acquired the remaining non-controlling interests in Bekaert Maccaferri Underground Solutions BVBA for a consideration of € 9.5 million. As part of the transaction, the put option held by Maccaferri was extinguished.

The accompanying notes are an integral part of this statement of changes in equity.

Attributable to equity holders of Bekaert ¹						
Revaluation reserve for non-consolidated equity investments	Remeasurement reserve for DB plans	Deferred tax reserve	NCI put option reserve	Total	Non-controlling interests ²	Total equity
-9 183	-70 683	30 307	-8 206	1 485 070	95 381	1 580 451
-	-	-	-	39 768	-36 980	2 788
-5 306	-3 988	-2 627	-	-39 847	-3 328	-43 175
-	-	-	-	-	71	71
-	6 404	-986	-	-21 840	66 754	44 914
-	-	-	-	39	-39	-
-	-	-	-	6 599	93	6 692
-	-	-	-	576	-	576
-	-	-	-	-11 281	-	-11 281
-	-	-	-	-62 153	-2 881	-65 034
-14 489	-68 267	26 694	-8 206	1 396 931	119 071	1 516 002
-14 489	-68 267	26 694	-8 206	1 396 931	119 071	1 516 002
-	-	-	-	-4 365	-	-4 365
-14 489	-68 267	26 694	-8 206	1 392 566	119 071	1 511 637
-	-	-	-	41 329	6 871	48 200
2 372	1 244	1 413	-	21 178	-3 413	17 765
-	-	-	-	-	652	652
-	18	-6	6	-	-	-
-	-11	3	8 200	15 165	-13 632	1 533
-	-	-	-	-	128	128
-	-	-	-	4 390	-	4 390
-	-	-	-	39	-	39
-	-	-	-	-39 557	-13 247	-52 804
-12 117	-67 016	28 104	-	1 435 110	96 430	1 531 540

Consolidated cash flow statement

in thousands of € - Year ended 31 December	Notes	2018	2019
Operating activities			
Operating result (EBIT)	5.2. / 5.3.	146 880	155 017
Non-cash items included in operating result	7.1.	268 272	305 198
Investing items included in operating result	7.1.	-31 261	3 428
Amounts used on provisions and employee benefit obligations	7.1.	-36 371	-61 299
Income taxes paid	5.6. / 7.1.	-68 972	-60 624
Gross cash flows from operating activities		278 548	341 721
Change in operating working capital	6.8.	-28 948	168 549
Other operating cash flows	7.1.	-5 880	14 056
Cash flows from operating activities		243 720	524 326
Investing activities			
Other portfolio investments	7.1.	-411	-
Proceeds from disposals of investments		2 835	800
Dividends received	6.5.	24 113	18 750
Purchase of intangible assets	6.1.	-3 698	-4 410
Purchase of property, plant and equipment	6.3.	-181 302	-94 504
Purchase of RoU Land	6.4.	-	-13 074
Proceeds from disposals of fixed assets	7.1.	56 088	1 349
Cash flows from investing activities		-102 375	-91 089
Financing activities			
Interest received	5.4.	3 204	2 960
Interest paid	5.4.	-63 995	-50 130
Gross dividend paid to shareholders of NV Bekaert SA		-62 153	-39 557
Gross dividend paid to non-controlling interests		-2 440	-13 873
Proceeds from long-term interest-bearing debt	6.18.	468 356	585 696
Repayment of long-term interest-bearing debt	6.18.	-408 782	-675 253
Cash flows from / to (-) short-term interest-bearing debt	6.18.	-62 590	-76 715
Treasury shares transactions	6.13.	-11 280	39
Sales and purchases of NCI	7.1.	-7 379	-9 500
Other financing cash flows	7.1.	-10 234	7 540
Cash flows from financing activities		-157 293	-268 793
Net increase or decrease (-) in cash and cash equivalents		-15 948	164 444
Cash and cash equivalents at the beginning of the period		418 779	398 273
Effect of exchange rate fluctuations		-4 558	3 459
Cash and cash equivalents at the end of the period		398 273	566 176

The accompanying notes are an integral part of this cash flow statement.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. General information

NV Bekaert SA (the 'Company') is a company domiciled in Belgium. The Company's consolidated financial statements include those of the Company and its subsidiaries (together referred to as the 'Group' or 'Bekaert') and the Group's interest in joint ventures and associates accounted for using the equity method. The consolidated financial statements were authorized for issue by the Board of Directors of the Company on 25 March 2020.

2. Summary of principal accounting policies

2.1. Statement of compliance

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRSs) which have been endorsed by the European Union. These financial statements are also in compliance with the IFRSs as issued by the IASB.

New and amended standards and interpretations

Standards, interpretations and amendments effective in 2019

- » The Group applied IFRS 16 and IFRIC 23 as from 1 January 2019. The Group opted not to restate comparative information throughout these financial statements (allowed transition method).
- » IFRS 16 'Leases' (effective 1 January 2019), which supersedes IAS 17 'Leases' and related interpretations. This standard eliminates the classification of leases as either operating leases or finance leases for a lessee. Instead, all leases require the recognition of a right-of-use asset and a lease liability at commencement, except for short-term leases and leases of low-value assets. Lessor accounting however remains largely unchanged.

As at 31 December 2018, the Group had operating lease commitments for a nominal amount of € 96.6 million. A thorough assessment indicated that all of these contracts met the definition of a lease under IFRS 16. Bekaert decided to use the practical expedient for low-value leases on the rent contracts for printers and small office equipment (€ 1.5 million). The Group recognized a right-of-use asset and a corresponding liability in respect of all other lease commitments (€ 94.7 million nominal value). It mainly relates to real estate, industrial vehicles and equipment, company cars and servers representing a discounted value of € 76.5 million. An onerous property lease contract previously included in provisions (€ 7.0 million) has been reclassified as an accumulated depreciation of the related right-of-use building under IFRS 16, bringing the net present value of the asset to zero.

As part of the transition to the new standard, the Group opted to apply the modified B approach, meaning that the comparative information for 2018 is not restated, and at transition, the lease liability is based on the discounted future cash flows using the incremental borrowing rate. The right-of-use assets are measured at an amount equal to the lease liabilities (adjusted for accruals and prepayments) with any impact recognized in retained earnings at transition date (see note 6.4. 'RoU property, plant and equipment').

- » IFRIC 23 'Uncertainty over Income Tax Treatments' (effective 1 January 2019). This interpretation clarifies how to account for income taxes when it is unclear whether the tax authority will accept the Group's tax treatment. The Group adopted the interpretation for the annual reporting period starting on 1 January 2019. The impact on the measurement of the uncertain tax positions due to the adoption of IFRIC 23 is € 4.4 million. The restatement has been reported in the opening balance of retained earnings per 1 January 2019, see note 2.8. 'Restatement effects'.
- » The Group has adopted the amendments to IFRS 9 for the first time in the current year. The amendments to IFRS 9 clarify that for the purpose of assessing whether a prepayment feature meets the 'solely payments of principal and interest' (SPPI) condition, the party exercising the option may pay or receive reasonable compensation for the prepayment irrespective of the reason for prepayment. In other words, financial assets with prepayment features with negative compensation do not automatically fail SPPI. This amendment has no material impact for the Group.
- » The Group has adopted the amendments to IAS 28 for the first time in the current year. The amendment clarifies that IFRS 9, including its impairment requirements, applies to other financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. The Group applies IFRS 9 to such long-term interests before it applies IAS 28. This amendment has no material impact for the Group.

- » The Group has adopted the amendments included in the 'Annual Improvements to IFRS Standards 2015-2017 Cycle' for the first time in the current year. The Annual Improvements include amendments to four Standards: (1) IAS 12 'Income Taxes'; the amendments clarify that the Group should recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the Group originally recognized the transactions that generated the distributable profits. This is the case irrespective of whether different tax rates apply to distributed and undistributed profits; (2) IAS 23 'Borrowing Costs'; the amendments clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalisation rate on general borrowings; (3) IFRS 3 'Business Combinations'; the amendments clarify that when the Group obtains control of a business that is a joint operation, the Group applies the requirements for a business combination achieved in stages, including remeasuring its previously held interest (PHI) in the joint operation at fair value. The PHI to be remeasured includes any unrecognized assets, liabilities and goodwill relating to the joint operation; (4) 'Joint Arrangements'; the amendments clarify that when a party that participates in, but does not have joint control of, a joint operation that is a business obtains joint control of such a joint operation, the Group does not remeasure its PHI in the joint operation. These amendments have no material impact.
- » The Group has adopted the amendments of IAS 19. The amendments clarify that the past service cost (or of the gain or loss on settlement) is calculated by measuring the defined benefit liability (asset) using updated assumptions and comparing benefits offered and plan assets before and after the plan amendment (or curtailment or settlement) but ignoring the effect of the asset ceiling (that may arise when the defined plan is in a surplus position). This amendment has no material impact.

Standards, amendments and interpretations that are not yet effective in 2019 and have not been early adopted

The Group did not elect for early application of the following new or amended standards:

- » Amendments to IFRS 3 'Definition of a business', effective 1 January 2020, clarifying that while businesses usually have outputs, outputs are not required for an integrated set of activities and assets to qualify as a business. To be considered a business an acquired set of activities and assets must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs.
- » Amendments to IAS 1 and IAS 8 'Definition of material', effective 1 January 2020, intended to make the definition of material easier to understand.

- » IFRS 17 'Insurance Contracts', effective 1 January 2021, establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes IFRS 4 'Insurance Contracts'.
- » Amendments to IFRS 10 and IAS 28 'Sale or Contribution of Assets between an Investor and its Associate or Joint Venture', effective date yet to be set by the IASB, deal with situations where there is a sale or contribution of assets between an investor and its associate or joint venture.
- » Amendments to 'References to the Conceptual Framework in IFRS Standards'. The amendments, where they actually are updates, are effective for annual periods beginning on or after 1 January 2020, with early application permitted.
- » On 23 January 2020, the International Accounting Standards Board (IASB) issued Classification of Liabilities as Current or Non-current, which amends IAS 1 Presentation of Financial Statements. The amendments affect requirements in IAS 1 for the presentation of liabilities. Specifically, they clarify one of the criteria for classifying a liability as non-current. The amendments are effective for annual reporting periods beginning on or after 1 January 2022.

These new, and amendments to, standards and interpretations effective after 2019 are not expected to have a material impact on the financial statements.

2.2. General principles

Basis of preparation

The consolidated financial statements are presented in thousands of euros, under the historical cost convention, except for derivatives, financial assets at FVTOCI and financial assets at FVTPL, which are stated at their fair value. Financial assets which do not have a quoted price in an active market and the fair value of which cannot be reliably measured are carried at cost. Unless explicitly stated, the accounting policies are applied consistently with the previous year.

Principles of consolidation

Subsidiaries

Subsidiaries are entities over which NV Bekaert SA exercises control, which is the case when the Company is exposed, or has rights to variable returns from its involvement with the entity and has the ability to affect these returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date when the Group acquires control until the date when control is relinquished. All intercompany transactions, balances with and unrealized gains on transactions between Group companies are eliminated; unrealized losses are also eliminated unless the impairment is permanent. Equity and net result attributable to non-controlling shareholders are shown separately in the balance sheet, the income statement and the comprehensive income statement. Changes in the Group's ownership interests in subsidiaries that do not result in the

Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity. When the Group loses control of a subsidiary, the profit or loss on disposal is calculated as the difference between:

- » the aggregate of the fair value of the consideration received and the fair value of any retained interest; and
- » the carrying amount of the assets (including goodwill), liabilities and any non-controlling interests of the subsidiary before its disposal.

Joint arrangements and associates

A joint arrangement exists when NV Bekaert SA has contractually agreed to share control with one or more other parties, which is the case only when decisions about the relevant activities require the unanimous consent of the parties sharing control. A joint arrangement can be treated as a joint operation (i.e. NV Bekaert SA has rights to the assets and obligations for the liabilities) or a joint venture (i.e. NV Bekaert SA only has rights to the net assets). Associates are companies in which NV Bekaert SA, directly or indirectly, has a significant influence and which are neither subsidiaries nor joint arrangements. This is presumed if the Group holds at least 20% of the voting rights attaching to the shares. The financial information included for these companies is prepared using the accounting policies of the Group. When the Group has acquired joint control in a joint venture or significant influence in an associate, the share in the acquired assets, liabilities and contingent liabilities is initially remeasured to fair value at the acquisition date and accounted for using the equity method. Any excess of the purchase price over the fair value of the share in the assets, liabilities and contingent liabilities acquired is recognized as goodwill. When the goodwill is negative, it is immediately recognized in profit or loss. Subsequently, the consolidated financial statements include the Group's share of the results of joint ventures and associates accounted for using the equity method until the date when joint control or significant influence ceases. If the Group's share of the losses of a joint venture or associate exceeds the carrying amount of the investment, the investment is carried at nil value and recognition of additional losses is limited to the extent of the Group's commitment. Unrealized gains arising from transactions with joint ventures and associates are set against the investment in the joint venture or associate concerned to the extent of the Group's interest. The carrying amounts of investments in joint ventures and associates are reassessed if there are indications that the asset has been impaired or that impairment losses recognized in prior years have ceased to apply. The investments in joint ventures and associates in the balance sheet include the carrying amount of any related goodwill.

Foreign currency translation

Items included in the financial statements of each of the

Group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The consolidated financial statements are presented in euro, which is the Company's functional and the Group's presentation currency. Financial statements of foreign entities are translated as follows:

- » assets and liabilities are translated at the closing exchange rate of the European Central Bank; till 2018, in the case of the Venezuelan bolivar soberano, the economic rate deemed representative for dividend repatriations at balance sheet date was used;
- » income, expenses and cash flows are translated at the average exchange rate for the year; till 2018 the economic rate at balance sheet date was used for the Venezuelan entities, as required for entities whose functional currency is the currency of a hyperinflationary economy in accordance with IAS 21 'The Effects of Changes in Foreign Exchange Rates';
- » shareholders' equity is translated at historical exchange rates.

As from 2019, management concluded that the bolivar soberano is no longer the functional currency of its Venezuelan operations, but instead the US dollar is (see note 3.2. 'Critical accounting judgments and key sources of estimation uncertainty').

Exchange differences arising from the translation of the net investment in foreign subsidiaries, joint ventures and associates at the closing exchange rate are included in shareholders' equity under 'cumulative translation adjustments'. On disposal of foreign entities, cumulative translation adjustments are recognized in the income statement as part of the gain or loss on the sale. In the financial statements of the parent company and its subsidiaries, monetary assets and liabilities denominated in foreign currency are translated at the exchange rate at the balance sheet date, thus giving rise to unrealized exchange results. Unrealized and realized foreign-exchange gains and losses are recognized in the income statement, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges. Goodwill is treated as an asset of the acquiree and is accordingly accounted for in the acquiree's currency and translated at the closing rate.

2.3. Balance sheet items

Intangible assets

Intangible assets acquired in a business combination are initially measured at fair value; intangible assets acquired separately are initially measured at cost. After initial recognition, intangible assets are measured at cost or fair value less accumulated amortization and any accumulated impairment losses. Intangible assets are amortized on a straight-line basis over the best estimate of their useful lives. The amortization period and method are reviewed at each financial year-end. A change in the useful life of an intangible asset is accounted for prospectively as a change in estimate. Under the provisions of IAS 38 intangible assets may have indefinite useful lives. If the useful life of an intangible asset is deemed indefinite, no

amortization is recognized and the asset is reviewed at least annually for impairment.

Licenses, patents and similar rights

Expenditure on acquired licenses, patents, trademarks and similar rights is capitalized and amortized on a straight-line basis over the contractual period, if any, or the estimated useful life, which is normally considered not to be longer than ten years.

Computer software

Generally, costs associated with the acquisition, development or maintenance of computer software are recognized as an expense when they are incurred, but external costs directly associated with the acquisition and implementation of acquired ERP software are recognized as intangible assets and amortized over five years on a straight-line basis.

Rights to use land

Till 2018, rights to use land were recognized as intangible assets. These rights were amortized over the contractual period which can vary between 30 and 100 years, but is in most cases 50 years. As from 2019, in transition to IFRS 16 'Leases', rights to use land were reclassified to the right-of-use property, plant and equipment section on the balance sheet.

Commercial assets

Commercial assets mainly include customer lists, customer contracts and brand names, mostly acquired in a business combination, with useful lives ranging between 8 and 15 years.

Emission rights

In the absence of any IASB standard or interpretation regulating the accounting treatment of CO2 emission rights, the Group has applied the 'net approach', according to which:

- » the allowances are recognized as intangible assets and measured at cost (the cost of allowances issued free of charge being therefore zero); and
- » any short position is recognized as a liability at the fair value of the allowances required to cover the shortfall at the balance sheet date.

Research and development

Expenditure on research activities undertaken with the prospect of gaining new scientific or technological knowledge and understanding is recognized in the income statement as an expense when it is incurred.

Expenditure on development activities where research findings are applied to a plan or design for the production of new or substantially improved products and processes prior to commercial production or use is capitalized if, and only if, all of the recognition criteria set out below are met:

- » the product or process is clearly defined and costs are separately identified and reliably measured;
- » the technical feasibility of the product is demonstrated;
- » the product or process is to be sold or used in house;
- » the assets are expected to generate future economic benefits (e.g. a potential market exists for the product or, if for internal use, its usefulness is demonstrated); and

- » adequate technical, financial and other resources required for completion of the project are available.

Capitalized development costs are amortized from the commencement of commercial production of the product on a straight-line basis over the period during which benefits are expected to accrue. The period of amortization normally does not exceed ten years. An in-process research and development project acquired in a business combination is recognized as an asset separately from goodwill if its fair value can be measured reliably.

Goodwill and business combinations

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are recognized in profit or loss as incurred. The identifiable assets acquired and the liabilities assumed are recognized at their fair value at the acquisition date. Goodwill is measured as the difference between:

- (i) the sum of the following elements:
 - » consideration transferred;
 - » amount of any non-controlling interests in the acquiree;
 - » fair value of the Group's previously held equity interest in the acquiree (if any); and

- (ii) the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, this difference is negative ('negative goodwill'), it is recognized immediately in profit or loss as a bargain purchase gain.

Non-controlling interests are initially measured either at fair value or at their proportionate share of the recognized amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis. When the consideration transferred by the Group in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and included as part of the consideration transferred in a business combination. Subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

When a business combination is achieved in stages, the Group's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date (i.e. the date when the Group obtains control) and any resulting gain or loss is recognized in profit or loss. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss where such treatment would be appropriate if that interest was disposed of.

Impairment of goodwill

For the purpose of impairment testing, goodwill is allocated to

each of the Group's cash-generating units that are expected to benefit from the synergies of the combination. Cash-generating units to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit's value may be impaired. If the recoverable amount of the cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit in proportion to the carrying amount of each asset in the unit. An impairment loss recognized for goodwill is not reversed in a subsequent period.

Property, plant and equipment

The Group has opted for the historical cost model and not for the revaluation model. Property, plant and equipment separately acquired is initially measured at cost. Property, plant and equipment acquired in a business combination is initially measured at fair value, which thus becomes its deemed cost. After initial recognition, property, plant and equipment is measured at cost less accumulated depreciation and accumulated impairment losses. Cost includes all direct costs and all expenditure incurred to bring the asset to its working condition and location for its intended use. Borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset are capitalized as part of the cost of that asset. Depreciation is provided over the estimated useful lives of the various classes of property, plant and equipment on a straight-line basis.

The useful life and depreciation method are reviewed at least at each financial year-end. Unless revised due to specific changes in the estimated economic useful life, annual depreciation rates are as follows:

» land	0%
» buildings	5%
» plant, machinery & equipment	8%-25%
» R&D testing equipment	16.7%-25%
» furniture and vehicles	20%
» computer hardware	20%

Till 2018, assets held under finance leases were depreciated over their expected useful lives on the same basis as owned assets or, where shorter, the term of the relevant lease. When the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount (see section on 'Impairment of assets'). Gains and losses on disposal are included in the operating result.

Right-of-use (RoU) property, plant & equipment (2019 under IFRS 16 'Leases')

The Group as lessee

The Group assesses whether a contract is or contains a lease, at inception of the contract. The Group recognizes a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low value assets (such as printers, copi-

ers and small office equipment). For these leases, the Group recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day, less any lease incentives received and any initial direct costs.

They are subsequently measured at cost less accumulated depreciation and impairment losses. Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognized and measured under IAS 37. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of the lease term and the useful life of the underlying asset. If a lease transfers ownership of the underlying asset, or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease. The right-of-use assets are presented as a separate line in the consolidated statement of financial position. The Group applies IAS 36 to determine whether a right-of-use asset is impaired.

Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognized as an expense in the period in which the event or condition that triggers those payments occurs. As a practical expedient, IFRS 16 permits a lessee not to separate non-lease components, and instead accounts for any lease and associated non-lease components as a single arrangement. The Group applies this practical expedient on contracts for company cars and industrial vehicles, where non-lease components such as maintenance and replacement of tires are not separated but included in the lease component.

Lease accounting up to end 2018

Finance leases

Leases under which the Group assumes substantially all the risks and rewards of ownership were classified as finance leases. Items of property, plant and equipment acquired by way of finance lease were stated at the lower of their fair value and the present value of the minimum lease payments at inception of the lease, less accumulated depreciation and impairment losses. In calculating the present value of the minimum lease payments, the discount factor used was the interest rate implicit in the lease, when it was practicable to determine it; otherwise the Company's incremental borrowing rate was used. Initial direct costs were included as part of the asset. Lease payments were apportioned between the finance charge and the reduction of the outstanding liability. The finance charge was allocated to periods during the lease

term so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. A finance lease gave rise to a depreciation expense for the asset as well as a finance expense for each accounting period. The depreciation policy for leased assets was consistent with the one for owned depreciable assets.

Operating leases

Leases under which substantially all the risks and rewards of ownership are effectively retained by the lessor were classified as operating leases. Lease payments under an operating lease were recognized as an expense on a straight-line basis over the lease term. The aggregate benefit of incentives provided by the lessor was recognized, on a straight-line basis, as a reduction of rental expense over the lease term. Improvements to buildings held under operating leases were depreciated over their expected useful lives, or, where shorter, the term of the relevant lease.

Government grants

Government grants relating to the purchase of property, plant and equipment are deducted from the cost of these assets. They are recognized in the balance sheet at their expected value at the time of initial government approval and corrected, if necessary, after final approval. The grant is amortized over the depreciation period of the underlying assets.

Financial assets

The Group classifies its financial assets in the following categories: measured at amortized cost, at fair value through profit or loss (FVTPL) or at fair value through other comprehensive income (FVTOCI). The classification depends on the contractual characteristics of the financial assets and the business model under which they are held. Management determines the classification of its financial assets at initial recognition.

Financial assets at amortized cost

Financial assets are classified at amortized cost when the contract has the characteristics of a basic lending arrangement and they are held with the intention of collecting the contractual cash flows until their maturity. The Group's financial assets at amortized cost comprises, unless stated otherwise, trade and other receivables, bills of exchange received, short-term deposits and cash and cash equivalents in the balance sheet. They are measured at amortized cost using the effective interest method, less any impairment.

Financial assets at fair value

Other debt instruments and all equity investments are measured at fair value. Equity investments can either be carried at fair value through profit or loss (FVTPL) or at fair value through other comprehensive income (FVTOCI). This option can be elected on an investment by investment basis and cannot be reversed subsequently. In principle, Bekaert will carry its main non-consolidated strategic equity investments at FVTOCI. Derivatives are categorized as at FVTPL unless they are designated and effective as hedges.

Bills of exchange received

Payment by means of bills of exchange (bank acceptance

drafts) is a widespread practice in China. Bills of exchange received are either settled at maturity date, discounted before the maturity date or transferred to a creditor to settle a liability. Discounting is done either with or without recourse. With recourse means that the discounting bank can claim reimbursement of the amount paid in case the issuer defaults. When a bill is discounted with recourse, the amount received is not deducted from the outstanding bills of exchange received, but a liability is recognized in 'current interest-bearing debt' until the maturity date of that bill.

Cash & cash equivalents and short-term deposits

Cash equivalents and short-term deposits are short-term investments that are readily convertible to known amounts of cash. They are subject to insignificant risk of change in value. Cash equivalents are highly liquid and have original maturities of three months or less, while short-term deposits have original maturities of more than three months and less than one year. Balances from cash pool facilities are reported as cash & cash equivalents. Bank overdrafts are not reported as a deduction from cash & cash equivalents but as interest-bearing debt.

Impairment of financial assets

Financial assets that are debt instruments, other than those measured at FVTPL, are tested for impairment using the expected credit loss model ('ECL'). The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument. When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, Bekaert considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment and including forward-looking information. The Group always recognizes lifetime ECL for trade receivables.

At each reporting date, Bekaert measures the impairment loss for financial assets measured at amortized cost (e.g. trade receivables and bills of exchange received) as the present value of the expected cash shortfalls (discounted at the original effective interest rate). Amounts deemed uncollectible are written off against the corresponding allowance account at each balance sheet date. In assessing collective impairment, the Group uses historical information on the amount of loss incurred, and made an adjustment if current economic and credit conditions were such that the actual losses were likely to be greater or lesser than suggested by historical trends. Additions to and recoveries from the bad debt allowance account related to trade receivables are reported under 'selling expenses' in the income statement.

Inventories

Inventories are valued at the lower of cost and net realizable value. Cost is determined by the first-in, first-out (FIFO) method. For processed inventories, cost means full cost including all direct and indirect production costs required to bring the inventory items to the stage of completion at the balance sheet date. Net realizable value is the estimated selling price in the ordinary course of business, less the costs of completion and costs necessary to make the sale.

Share capital

When shares are repurchased, the amount of the consideration paid, including directly attributable costs, is recognized as a change in equity. Repurchased shares (treasury shares) are presented in the balance sheet as a deduction from equity. The result on the disposal of treasury shares sold or cancelled is recognized in retained earnings.

Non-controlling interests

Non-controlling interests represent the shares of minority or non-controlling shareholders in the equity of subsidiaries which are not fully owned by the Group. At the acquisition date, the item is either measured at its fair value or at the non-controlling shareholders' proportion of the fair values of net assets recognized on acquisition of a subsidiary (business combination). Subsequently, it is adjusted for the appropriate proportion of subsequent profits and losses. The losses attributable to non-controlling shareholders in a consolidated subsidiary may exceed their interest in the equity of the subsidiary. A proportional share of total comprehensive income is attributed to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Provisions

Provisions are recognized in the balance sheet when the Group has a present obligation (legal or constructive) as a result of a past event, which is expected to result in an outflow of resources embodying economic benefits which can be reliably estimated. Each provision is based on the best estimate of the expenditure required to settle the present obligation at the balance sheet date. When appropriate, provisions are measured on a discounted basis.

Restructuring

A provision for restructuring is only recognized when the Group has approved a detailed and formal restructuring plan, and the restructuring has either commenced or has been announced publicly before the balance sheet date. Restructuring provisions only include the direct expenditure arising from the restructuring which is necessarily incurred on the restructuring and is not associated with the ongoing activities of the entity.

Site remediation

A provision for site remediation in respect of contaminated land is recognized in accordance with the Group's published environmental policy and applicable legal requirements.

Employee benefit obligations

The parent company and several of its subsidiaries have pension, death benefit and health care benefit plans covering a substantial part of their workforce.

Defined-benefit plans

Most pension plans are defined-benefit plans with benefits based on years of service and level of remuneration. For defined-benefit plans, the amount recognized in the balance sheet (net liability or asset) is the present value of the defined-benefit obligation less the fair value of any plan assets. The present value of the defined-benefit obligation is the present value, without deducting any plan assets, of expected future payments required to settle the obligation resulting from employee service in the current and prior periods. The present value of the defined-benefit obligation and the related current and past service costs are calculated using the projected unit credit method. The discount rate used is the yield at balance sheet date on high-quality corporate bonds with remaining terms to maturity approximating those of the Group's obligations. In case the fair value of plan assets exceeds the present value of the defined-benefit obligations, the net asset is limited to the asset ceiling. The asset ceiling is the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. The net interest on the net defined-benefit liability/asset is based on the same discount rate. Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred) and the effects of changes in actuarial assumptions. Past service cost is the change in the present value of the defined-benefit obligation for employee service in prior periods and resulting in the current period from a plan amendment or a curtailment. Past service costs are recognized immediately through profit or loss. Remeasurements of the net defined-benefit liability (asset) comprise (a) actuarial gains and losses, (b) the return on plan assets, after deduction of the amounts included in net interest on the net defined-benefit liability (asset) and (c) any change in the effect of the asset ceiling, after deduction of any amounts included in net interest on the net defined-benefit liability (asset). Remeasurements are recognized immediately through equity. A settlement is a transaction that eliminates all further legal or constructive obligations for part or all of the benefits provided under a defined-benefit plan, other than a payment of benefits to, or on behalf of, employees that is set out in the terms of the plan and included in the actuarial assumptions.

In the income statement, current and past service cost, including gains or losses from settlements, are included in the operating result (EBIT), and the net interest on the net defined-benefit liability (asset) is included in interest expense, under interest on interest-bearing provisions. Pre-retirement pensions in Belgium and plans for medical care in the United States are also treated as defined-benefit plans.

Defined-contribution plans

Obligations in respect of contributions to defined-contribution pension plans are recognized as an expense in the income statement as they fall due. By law, defined-contribution pension plans in Belgium are subject to minimum guaranteed rates of return. Before 2015, the defined-contribution plans in Belgium were basically accounted for as defined-contribution plans. New legislation dated December 2015 however triggered the qualification. As a consequence, the defined-contribution plans are reported as defined-benefit

obligations, whereby as from year end 2016 an actuarial valuation was performed.

Other long-term employee benefits

Other long-term employee benefits, such as service awards, are accounted for using the projected unit credit method. However, the accounting method differs from the method applied for post-employment benefits, as actuarial gains and losses are recognized immediately through profit or loss.

Share-based payment plans

The Group issues equity-settled and cash-settled share-based payments to certain employees. Equity-settled plans allow Group employees to acquire shares of NV Bekaert SA, and include stock option plans ('SOP'), performance share plans ('PSP') and personal shareholding requirement plans ('PSR'), all of which are operated in Belgium. Cash-settled plans entitle Group employees to receive payment of cash bonuses based on the price of the Bekaert share on the Euronext stock exchange, and include share appreciation rights ('SAR') and performance share unit plans ('PSU'), all of which are operated outside Belgium.

Equity-settled share-based payments are recognized at fair value (excluding the effect of non-market-based vesting conditions) at the date of grant. The fair value determined at the grant date of the equity-settled share-based payments is expensed, with a corresponding increase in equity, on a straight-line basis over the vesting period, based on the Group's estimate of the number of equity instruments granted that will eventually vest and adjusted for the effect of non-market-based vesting conditions.

Cash-settled share-based payments are recognized as liabilities over the vesting period at fair value, which is remeasured at each reporting date and at the date of settlement. Changes in fair value are recognized in the income statement over the vesting period, taking into account the number of units or rights expected to vest.

The Group uses binomial models or Monte Carlo simulations to determine the fair value of the share-based payment plans.

Interest-bearing debt

Interest-bearing debt includes loans and borrowings which are initially recognized at the fair value of the consideration received net of transaction costs incurred. In subsequent periods, they are carried at amortized cost using the effective interest-method, any difference between the proceeds (net of transaction costs) and the redemption value being recognized in the income statement over the period of the liability. If financial liabilities are hedged using derivatives qualifying as a fair value hedge, the hedging instruments are carried at fair value and the hedged items are remeasured for fair value changes due to the hedged risk (see accounting policies for derivatives and hedging).

Lease liabilities

As from 2019, interest-bearing debt also includes the lease liabilities recognized with respect to all lease arrangements in which the Group is the lessee, except for short-term leases and leases of low value assets. The lease liability is initially measured at the present value of the lease payments that are

not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. Lease payments included in the measurement of the lease liability comprise:

- » fixed lease payments, less any lease incentives receivable;
- » variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- » the amount expected to be payable by the lessee, under residual value guarantees;
- » the exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- » payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made. The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- » The lease term has changed or there is a significant event or change in circumstances resulting in a change in assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- » The lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using an unchanged discount rate.
- » A lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

Till 2018, interest-bearing debt included lease liabilities recognized with respect to finance leases.

Trade payables and other current liabilities

Trade payables and other current liabilities, except derivatives, are initially measured at cost, which is the fair value of the consideration payable, and subsequently carried at amortized cost.

Income taxes

Income taxes are classified as either current or deferred taxes. Current income taxes include expected tax charges based on the accounting profit for the current year and adjustments to tax charges of prior years. In evaluating the potential income tax liabilities, the Group assumes that the tax authorities will examine amounts they have a right to examine and have full knowledge of all related information when making those examinations. The Group takes into account both the assessments, decisions and verdicts received from tax audits and other kinds of information sources as well as the potential

sources of challenge from tax authorities. The Group recognizes a liability when the Group assesses it is not probable for the tax authorities to accept the position that the Group takes regarding the tax treatment in question. The Group measures the income tax liability according to the most likely amount of the potential economic outflow. However, Bekaert continues to believe that its positions on all these audits are robust.

Deferred taxes are calculated, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts. Deferred taxes are measured using the tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be realized or settled, based on tax rates enacted or substantively enacted at the balance sheet date. Deferred tax assets are recognized to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilized; this criterion is reassessed at each balance sheet date. Deferred tax on temporary differences arising on investments in subsidiaries, associates and joint ventures is provided for, except where the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not be reversed in the foreseeable future.

Derivatives, hedging and hedging reserves

The Group uses derivatives to hedge its exposure to foreign-exchange and interest-rate risks arising from operating, financing and investing activities. The net exposure of all subsidiaries is managed on a centralized basis by Group Treasury in accordance with the aims and principles laid down by general management. As a policy, the Group does not engage in speculative or leveraged transactions.

Derivatives are initially and subsequently measured and carried at fair value. The fair value of traded derivatives is equal to their market value. If no market value is available, the fair value is calculated using standard financial valuation models, based upon the relevant market rates at the reporting date.

The Group may apply hedge accounting in accordance with IFRS 9 to reduce income statement volatility. Depending on the nature of the hedged risk, a distinction is made between fair value hedges, cash flow hedges and hedges of a net investment in a foreign entity.

Fair value hedges are hedges of the exposure to variability in the fair value of recognized assets and liabilities. The derivatives classified as fair value hedges are carried at fair value and the related hedged items (assets or liabilities) are remeasured for fair value changes due to the hedged risk. The corresponding changes in fair value are recognized in the income statement. When a hedge ceases to meet the qualifying criteria, hedge accounting is discontinued and the adjustment to the carrying amount of a hedged interest-bearing financial instrument is recognized as income or expense and will be fully amortized over the remaining period to maturity of the hedged item.

Cash flow hedges are hedges of the exposure to variability in future cash flows related to recognized assets or liabilities, highly probable forecast transactions or currency risk on unrecognized firm commitments. Changes in the fair value of a hedging instrument that qualifies as a highly effective cash flow hedge are recognized directly in shareholders' equity (hedging reserve). The ineffective portion is recognized immediately in the income statement. If the hedged cash flow results in the recognition of a non-financial asset or liability, all gains and losses previously recognized directly in equity are transferred from equity and included in the initial measurement of the cost or carrying amount of the asset or liability. For all other cash flow hedges, gains and losses initially recognized in equity are transferred from the hedging reserve to the income statement when the hedged firm commitment or forecast transaction results in the recognition of a profit or loss. When the hedge ceases to meet the qualifying criteria, hedge accounting is discontinued prospectively and the accumulated gain or loss is retained in equity until the committed or forecast transaction occurs. If the forecast transaction is no longer expected to occur, any net cumulative gain or loss previously reported in equity is transferred to the income statement.

If a net investment in a foreign entity is hedged, all gains or losses on the effective portion of the hedging instrument, together with any gains or losses on the foreign-currency translation of the hedged investment, are taken directly to equity. Any gains or losses on the ineffective portion are recognized immediately in the income statement. The cumulative remeasurement gains and losses on the hedging instrument, that had previously been recognized directly in equity, and the gains and losses on the currency translation of the hedged item are recognized in the income statement only on disposal of the investment.

In order to comply with the requirements of IFRS 9 regarding the use of hedge accounting, the strategy and purpose of the hedge, the relationship between the financial instrument used as the hedging instrument and the hedged item and the estimated (prospective) effectiveness are documented by the Group at the inception of the hedge. The effectiveness of existing hedges is monitored on a quarterly basis.

The Group uses derivatives that do not satisfy the hedge accounting criteria of IFRS 9 but provide effective economic hedges under the Group's risk management policies. Changes in the fair value of any such derivatives are recognized immediately in the income statement.

Derivatives embedded in non-derivative host contracts that are not financial assets are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are not closely related to those of the host contract and the host contract is not measured at fair value through profit or loss.

Impairment of assets

Goodwill and intangible assets with an indefinite useful life or not yet available for use (if any) are reviewed for impairment at least annually; other tangible and intangible fixed assets

are reviewed for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. An impairment loss is recognized in the income statement as and when the carrying amount of an asset exceeds its recoverable amount (being the higher of its fair value less costs of disposal and its value in use). The fair value less costs of disposal is the amount obtainable from the sale of an asset in an arm's length transaction less the costs of disposal, while value in use is the present value of the future cash flows expected to be derived from an asset. Recoverable amounts are estimated for individual assets or, if this is not possible, for the smallest cash-generating unit to which the assets belong. Reversal of impairment losses recognized in prior years is included as income when there is an indication that the impairment losses recognized for the asset are no longer needed or the need has decreased, except for impairment losses on goodwill, which are never reversed.

2.4. Income statement items

Revenue recognition

The Group recognizes revenue mainly from the sale of products. Revenue is measured based on the consideration to which the Group expects to be entitled in a contract with a customer and excludes amounts collected on behalf of third parties. The Group recognizes revenue from the sale of products when it transfers control over the corresponding product to a customer. Revenue from the sale of products is recognized at a point in time. Sales are recognized net of sales taxes and discounts. No revenue is recognized on barter transactions involving the exchange of similar goods or services. Interest is recognized on a time-proportional basis that reflects the effective yield on the asset. Royalties are recognized on an accrual basis in accordance with the terms of agreements. Dividends are recognized when the shareholder's right to receive payment is established.

2.5. Statement of comprehensive income and statement of changes in equity

The statement of comprehensive income presents an overview of all income and expenses recognized both in the income statement and in equity. In accordance with IAS 1 'Presentation of Financial Statements', an entity can elect to present either a single statement of comprehensive income or two statements, i.e. an income statement immediately followed by a comprehensive income statement. The Group elected to do the latter. A further consequence of presenting a statement of comprehensive income is that the content of the statement of changes in equity is confined to owner-related changes only.

2.6. Alternative performance measures

To analyze the financial performance of the Group, Bekaert consistently uses various non-GAAP metrics or Alternative Performance Measures ('APMs') as defined in the European Securities and Markets Authority's ('ESMA') Guidelines on Alternative Performance Measures. In accordance with these ESMA Guidelines, the definition and reason for use of each of the APMs as well as reconciliation tables are provided in the 'Key Figures' section of the Report of the Board. The main APMs used in the Financial Review relate to underlying performance measures.

Underlying performance measures

Operating income and expenses that are related to restructuring programs, impairment losses, the initial accounting for business combinations, business disposals, environmental provisions or other events and transactions that have a one-off effect are excluded from Underlying EBIT(DA) measures.

Restructuring programs mainly include lay-off costs, gains and losses on disposal, and impairment losses of assets involved in a shut-down, major reorganization or relocation of operations. When not related to restructuring programs, only impairment

losses resulting from testing cash-generating units qualify as one-off effects.

One-off effects from business combinations mainly include: acquisition-related expenses, negative goodwill, gains and losses on step acquisition, and recycling of CTA on the interest previously held. One-off effects from business disposals include gains and losses on the sale of businesses that do not qualify as discontinued operations. These disposed businesses may consist of integral, or parts (disposal groups) of subsidiaries, joint ventures and associates.

Besides environmental provisions, other events or transactions that are not inherent to the business and have a one-off effect mainly include disasters and sales of investment property.

2.7. Miscellaneous

Non-current assets held for sale and discontinued operations

A non-current asset or disposal group is classified as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. A discontinued operation is a component of an entity which the entity has disposed of or which is classified as held for sale, which represents a separate major line of business or geographical area of operations and which can be distinguished operationally and for financial reporting purposes.

For a sale to be highly probable, the entity should be committed to a plan to sell the asset (or disposal group), an active program to locate a buyer and complete the plan should be initiated, and the asset (or disposal group) should be actively marketed at a price which is reasonable in relation to its current fair value, and the sale should be expected to be completed within one year from the date of classification. Assets classified as held for sale are measured at the lower of their carrying amount and fair value less costs necessary to make the sale. Any excess of the carrying amount over the fair value less costs to sell is included as an impairment loss. Depreciation of such assets is discontinued as from their classification as held for sale. Comparative balance sheet information for prior periods is not restated to reflect the new classification in the balance sheet.

Contingencies

Contingent assets are not recognized in the financial statements. They are disclosed if the inflow of economic benefits is probable. Contingent liabilities are not recognized in the financial statements, except if they arise from a business combination. They are disclosed, unless the possibility of a loss is remote.

Events after the balance sheet date

Events after the balance sheet date which provide additional information about the Company's position as at the balance sheet date (adjusting events) are reflected in the financial statements. Events after the balance sheet date which are not adjusting events are disclosed in the notes if material.

2.8. Restatement effects

Following elements have given rise to restatements in these financial statements:

The coming into effect of IFRIC 23 'Uncertainty over Income Tax Treatments' as from 1 January 2019 entailed a restatement. In accordance with the option elected by the Group not to restate comparative information for 2018, the restatement was accounted for through the 2019 opening balance.

The impact on the measurement of the uncertain tax positions due to the adoption of IFRIC 23 on the opening equity per 1 January 2019 is € 4.4 million bringing the total uncertain tax position to € 69.1 million.

3. Critical accounting judgments and key sources of estimation uncertainty

In the application of the Group's accounting policies, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. These judgments, estimates and assumptions are reviewed on an ongoing basis.

3.1. Critical judgments in applying the entity's accounting policies

The following are the critical judgments made by management, apart from those involving estimations (see note 3.2. 'Key sources of estimation uncertainty' below), that have a significant effect on the amounts reported in the consolidated financial statements.

- » Management assessed that a constructive obligation exists to provide pre-retirement schemes for employees as from the first day of service (see note 6.16. 'Employee benefit obligations') and therefore these pre-retirement schemes are treated as defined-benefit plans using the projected unit credit method. The obligation amounted to € 10.4 million (2018: € 11.2 million).
- » Management continued to conclude that the criteria for capitalization were not met and hence recognized development expenditure through profit or loss.
- » Management makes judgments in defining the functional currency of Group entities based on economic substance of the transactions relevant to these entities. By default the functional currency is the one of the country in which the entity is operating. See note 7.7. 'Subsidiaries, joint ventures and associates' for a comprehensive list of entities and their functional currency. As regard to its Venezuelan operations, management concluded that the bolivar soberano is no longer the functional currency, but instead the US dollar is the functional currency. This decision is based on the facts that an important part of the operative income is denominated in US dollar; that the main part of the costs structure also takes as reference US dollar and is payable using this reference exchange rate; and that as from May 2019, banks can act as intermediaries in foreign currency transactions through 'exchange tables', a measure that makes the exchange control that operated since 2003 and that gave the State a monopoly in currency management, more flexible.
- » Management assessed that it is still controlling the Venezuelan subsidiaries. In spite of the political and monetary instability, management was able to keep the company operational and hence concluded that it is still in control. At year-end 2019, the cumulative translation adjustments ('CTA') amount to € -59.7 million, which - in case of loss of control - would be recycled to income statement. Apart from the CTA, the contribution of the Venezuelan operations to the consolidated accounts is immaterial.

3.2. Key sources of estimation uncertainty

The following are the key assumptions concerning the future, and the other key sources of estimation uncertainty at the end of the reporting period that have a risk of causing material adjustments to the carrying amounts of assets and liabilities within the next financial year.

- » Management performed the annual impairment test on the goodwill related to BBRG on the basis of a reviewed profit restoration plan. This plan was prepared following the appointment of a new divisional CEO for the BBRG business. Management is convinced this plan represents an ambitious, but realistic scenario which will bring the projected results conditional to a strict execution and implementation of the various initiatives included in the plan. (see note 6.2. 'Goodwill').
- » Impairment analyses are based upon assumptions such as market evolution, margin evolution and discount rates. The ability of an entity to pass on changes in raw material prices to its customers (either through contractual arrangements or through commercial negotiations) is included in the margin evolution assumption. Sensitivity analyses for reasonable changes in these assumptions are presented as part of note 6.2. 'Goodwill'.

Given its global presence, Bekaert is exposed to tax risks in many jurisdictions. On the one hand, the application of tax law in the different jurisdictions can be complex and requires judgement to assess risk and estimate outcomes, which is a major source of uncertainty. On the other hand, tax authorities of the jurisdictions conduct regular tax audits that may reveal potential tax issues. As the tax audits can require many years to resolve, this further adds to the uncertainty. While the outcome of such tax audits is not certain, Bekaert has considered the merits of its filing positions of the matters subject to each tax audit in an overall evaluation of potential tax liabilities, and concludes that the Group has adequate liabilities recorded in its consolidated financial statements for exposures on these matters. Accordingly, Bekaert considers it unlikely that potential tax exposures over and above the amounts currently recorded as liabilities in the consolidated financial statements will be material to its financial condition. In most of the tax audit cases, Bekaert expects that a favorable outcome can probably be achieved, be it through time-consuming administrative and judicial procedures or other remedies, e.g. according to the relevant tax treaties. Consequently, both the timing and the position taken by the tax authorities in the different jurisdictions give rise to the uncertainty and risk of resulting in an adjustment to the carrying amounts of income tax payable related to uncertain tax positions within the next financial year. At year-end 2019

uncertain tax positions recognized as income taxes payable amounted to € 64.7 million (2018: € 64.7 million). See note 6.21. 'Tax positions'.

4. Segment reporting

Bekaert's segment reporting has been brought in line with the organizational changes announced on 1 March 2019. The new segmentation drives transparency into the business dynamics of each reporting unit and replaces the previous geographic segmentation, to which Bridon-Bekaert Ropes Group was added as a separate reporting segment. The Group's business units (BU) are characterized by BU-specific product and market profiles, industry trends, cost drivers, and technology needs tailored to specific industry requirements.

The following four business units are presented:

1. Rubber Reinforcement (RR): 45% of consolidated third party sales (2018: 44%)
2. Steel Wire Solutions (SWS): 34% of consolidated third party sales (2018: 35%)
3. Specialty Businesses (SB): 10% of consolidated third party sales (2018: 10%)
4. Bridon-Bekaert Ropes Group (BBRG): 11% of consolidated third party sales (2018: 11%)

4.1. Key data by reporting segment

Capital employed elements (intangible assets, goodwill, property, plant and equipment, RoU property, plant and equipment and the elements of the operating working capital) are allocated to the various segments. All other assets and liabilities are reported as unallocated assets or liabilities. 'Group' mainly consists of the functional unit technology and unallocated expenses for group management and services; it does not constitute a reportable segment in itself. Any sales between segments are transacted at prices which reflect the arm's length principle. Intersegment mainly includes eliminations of receivables and payables, of sales and of margin on transfers of inventory items and of PP&E and related adjustments to depreciation and amortization.

2019 in thousands of €	Rubber Reinforcement	Steel Wire Solutions	Specialty Businesses	BBRG	Group	Intersegment	Consolidated
Consolidated third party sales	1 952 881	1 447 804	413 915	488 658	19 193	-	4 322 450
Consolidated sales	1 985 551	1 491 303	425 906	491 065	90 667	-162 042	4 322 450
Operating result (EBIT)	154 802	25 286	34 079	9 187	-76 466	8 129	155 017
EBIT - Underlying	172 288	50 697	52 014	11 860	-53 080	8 129	241 909
Depreciation and amortization	123 097	56 897	14 994	32 782	14 602	-13 303	229 069
Impairment losses	8 446	10 709	2 293	-2 247	-	-	19 202
EBITDA	286 345	92 891	51 366	39 723	-61 864	-5 174	403 288
Segment assets	1 525 870	878 533	302 231	588 025	37 850	-120 089	3 212 419
Unallocated assets							1 092 265
Total assets							4 304 684
Segment liabilities	286 671	286 024	67 223	102 129	87 143	-24 422	804 769
Unallocated liabilities							1 968 375
Total liabilities							2 773 144
Capital employed	1 239 198	592 509	235 008	485 896	-49 293	-95 668	2 407 651
Weighted average capital employed	1 305 979	643 316	232 702	478 220	-19 528	-100 472	2 540 217
Return on weighted average capital employed (ROCE)	11.9%	3.9%	14.6%	1.9%	-	-	6.1%
Capital expenditure – PP&E	42 094	27 560	20 073	13 743	2 183	-7 422	98 231
Capital expenditure – intangible assets	815	76	-	436	2 597	-324	3 600
Share in the results of joint ventures and associates	5 751	23 207	-	-	-	-	28 959
Investments in joint ventures and associates	54 721	105 944	-	-	-	-	160 665
Number of employees (year-end) ¹	13 011	6 217	1 457	2 558	1 750	-	24 994

2018 in thousands of €	Rubber Reinforcement	Steel Wire Solutions	Specialty Businesses	BBRG	Group	Intersegment	Consolidated
Consolidated third party sales	1 907 805	1 497 073	410 782	463 325	26 285	-	4 305 269
Consolidated sales	1 939 390	1 554 509	425 190	465 879	146 235	-225 934	4 305 269
Operating result (EBIT)	152 406	58 953	-33 441	-20 006	-59 809	48 776	146 880
EBIT - Underlying	176 858	57 241	25 585	-6 908	-51 789	9 152	210 140
Depreciation and amortization	127 217	46 396	21 437	32 685	8 523	-18 085	218 173
Impairment losses	453	2 747	54 964	2 928	19	-39 659	21 452
EBITDA	280 075	108 096	42 961	15 608	-51 267	-8 968	386 505
Segment assets	1 701 181	1 012 034	299 174	560 839	118 179	-185 869	3 505 538
Unallocated assets							943 951
Total assets							4 449 489
Segment liabilities	337 057	331 529	81 011	120 439	119 271	-81 630	907 676
Unallocated liabilities							2 025 811
Total liabilities							2 933 487
Capital employed	1 364 125	680 505	218 163	440 400	-1 093	-104 239	2 597 862
Weighted average capital employed	1 374 262	672 683	225 271	452 744	37 295	-130 313	2 631 942
Return on weighted average capital employed (ROCE)	11.1%	8.8%	-14.8%	-4.4%	-	-	5.6%
Capital expenditure – PP&E	102 501	48 182	36 074	19 326	9 507	-17 462	198 127
Capital expenditure – intangible assets	2 339	109	161	531	1 828	-460	4 508
Share in the results of joint ventures and associates	4 878	19 997	-	-	-	-	24 875
Investments in joint ventures and associates	51 538	102 133	-	-	-	-	153 671
Number of employees (year-end) ¹	13 088	6 598	1 549	2 574	1 997	-	25 806

¹ Number of employees: full-time equivalents.

4.2. Revenue by country

The table below shows the relative importance of Belgium (i.e. the country of domicile), Chile, China, the USA and Slovakia for Bekaert in terms of revenues and selected non-current assets (i.e. intangible assets; goodwill; property, plant and equipment; RoU property, plant and equipment; investments in joint ventures and associates).

in thousands of €	2018	% of total	2019	% of total
Consolidated third party sales				
from Belgium	360 186	8%	341 696	8%
from Chile	387 954	9%	385 282	9%
from China	855 857	20%	921 153	21%
from USA	696 724	16%	703 660	16%
from Slovakia	354 692	8%	343 124	8%
from other countries	1 649 856	39%	1 627 535	38%
Total third party consolidated sales	4 305 269	100%	4 322 450	100%
Selected non-current assets				
in Belgium	135 356	7%	137 619	7%
in Chile	94 270	5%	90 051	5%
in China	381 318	20%	342 611	18%
in USA	151 755	8%	139 802	7%
in Slovakia	147 182	8%	141 388	8%
in other countries	966 996	52%	1 017 952	55%
Total selected non-current assets	1 876 877	100%	1 869 423	100%

Bekaert's top 5 customers together represented 21% (2018: 21%) of the Group's total consolidated sales, while the next top 5 customers represented another 8% (2018: 8%) of the Group's total consolidated sales.

5. Income statement items

5.1. Net sales

The Group recognizes revenue from the following sources: delivery of products and, to a limited extent, of services and projects. Bekaert assessed that the delivery of products represents the main performance obligation. The Group recognizes revenue at a point in time when it transfers control over a product to a customer. Customers obtain control when the products are delivered (based on the related inco terms in place). The amount of revenue recognized is adjusted for volume discounts. No adjustment is made for returns nor for warranty as the impact is deemed immaterial based on historical information.

Disaggregating revenue by timing of revenue recognition, i.e. at a point in time vs over time (as is customary for engineering activities) does not add much value, as sales of machines to third parties contribute very little to total sales.

Net sales in thousands of €	2018	% of total	2019	% of total
Sales of products	4 293 908	99.7%	4 311 201	99.7%
Sales of machines by engineering	10 872	0.3%	10 814	0.3%
Other sales	489	0.0%	435	0.0%
Net sales	4 305 269	100%	4 322 450	100%

In the following table, net sales is disaggregated by industry including a reconciliation of the net sales by industry with the Group's operating segments (see note 4.1. 'Key data by reporting segment'). This analysis is also often presented in press releases, shareholders' guides and other presentations.

2019 in thousands of €	Rubber Reinforce- ment	Steel Wire Solutions	Specialty Businesses	BBRG	Group	Consolidated
Industry						
<i>Tire & Automotive</i>	1 843 534	163 620	39 134	7 842	-	2 054 130
<i>Energy & Utilities</i>	445	174 990	46 810	92 986	-	315 231
<i>Construction</i>	558	448 795	285 962	66 078	-	801 393
<i>Consumer Goods</i>	132	225 075	3 207	-	-	228 414
<i>Agriculture</i>	-	257 477	-	31 926	-	289 403
<i>Equipment</i>	93 884	54 919	3 715	140 783	19 193	312 494
<i>Basic Materials</i>	14 328	103 492	35 087	149 042	-	301 949
<i>Other</i>	-	19 436	-	-	-	19 436
Total	1 952 881	1 447 804	413 915	488 657	19 193	4 322 450

2018 in thousands of €	Rubber Reinforce- ment	Steel Wire Solutions	Specialty Businesses	BBRG	Group	Consolidated
Industry						
<i>Tire & Automotive</i>	1 782 614	160 701	37 002	7 306	-	1 987 623
<i>Energy & Utilities</i>	154	146 144	62 988	88 104	2 356	299 746
<i>Construction</i>	184	598 002	272 829	63 504	-	934 519
<i>Consumer Goods</i>	41	239 288	1 944	-	-	241 273
<i>Agriculture</i>	60	237 619	-	33 672	-	271 351
<i>Equipment</i>	111 512	15 663	3 746	147 290	20 364	298 575
<i>Basic Materials</i>	13 240	93 430	32 273	123 448	3 565	265 956
<i>Other</i>	-	6 226	-	-	-	6 226
Total	1 907 805	1 497 073	410 782	463 324	26 285	4 305 269

5.2. Operating result (EBIT) by function

Sales and gross profit in thousands of €	2018	2019	variance (%)
Sales	4 305 269	4 322 450	0.4%
Cost of sales	-3 778 660	-3 795 320	0.4%
Gross profit	526 609	527 131	0.1%
Gross profit in % of sales	12.2%	12.2%	

Bekaert's consolidated sales were about stable compared with the previous year. Organic volume growth of -1.2%, the effect of passed on lower wire rod prices (-2.0%), the small impact from divestments (-0.1%) were more than offset by price-mix effects (+2.4%). Favorable currency movements (+1.3%) (mainly related to US dollar, offset by movements in Chilean peso) strengthened this evolution.

Gross profit remained unchanged compared to 2018, resulting in a margin of 12.2% (2018: 12.2%). The net effect of mergers, acquisitions and divestments accounted for -0.3%. Cost of sales and margin were hit through unfavorable inventory valuation corrections. This was offset by the positive impact of continued growth in good margin business and robust progress in profit restoration in weaker performing business areas, together with a favorable impact from currency movements.

Overheads in thousands of €	2018	2019	variance (%)
Selling expenses	-179 651	-188 606	5.0%
Administrative expenses	-167 346	-127 676	-23.7%
Research and development expenses	-65 368	-70 729	8.2%
Total	-412 365	-387 011	-6.1%

The overhead expenses decreased by € 25.4 million to 9.0% on sales (versus 9.6% in 2018). Selling and administrative expenses decreased by € 30.7 million due to lower consultancy costs and other savings. Research and development expenses amounted to € -70.7 million, compared with € -65.4 million in 2018. The one-off impact from the restructuring programs on overheads increased by € 5.3 million and mainly related to lay-off costs. In 2019, selling expenses included bad debt allowances recognized for € -6.4 million (2018: € -4.2 million), reversal of bad debt allowances for amounts not used for € 5.3 million (2018: € 3.3 million) and amounts used for € 0.6 million (2018: € 0.4 million).

Other operating revenues in thousands of €	2018	2019	variance
Royalties received	13 221	12 997	-224
Gains on disposal of PP&E and intangible assets	1 383	553	-830
Realized exchange results on sales and purchases	-279	-1 137	-858
Government grants	3 199	5 017	1 819
Restructuring - other revenues	41 613	559	-41 054
Gains on business disposals (portion sold)	1 478	-	-1 478
Other revenues	11 963	9 666	-2 297
Total	72 578	27 655	-44 923

Other operating expenses in thousands of €	2018	2019	variance
Losses on disposal of PP&E and intangible assets	-1 313	-2 213	-900
Amortization of intangible assets	-2 690	-2 542	149
Bank charges	-3 093	-2 866	227
Tax related expenses (other than income taxes)	-2 873	-1 977	896
Restructuring - other expenses	-27 470	-2 657	24 813
Losses on business disposals (CTA recycling)	-317	-	317
Other expenses	-2 186	-504	1 683
Total	-39 942	-12 758	27 184

The royalty income was about stable. Government grants mainly related to subsidies in China. There are no indications that the conditions attached to those grants will not be complied with in the future and therefore it is not expected that subsidies may have to be refunded.

'Restructuring - other revenues' and 'Restructuring - other expenses' contained part of the cost related to the restructuring programs in Belgium, North America and Malaysia in 2019.

In 2018 the 'Restructuring - other revenues' (€ 41.6 million) mainly related to (1) the gain on the disposal of assets as part of the closure of the Huizhou plant (China) (€ 18.3 million) and the Shah Alam plant (Malaysia) (€ 12.4 million) and (2) the income of OVAM related to the environmental provision in Belgium (€ 8.4 million). The latter was offset by the environmental provision included in the 'Restructuring - other expenses'. The 'Restructuring - other expenses' in 2018 (€ 27.5 million) included the transactional fees on the sale of the property as part of the closure of Huizhou plant (China) (€ -13.3 million), the set-up of environmental provision in Belgium (€ -8.3 million) and restructuring costs in Malaysia and Costa Rica (€ -4.7 million).

The gains and losses on business disposals in 2018 related to the disposal of the drying activities.

The other section of other operating revenues included, both in 2018 as in 2019, one-time windfalls on the closure of some employee benefit plans.

The following tables reconcile reported and underlying results and present an analysis of one-off items by category (as defined in note 2.6. 'Alternative performance measures'), operating segment and income statement line item.

EBIT Reported and Underlying in thousands of €	2018			2019		
	reported	of which underlying	of which one-offs	reported	of which underlying	of which one-offs
Sales	4 305 269	4 305 269	-	4 322 450	4 322 450	-
Cost of sales	-3 778 660	-3 720 317	-58 343	-3 795 320	-3 734 464	-60 856
Gross profit	526 609	584 952	-58 343	527 131	587 986	-60 856
Selling expenses	-179 651	-178 254	-1 397	-188 606	-182 692	-5 914
Administrative expenses	-167 346	-148 787	-18 559	-127 676	-118 467	-9 208
Research and development expenses	-65 368	-63 559	-1 809	-70 729	-61 963	-8 766
Other operating revenues	72 578	27 463	45 115	27 655	27 096	559
Other operating expenses	-39 942	-11 675	-28 267	-12 758	-10 052	-2 706
Operating result (EBIT)	146 880	210 140	-63 260	155 017	241 909	-86 891

One-off items 2019 in thousands of €	Cost of Sales	Selling expenses	Administrative expenses	R&D	Other operating revenues	Other operating expenses	Total
Restructuring programs by segment							
Rubber Reinforcement ¹	-15 017	-39	-31	-	0	-12	-15 099
Steel Wire Solutions ²	-20 025	-1 322	-672	-	167	-1 378	-23 230
Specialty Businesses ³	-12 846	-2 596	-66	-226	69	-633	-16 297
Bridon-Bekaert Ropes Group (BBRG)	-3 176	-30	-1 414	-	-	-35	-4 655
Group ⁴	-5 933	-1 894	-6 588	-8 440	322	-599	-23 132
Total restructuring programs	-56 997	-5 881	-8 771	-8 666	559	-2 657	-82 413
Impairment losses/ (reversals of impairment losses) other than restructuring							
Bridon-Bekaert Ropes Group (BBRG)	2 247	-	-	-	-	-	2 247
Total other impairment losses/(reversals)	2 247	-	-	-	-	-	2 247
Environmental provisions/ (reversals of provisions)							
Steel Wire Solutions	322	-	-	-	-	-	322
Total environmental provisions/(reversals)	322	-	-	-	-	-	322
Other events and transactions							
Rubber Reinforcement ⁵	-2 387	-	-	-	-	-	-2 387
Steel Wire Solutions ⁶	-2 503	-	-	-	-	-	-2 503
Specialty Businesses ⁶	-1 538	-	-	-100	-	-	-1 638
Bridon-Bekaert Ropes Group (BBRG)	-	-	-215	-	-	-49	-265
Group	-	-32	-222	-	-	-	-254
Total other events and transactions	-6 428	-32	-437	-100	-	-49	-7 046
Total	-60 856	-5 914	-9 208	-8 766	559	-2 706	-86 891

¹ Related mainly to lay-off costs and impairment of assets due to the restructuring in North America.

² Related mainly to lay-off costs and impairment of assets due to the restructuring in Malaysia, North America and Belgium.

³ Related mainly to lay-off costs and impairment of assets due to the closure of the plant in Moen (Belgium).

⁴ Related mainly to lay-off costs due to the restructuring in Belgium.

⁵ Related mainly to operational losses and expenses incurred during labor agreement negotiations in Bekaert Sardegna (Italy).

⁶ Related mainly to the impact of the go-slow actions in Belgium.

One-off items 2018 in thousands of €	Cost of Sales	Selling expenses	Administrative expenses	R&D	Other operating revenues	Other operating expenses	Total
Restructuring programs by segment							
Rubber Reinforcement ¹	-28 384	16	-1 328	-	18 280	-13 342	-24 758
Steel Wire Solutions	-6 878	-535	-298	-	12 533	-3 007	1 815
Specialty Businesses	-15 890	-67	-309	-	-	-2 229	-18 495
Bridon-Bekaert Ropes Group (BBRG)							
Group	-7 077	-	-7 586	-	2 156	-577	-13 084
Group	-420	-810	-5 763	-1 317	8 680	-8 315	-7 945
Intersegment	-	-	-	-	-36	-	-36
Total restructuring programs ²	-58 649	-1 397	-15 284	-1 317	41 613	-27 470	-62 504
Impairment losses/ (reversals of impairment losses) other than restructuring							
Specialty Businesses ³	-	-	-	-40 153	-	-	-40 153
Intersegment ³	-	-	-	39 660	-	-	39 660
Total other impairment losses/(reversals)	-	-	-	-492	-	-	-492
Business disposals							
Group (Drying activities)	-	-	-	-	1 478	-317	1 161
Total business disposals	-	-	-	-	1 478	-317	1 161
Environmental provisions/ (reversals of provisions)							
Group	-	-	-	-	1 511	-89	1 422
Total environmental provisions/(reversals)	-	-	-	-	1 511	-89	1 422
Other events and transactions							
Rubber Reinforcement	306	-	-	-	-	-	306
Steel Wire Solutions	-	-	-141	-	38	-	-103
Specialty Businesses	-	-	-	-	-	-378	-378
Bridon-Bekaert Ropes Group (BBRG)							
Group	-	-	-114	-	114	-14	-14
Group	-	-	-3 019	-	361	-	-2 659
Total other events and transactions	306	-	-3 275	-	513	-392	-2 847
Total	-58 343	-1 397	-18 559	-1 809	45 115	-28 267	-63 260

¹ Related mainly to lay-off costs and impairment of assets due to the closure of Figline plant (Italy) and Huizhou plant (China).

² Restructuring - other operating revenues (€ 41.6 million) and Restructuring - other operating expenses (€ -27.5 million) are described in the related section on 'Other operating revenues' and 'Other operating expenses'.

³ Related to an impairment of intangible assets recognized at the segment level following an intra-group transaction done in 2017.

5.3. Operating result (EBIT) by nature

The table below provides information on the major items contributing to the operating result (EBIT), categorized by nature.

in thousands of €	2018	% on sales	2019	% on sales
Sales	4 305 269	100%	4 322 450	100%
Other operating revenues	72 578	-	27 655	-
Total operating revenues	4 377 847	-	4 350 106	-
Own construction of PP&E	56 561	1.3%	21 946	0.5%
Raw materials	-1 766 663	-41.0%	-1 668 930	-38.6%
Semi-finished products and goods for resale	-396 145	-9.2%	-337 144	-7.8%
Change in work-in-progress and finished goods	114 023	2.6%	-81 658	-1.9%
Staff costs	-820 369	-19.1%	-861 117	-19.9%
Depreciation and amortization	-218 173	-5.1%	-229 069	-5.3%
Impairment losses	-21 451	-0.5%	-19 202	-0.4%
Transport and handling of finished goods	-191 010	-4.4%	-182 697	-4.2%
Consumables and spare parts	-270 977	-6.3%	-241 698	-5.6%
Utilities	-256 305	-6.0%	-259 727	-6.0%
Maintenance and repairs	-68 813	-1.6%	-65 435	-1.5%
Lease and related expenses	-31 426	-0.7%	-9 883	-0.2%
Commissions in selling expenses	-7 722	-0.2%	-8 120	-0.2%
Export VAT and export customs duty	-31 307	-0.7%	-11 928	-0.3%
ICT costs	-41 364	-1.0%	-39 363	-0.9%
Advertising and sales promotion	-10 820	-0.3%	-6 715	-0.2%
Travel, restaurant & hotel	-27 990	-0.7%	-24 005	-0.6%
Consulting and other fees	-44 965	-1.0%	-29 956	-0.7%
Office supplies and equipment	-10 204	-0.2%	-9 110	-0.2%
Venture capital funds R&D	-1 414	0.0%	-1 974	0.0%
Temporary or external labor	-36 613	-0.9%	-31 907	-0.7%
Insurance expenses	-7 357	-0.2%	-8 762	-0.2%
Miscellaneous	-140 463	-3.3%	-88 636	-2.1%
Total operating expenses	-4 230 967	-98.3%	-4 195 089	-97.1%
Operating result (EBIT)	146 880	3.4%	155 017	3.6%

The impairment losses mainly related to restructuring programs in North America, Malaysia and Belgium. The depreciation and amortization included write-downs / (reversals of write-downs) on inventories and trade receivables.

5.4. Interest income and expense

in thousands of €	2018	2019
Interest income on financial assets not classified as at FVTPL	3 035	2 841
Interest income	3 035	2 841
<i>Interest expense on interest-bearing debt not classified as at FVTPL</i>	<i>-73 941</i>	<i>-56 072</i>
<i>Other debt-related interest expense</i>	<i>-10 025</i>	<i>-8 839</i>
Debt-related interest expense	-83 966	-64 911
Interest element of discounted provisions	-4 024	-4 255
Interest expense	-87 990	-69 166
Total	-84 955	-66 324

The decrease in interest expense was mainly due to the refinancing of the BBRG debt in October 2018 which made the average interest rate on the total debt decrease from 3.55% (before refinancing) to 2.14% at the end of 2018 and which remained at the same level at the end of 2019 (2.16%)

Interest expense on interest-bearing debt, not classified as at fair value through profit or loss (FVTPL), relates to all debt instruments of the Group, other than interest-rate risk mitigating derivatives entered into as economic hedges.

Of the interest element of discounted provisions, € -4.1 million (2018: € -3.5 million) related to defined-benefit liabilities (see note 6.16. 'Employee benefit obligations') and € -0.2 million (2018: € -0.6 million) related to other provisions (see note 6.17. 'Provisions').

5.5. Other financial income and expenses

in thousands of €	2018	2019
<i>Value adjustments to derivatives</i>	<i>22 071</i>	<i>1 241</i>
<i>Exchange results on hedged items</i>	<i>-18 674</i>	<i>-5 162</i>
Net impact of derivatives and hedged items	3 398	-3 921
Other exchange results	-4 366	-9 071
Value adjustment on financial liabilities designated as FVTPL	-1 900	-
Inflation accounting effects	-1 538	-
Gains and losses on disposal of financial assets	-	-21
Gains and losses on settlement of financial liabilities	-12 080	-
Dividends from non-consolidated equity investments	536	543
Bank charges and taxes on financial transactions	-7 692	-4 015
Impairments of other receivables	-1 253	-524
Other	-652	-1 362
Total	-25 547	-18 371

Value adjustments include changes in the fair value of all derivatives, other than those designated as cash flow hedges. Exchange results on hedged items also relate to economic hedges only. The net impact of derivatives and hedged items presented here does not include any impacts recognized in other income statement elements, such as interest expense, cost of sales or other operating revenues and expenses. For more details on the impact of derivatives and hedged items, see note 7.2. 'Financial risk management and financial derivatives'.

Value adjustments to derivatives included a fair value gain of € 2.6 million in 2019 (2018: gain of € 17.3 million), of which € 2.5 million related to a virtual power purchase agreement and € 0.1 million was linked to the conversion option relating to the convertible debt issued in June 2016 (see the 'Financial instruments by fair value measurement hierarchy' section in note 7.2. 'Financial risk management and financial derivatives').

In 2018, the loss on settlement of financial liabilities of € -12.1 million was linked to the repayment of the BBRG term A and B loan that were accounted for at amortized cost. In 2018, the higher bank charges and taxes on financial transactions were due to fees and taxes linked to the BBRG debt refinancing and the acquisition by Bekaert of Ontario Teachers' Pension Plan non-controlling interest in BBRG. The bank charges and taxes on financial transactions included charges linked to the factoring programs.

All dividends from non-consolidated equity investments related to investments still held at reporting date as no shares were sold during the year. In 2018, inflation accounting effects related to the Venezuelan operations. As from 1 January 2019, management concluded that the Venezuelan bolivar soberano was no longer the functional currency of Vicson SA and InverVicson SA, but the US dollar was. The application of inflation accounting was discontinued as from 2019.

5.6. Income taxes

in thousands of €	2018	2019
Current income taxes - current year	-65 266	-56 828
Current income taxes - prior periods	-270	377
Deferred taxes - due to changes in temporary differences	-15 248	-7 630
Deferred taxes - due to changes in tax rates	-50	-1 203
Deferred taxes - adjustments to tax losses of prior periods	-974	-3 950
Deferred taxes - utilization of deferred tax assets not previously recognized	23 343	18 153
Total tax expense	-58 465	-51 081

Relationship between tax expense and accounting profit

In the table below, accounting profit is defined as the result before taxes.

in thousands of €	2018	2019
Result before taxes	36 378	70 322
Tax expense at the theoretical domestic rates applicable to results of taxable entities in the countries concerned	-18 044	-20 654
Theoretical tax rate ¹	-49.6%	-29.4%
Tax effect of:		
<i>Non-deductible items</i>	-12 801	-11 684
<i>Disallowed interest expense (thin cap) ²</i>	-10 379	-4 214
<i>Other tax rates, tax credits and special tax regimes ³</i>	12 427	16 381
<i>Non-recognition of deferred tax assets ⁴</i>	-44 881	-35 287
<i>Utilization or recognition of deferred tax assets not previously recognized ⁵</i>	23 343	18 153
<i>Deferred tax due to change in tax rates</i>	-50	-1 203
<i>Tax relating to prior periods</i>	-1 244	-3 573
<i>Exempted income</i>	254	10
<i>Withholding taxes on dividends, royalties, interests & services</i>	-11 478	-14 085
<i>Other ⁶</i>	4 388	5 075
Total tax expense	-58 465	-51 081
Effective tax rate	-160.7%	-72.6%

¹ The theoretical tax rate is computed as a weighted average. The rate of 2019 is not comparable with the rate of 2018 as a consequence of combinations of positive and negative results before taxes in different countries at different rates.

² The disallowed interest expenses related mainly to BBRG in the UK. In 2018, the impact was significantly higher than 2019 due to one-time extension fees which were for tax purposes considered as interests.

³ In 2019, the special tax regimes and tax credits mainly related to tax incentives in Belgium and the Netherlands whereas in 2018 mainly Belgium, the Netherlands, Australia and Malaysia contributed.

⁴ In 2019, the non-recognition of deferred tax assets mainly related to losses carried forward in Belgium, Canada, China, Costa Rica, Germany, Malaysia and the USA while in 2018, it mainly related to impaired assets of the Sawing Wire business in China, and losses carried forward in Brazil, Chile, China, Costa Rica, Germany, Malaysia and the UK.

⁵ In 2019, the movement was mainly triggered by usage of losses carried forward and recognition of deferred tax assets previously not recognized whereas in 2018, it mainly related to one-off disposals of PP&E.

⁶ In 2019 as well as in 2018, it concerned mainly adjustments in provisions for uncertain tax positions.

5.7. Share in the results of joint ventures and associates

In 2019, the share in the result of joint ventures and associates reflected the better performance of both Steel Wire Solutions and Rubber Reinforcement businesses. There was no significant impact from currency movements between the Brazilian real and the euro.

Additional information relating to the Brazilian joint ventures is provided under note 6.5. 'Investments in joint ventures and associates'.

in thousands of €		2018	2019
Joint ventures			
Belgo Bekaert Arames Ltda	Brazil	20 012	23 326
BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	Brazil	4 878	5 751
Servicios Ideal AGF Inttegra Cia Ltda	Ecuador	-15	-119
Total		24 875	28 959

5.8. Earnings per share

2019	Number
Weighted average number of ordinary shares (basic)	56 514 831
Dilution effect of share-based payment arrangements	72 433
Dilution effect of convertible bond ¹	-
Weighted average number of ordinary shares (diluted)	56 587 264

in thousands of €	Basic	Diluted
Result for the period attributable to ordinary shareholders	41 329	41 329
Effect on earnings of convertible bonds ¹	-	-
Earnings	41 329	41 329
Earnings per share (in €)	0.731	0.730

¹ Not to be reported if the effect of the convertible bond is anti-dilutive, i.e. if its effect is such that it would improve the EPS (see below).

2018	Number
Weighted average number of ordinary shares (basic)	56 453 134
Dilution effect of share-based payment arrangements	156 297
Dilution effect of convertible bond ¹	7 485 675
Weighted average number of ordinary shares (diluted)	64 095 106

in thousands of €	Basic	Diluted
Result for the period attributable to ordinary shareholders	39 768	39 768
Effect on earnings of convertible bond ¹	-	-7 254
Earnings	39 768	32 514
Earnings per share (in €)	0.704	0.507

¹ Not to be reported if the effect of the convertible bond is anti-dilutive, i.e. if its effect is such that it would improve the EPS (see below).

Earnings per share ('EPS') is the amount of post-tax profit attributable to each share. Basic EPS is calculated as the result for the period attributable to equity holders of Bekaert divided by the weighted average number of shares outstanding during the year. Diluted EPS reflects any commitments of the Group to issue shares in the future. These comprise shares to be issued for equity-settled share-based payment plans (subscription rights, options, performance shares and matching shares, see note 6.13. 'Ordinary shares, treasury shares and equity-settled share-based payments') and potentially for the settlement of the convertible bond. Subscription rights, options and other share-based payment arrangements are only dilutive to the extent that their issue price is lower than the average closing price of the period, in which the issue price includes the fair value of any services to be rendered during the remainder of the vesting period. Contingently issuable shares (e.g. performance shares) are only dilutive if the conditions are satisfied at the balance sheet date. The dilution effect of share-based payment arrangements is limited to the weighted average number of shares to be used in the denominator of the EPS ratio; there is no effect on the earnings to be used in the numerator of the EPS ratio. The convertible bond tends to affect both the denominator and the numerator of the EPS ratio. The dilution effect of the convertible bond on the earnings (to be used in the numerator of the EPS ratio) consists of a reversal of all income and expenses directly related to the convertible bonds and having affected the 'basic' earnings for the period. Following income statement items were affected by the convertible bond:

- (a) the effective interest expense of € -10.4 million (2018: € -10.1 million),
- (b) fair value gains of € 0.1 million on the derivative liability representing the conversion option (2018: gains of € 17.3 million).

To calculate the dilution impact, it is assumed that all dilutive potential shares are issued at the beginning of the period, or, if the instruments were granted during the period, at the grant date. Bekaert has the option to settle the notional amount of the bond in ordinary shares or in cash, but any share price increase over and above the conversion price should be settled in shares. Bekaert has a call option on the conversion option when the share price exceeds the conversion price by 30.0%, which caps the amount of shares to be converted at 1.7 million. Management does not intend to settle the notional amount in shares and has already bought back enough shares to cover the call option. Nevertheless, in accordance with IAS 33 'Earnings per share', the number to be added to the denominator equates to the 7.5 million potential shares corresponding with the notional amount of the bond divided by the conversion price. This resulted in a total dilution effect of € -0.001 per share (2018: € -0.197), of which all related to the share-based payment arrangements (2018: € -0.002). The convertible bond was anti-dilutive in 2019, since the effect caused the diluted EPS ratio to improve (2018: € -0.195).

The average closing price during 2019 was € 23.96 per share (2018: € 28.21 per share). The following table presents all antidilutive instruments for the period presented. Options and subscription rights were out of the money because their issue price exceeded the average closing price, while performance shares were antidilutive because the performance condition was not fulfilled.

Antidilutive instruments	Date granted	Issue price (in €)	Number granted	Number outstanding
SOP2 - options	19.02.2007	30.175	37 500	10 000
SOP2 - options	18.02.2008	28.335	30 630	19 320
SOP 2005-2009 - subscription rights	19.02.2007	30.175	153 810	8 970
SOP 2005-2009 - subscription rights	18.02.2008	28.335	215 100	54 850
SOP 2010-2014 - options	14.02.2011	77.000	360 925	295 725
SOP 2010-2014 - options	20.02.2012	25.140	287 800	54 100
SOP 2010-2014 - options	17.02.2014	25.380	373 450	182 800
SOP 2010-2014 - options	16.02.2015	26.055	349 810	309 300
SOP 2015-2017 - options	15.02.2016	26.375	227 250	221 250
SOP 2015-2017 - options	13.02.2017	39.430	273 325	268 450
SOP 2015-2017 - options	20.02.2018	38.137	225 475	221 975
PSP 2015-2017 - performance shares	21.12.2017	-	55 250	50 950

6. Balance sheet items

6.1. Intangible assets

Cost in thousands of €	Licenses, patents & similar rights	Computer software	Rights to use land	Commercial assets	Other	Total
As at 1 January 2018	23 702	85 116	70 578	54 023	15 679	249 098
Expenditure		4 507	1	-	-	4 508
Disposals and retirements	-	-787	-14 777	-	-7	-15 571
Transfers ¹	-	-190	-	1 200	-1 001	9
Reclassification to (-) / from held for sale	-	-4	9 618	-	-	9 614
Deconsolidations	-73	-1 001	-	-19	-	-1 093
Exchange gains and losses (-)	-43	147	-175	-152	-205	-427
As at 31 December 2018	23 587	87 787	65 246	55 053	14 466	246 138
As at 1 January 2019	23 587	87 787	65 246	55 053	14 466	246 138
Expenditure	30	4 331	-	-	-	4 361
Disposals and retirements	-963	-15	-	-	-91	-1 069
Transfers ¹	782	-655	-65 246	-1 183	1 230	-65 072
Exchange gains and losses (-)	338	200	-	2 539	603	3 680
As at 31 December 2019	23 773	91 649	-	56 408	16 208	188 037

Accumulated amortization and impairment

As at 1 January 2018	12 461	70 725	14 778	12 412	13 505	123 881
Charge for the year	1 322	4 158	1 285	1 928	866	9 559
Impairment losses	492	58	-	-	-	550
Reversal impairment losses and depreciations	-	-	-101	-	-	-101
Disposals and retirements		-778	-2 148	-	-8	-2 934
Deconsolidations	-37	-983	-	-	-19	-1 039
Transfers ¹	-	-	-	211	-211	-
Reclassification to (-) / from held for sale	-	-4	1 528	-	-	1 523
Exchange gains (-) and losses	0	143	-33	177	-92	195
As at 31 December 2018	14 239	73 318	15 309	14 729	14 041	131 636
As at 1 January 2019	14 239	73 318	15 309	14 729	14 041	131 636
Charge for the year	1 622	4 511		3 584	800	10 517
Reversal impairment losses and depreciations	-	-223	-	-	-	-223
Disposals and retirements	-337	-12	-	-	-91	-440
Transfers ¹	-		-15 309	-466	466	-15 309
Exchange gains (-) and losses	334	136	-	641	480	1 591
As at 31 December 2019	15 859	77 730	0	18 487	15 696	127 772
Carrying amount						
as at 31 December 2018	9 347	14 469	49 937	40 324	424	114 502
Carrying amount						
as at 31 December 2019	7 914	13 919	-	37 921	512	60 266

¹ Total transfers equal zero when aggregating the balances of 'Intangible assets' and 'Property, plant and equipment' (see note 6.3. 'Property, plant and equipment' and 6.4. 'Right-of-use (RoU) property, plant and equipment').

The software expenditure mainly related to additional licenses for and implementations of the MES project (Manufacturing Excellence System), the GRC project (Governance, Risk & Compliance), two automation pilot projects in the manufacturing area and ERP software (SAP) in general.

Following the adoption of IFRS 16 'Leases', any rights to use land acquired in the past have been reclassified to the balance sheet caption 'Right-of-use property, plant and equipment' (see note 6.4. 'RoU property, plant and equipment').

No intangible assets have been identified as having an indefinite useful life at the balance sheet date.

6.2. Goodwill

This note mainly relates to goodwill on acquisition of subsidiaries. Goodwill in respect of joint ventures and associates is disclosed in note 6.5. 'Investments in joint ventures and associates'.

Cost in thousands of €	2018	2019
As at 1 January	168 131	154 192
Deconsolidation	-13 176	-
Exchange gains and losses (-)	-763	832
As at 31 December	154 192	155 024

Impairment losses in thousands of €	2018	2019
As at 1 January	18 236	4 937
Deconsolidation	-13 176	-
Exchange gains (-) and losses	-123	303
As at 31 December	4 937	5 240

Carrying amount as at 31 December	149 255	149 784
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Goodwill by cash-generating unit (CGU)

Goodwill acquired in a business combination is allocated on acquisition to the cash-generating units (CGU) that are expected to benefit from that business combination. The carrying amount of goodwill and any related movements of the period have been allocated as follows:

2018 in thousands of €	Group of cash-generating units	Carrying amount 1 January	Increases	Impairments	Exchange differences	Carrying amount 31 December
Subsidiaries						
SWS	Bekaert Bradford UK Ltd	2 523	-	-	-21	2 502
SB	Combustion - heating	3 027	-	-	-	3 027
SB	Building Products	71	-	-	-	71
RR	Rubber Reinforcement	4 255	-	-	-	4 255
SWS	Orrville plant (USA)	9 781	-	-	464	10 245
SWS	Inchalam group	861	-	-	-62	799
SWS	Bekaert Ideal SL companies	844	-	-	-	844
SWS	Bekaert (Qingdao) Wire Products Co Ltd	385	-	-	-	385
SWS	Bekaert Jiangyin Wire Products Co Ltd	47	-	-	-	47
BBRG	BBRG	128 101	-	-	-1 021	127 080
Subtotal		149 895	-	-	-640	149 255
Joint ventures and associates						
SWS	Belgo Bekaert Arames Ltda	3 783	-	-	-401	3 382
RR	BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	2 313	-	-	-245	2 068
Subtotal		6 096	-	-	-646	5 450
Total		155 991	-	-	-1 286	154 705

2019 in thousands of €	Group of cash-generating units	Carrying amount 1 January	Increases	Impairments	Exchange differences	Carrying amount 31 December
Subsidiaries						
SWS	Bekaert Bradford UK Ltd	2 502	-	-	129	2 631
SB	Combustion - heating	3 027	-	-	-	3 027
SB	Building Products	71	-	-	-	71
RR	Rubber Reinforcement	4 255	-	-	-	4 255
SWS	Orrville plant (USA)	10 245	-	-	197	10 442
SWS	Inchalam group	799	-	-	-49	750
SWS	Bekaert Ideal SL companies	844	-	-	-	844
SWS	Bekaert (Qingdao) Wire Products Co Ltd	385	-	-	-	385
SWS	Bekaert Jiangyin Wire Products Co Ltd	47	-	-	-	47
BBRG	BBRG	127 080	-	-	252	127 332
Subtotal		149 255	-	-	529	149 784
Joint ventures and associates						
SWS	Belgo Bekaert Arames Ltda	3 382	-	-	-54	3 328
RR	BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	2 068	-	-	-33	2 035
Subtotal		5 450	-	-	-87	5 363
Total		154 705	-	-	443	155 148

In relation to the impairment testing of goodwill arising from the BBRG business combination, the following model characteristics have been used:

- » a 5-year forecast timeframe of cash flows (in line with the latest business plan update), followed by a terminal value assumption based on a nominal perpetual growth rate of 2% (in 2018: 2%), which mainly is based on a conservative industrial GDP evolution assumption;
- » the cash flows are based on an indepth business plan which was prepared following the appointment of a new divisional CEO for the BBRG business;
- » the cash flows reflect the evolution taking into account agreed action plans and are based on the assets in their current condition, without including the impacts of future restructuring not yet committed;
- » only capital expenditure required to maintain the assets in good working order are included; future capital expenditures improving or enhancing the assets in excess of their originally assessed standard of performance are not considered;
- » no cost structure improvements are taken into account unless they can be substantiated; and
- » the cash outflows relating to working capital are calculated as a percentage of incremental sales based on the past performance of BBRG.

The discount factor for all tests is based on a (long-term) pre-tax cost of capital, the risks being implicit in the cash flows. A weighted average cost of capital (WACC) is determined for euro, US dollar and Chinese renminbi regions. For countries or businesses with a higher perceived risk, the WACC is raised with a country or business specific risk factor. Following the buy-out of the minority stakeholder in BBRG and the refinancing of BBRG's financial debt, a specific equity risk premium for BBRG compared to the general Group business context has been considered not appropriate any longer. The WACC is pre-tax based, since relevant cash flows are also pre-tax based. In determining the weight of the cost of debt vs the cost of equity, a target gearing (net debt relative to equity) of 50% is used. For cash flow models stated in real terms (without inflation), the nominal WACC is adjusted for the expected inflation rate. For cash flow models in nominal terms, the nominal WACC is used. All parameters used for the calculation of the discount factors are reviewed at least annually.

Discount rates for impairment testing

2019		EUR region	USD region	CNY region
Group target ratios				
Gearing: net debt/equity	50%			
% debt	33%			
% equity	67%			
% LT debt	75%			
% ST debt	25%			
Cost of Bekaert debt				
Long term interest rate		1.4%	3.5%	5.0%
Short term interest rate		0.5%	2.3%	4.6%
Cost of Bekaert equity (post tax)				
	$= R_f + \beta \cdot E_m$	7.7%	9.5%	12.8%
Risk free rate = R_f		-0.2%	1.6%	4.9%
Beta = β	1.2			
Market equity risk premium = E_m	6.6%			
Corporate tax rate				
	27%			
Cost of Bekaert equity before tax				
		10.6%	13.1%	17.6%
Bekaert WACC - nominal				
Expected inflation		1.7%	1.8%	2.9%
Bekaert WACC in real terms				
		5.8%	8.1%	10.5%

The headroom for impairment, ie the excess of the recoverable amount over the carrying amount of the BBRG CGU is estimated at € 76.9 million (2018: € 121.7 million). This decrease is mainly the result of the updated business plan following the appointment of the new divisional CEO partly offset by lower WACC ratio's. Management is convinced that the profit restoration plan represents an ambitious, but realistic scenario which will bring the projected results conditional to a strict execution and implementation of the various initiatives included in this plan. Based on current knowledge, reasonable changes in key assumptions (including discount rate, sales and margin evolution) would not generate impairments for any of the cash-generating units for which goodwill has been allocated. The following scenario's illustrate the sensitivity of this headroom to changes in the key assumptions of the business plan:

- » If the sales level would be 5% lower in all periods of the business plan, then headroom would be € 44.2 million lower (remaining € 32.7 million);
- » If the percentage Underlying EBITDA on sales would be 0.5% short from the forecasted level in all periods of the business plan, then headroom would be € 34.9 million lower (remaining € 42.0 million);
- » If the Underlying EBITDA would be € 5.0 million short from the forecasted level in all periods of the business plan, then headroom would be € 62.2 million lower (remaining € 14.3 million);
- » The combined effect of a lower sales level by 5% and a lower Underlying EBITDA margin by 0.5%, would result in no headroom left;
- » If the discount factor would be 1% higher, then headroom would be € 64.1 million lower (remaining € 12.8 million);
- » The combined effect of a lower sales level by 5%, a lower underlying EBITDA margin by 0.5% and a higher discount factor with 1% would result in an impairment loss of € 56.1 million.

**Discount rates for impairment testing
2018**

		EUR region	USD region	CNY region
Group target ratios				
Gearing: net debt/equity	50%			
% debt	33%			
% equity	67%			
% LT debt	75%			
% ST debt	25%			
Cost of Bekaert debt				
Long term interest rate		2.0%	3.9%	5.4%
Short term interest rate		0.9%	2.2%	5.0%
Cost of Bekaert equity (post tax)				
	$= R_f + \beta \cdot E_m$	8.3%	10.6%	12.5%
Risk free rate = R_f		0.8%	3.0%	4.9%
Beta = β	1.2			
Market equity risk premium = E_m	6.3%			
Corporate tax rate				
	27%			
Cost of Bekaert equity before tax				
		11.4%	14.5%	17.1%
Bekaert WACC - nominal				
Expected inflation		1.6%	1.9%	2.4%
Bekaert WACC in real terms				
		6.7%	9.0%	10.8%

6.3. Property, plant and equipment

Cost in thousands of €	Land and buildings	Plant, machinery and equipment	Furniture and vehicles	Finance leases	Other PP&E	Assets under construc- tion	Total
As at 1 January 2018	1 113 229	2 681 797	101 692	10 922	11 170	184 349	4 103 159
Expenditure	44 958	181 877	12 145	242	8 698	-49 472	198 449
Disposals and retirements	-17 174	-41 746	-5 158	22	-75	-271	-64 402
Deconsolidations	-395	-707	-330	-	-	-5	-1 437
Transfers ¹	-	-	-	-	-	-9	-9
Reclassification to (-) / from held for sale	16 727	-57	-19	-	-480	-	16 172
Exchange gains and losses (-)	-4 359	1 888	-629	-542	-136	-2 038	-5 815
Inflation effects on opening balances	1 817	2 219	230	-	-	-	4 266
As at 31 December 2018	1 154 803	2 825 271	107 931	10 645	19 178	132 554	4 250 382
As at 1 January 2019	1 154 803	2 825 271	107 931	10 645	19 178	132 554	4 250 382
Expenditure	42 820	98 511	6 958	-	1 017	-50 871	98 434
Disposals and retirements	-1 635	-25 254	-3 517	-	-412	-19	-30 838
Transfers ¹	1 417	1 250	61	-10 645	-2 658	-173	-10 748
Exchange gains and losses (-)	5 647	21 729	318	-	141	1 718	29 554
As at 31 December 2019	1 203 052	2 921 507	111 751	0	17 266	83 209	4 336 784

Accumulated depreciation and impairment

As at 1 January 2018	533 783	1 973 056	81 082	1 620	4 332	-	2 593 874
Charge for the year	41 139	146 068	9 171	486	1 493	-	198 358
Impairment losses	8 092	26 893	156	-	-	-	35 141
Reversal impairment losses and depreciations	-9 845	-4 321	43	-71	-	-	-14 193
Disposals and retirements	-6 104	-39 657	-4 909	22	-12	-	-50 660
Deconsolidations	-186	-595	-255	-	-	-	-1 035
Reclassification to (-) / from held for sale	16 727	-57	-19	-	-2	-	16 650
Exchange gains (-) and losses	1 116	2 532	-436	-66	-97	-	3 049
Inflation effects on opening balances	706	1 641	211	-	-	-	2 557
As at 31 December 2018	585 428	2 105 560	85 045	1 993	5 714	-	2 783 740
As at 1 January 2019	585 428	2 105 560	85 045	1 993	5 714	-	2 783 740
Charge for the year	42 998	134 269	9 113	-	813	-	187 193
Impairment losses	-	23 127	37	-	-	-	23 164
Reversal impairment losses and depreciations	-410	-3 352	-	-	-	-	-3 762
Disposals and retirements	-470	-21 890	-3 263	-	-442	-	-26 064
Transfers ¹	727	-	-	-1 993	-727	-	-1 993
Exchange gains (-) and losses	3 647	14 057	303	-	98	-	18 106
As at 31 December 2019	631 920	2 251 771	91 236	-0	5 457	-	2 980 384

¹ Total transfers equal zero when aggregating the balances of 'Intangible assets' (see note 6.1. 'Intangible assets') and 'Right-of-use property, plant and equipment' (see note 6.4. 'Rights-of-use (RoU) property, plant and equipment') and 'Property, plant and equipment'.

in thousands of €	Land and buildings	Plant, machinery and equipment	Furniture and vehicles	Finance leases	Other PP&E	Assets under construction	Total
Carrying amount as at 31 December 2018 before investment grants and reclassification of leases	569 374	719 712	22 885	8 651	13 464	132 554	1 466 642
Net investment grants	-5 701	-1 493	-	-	-	-	-7 194
Finance leases by asset category	6 534	1 730	387	-8 651	-	-	-
Carrying amount as at 31 December 2018	570 208	719 949	23 272	-	13 464	132 554	1 459 449
Carrying amount as at 31 December 2019 before investment grants and reclassification of leases	571 132	669 736	20 515	0	11 808	83 209	1 356 401
Net investment grants	-5 313	-1 432	-	-	-	-	-6 744
Finance leases by asset category ¹	-	-	-	-	-	-	-
Carrying amount as at 31 December 2019	565 820	668 305	20 515	-	11 808	83 209	1 349 656

¹ Finance leases are as of 2019 reported under 'Right-of-use (RoU) property, plant and equipment' (see note 6.4.).

Capital expenditure included capacity expansions and equipment upgrades across the group, but particularly in Rubber Reinforcement (in its plants in EMEA, North America, India and Indonesia, as well as the start-up of its green field in Vietnam). Capital expenditure in the Steel Wire Solutions business was mainly done in Central Europe, North America and Latin America. In the Specialty Businesses segment, expansion capital expenditure was done in Central Europe and India (Building Products), in Belgium (Fiber Technologies), and in the 3 plants of Combustion Technologies. Finally, capital expenditure in BBRG was mainly in its Advanced Cords plants and to a lower degree in its Ropes entities.

As part of the closure of plants, impairment losses have been recorded in Steel Wire Solutions (North America and Malaysia) and in Specialty Businesses (Belgium).

As per adoption of IFRS 16 'Leases', property, plant and equipment under finance leases are now reported as right-of-use assets (see note 6.4. 'RoU property, plant and equipment').

Inflation accounting only applies in 2018 because of the functional currency switch to US dollar in Venezuela as from 2019.

No items of PP&E were pledged as securities.

6.4. Right-of-use (RoU) property, plant and equipment

This note provides information for leases where the group is a lessee. In principal, the Group does not act as a lessor.

The Group opted to implement IFRS 16 using the modified B approach, meaning that the comparative information for 2018 is not restated and at transition date the lease liability is based on the discounted future cash flows using the incremental borrowing rate and the right-of-use assets are measured at an amount equal to the liabilities (adjusted for accruals and prepayments) with any impact recognized in retained earnings at transition date.

No adjustments had to be made to the RoU asset balance for accruals and prepayments. At transition date, the value of the RoU assets equaled the value of the lease liability without an impact in retained earnings.

The balance sheet showed the following roll-forward during the year relating to right-of-use assets:

Cost in thousands of €	RoU land	RoU buildings	RoU plant, machinery and equipment	RoU industrial vehicles	RoU company cars	RoU office equipment	RoU other PP&E	Total
As at 1 January 2019	-	-	-	-	-	-	-	-
RoU asset at transition date	-	56 370	2 171	8 307	15 868	508	315	83 540
New leases / extensions	13 074	12 827	98	10 715	5 660	1 065	62	43 502
Ending contracts / reductions in contract term	-	-5 147	-300	-3 596	-1 363	-28	-4	-10 438
Transfers ¹	65 246	7 712	2 364	-	500	-	-	75 821
Exchange gains and losses (-)	469	1 102	47	-14	143	1	-	1 748
As at 31 December 2019	78 789	72 863	4 381	15 411	20 808	1 547	373	194 173
Accumulated depreciation and impairment								
As at 1 January 2019	-	-	-	-	-	-	-	-
Charge for the year	1 384	10 844	973	4 959	6 676	304	72	25 212
Ending contracts	-	-2 219	-293	-1 161	-854	-8	-	-4 536
Transfers ¹	15 309	1 178	643	-	173	-	-	17 302
Change in accounting policy	-	7 032	-	-	-	-	-	7 032
Exchange gains (-) and losses	117	-16	9	-17	20	-0	-1	111
As at 31 December 2019	16 809	16 818	1 331	3 781	6 015	296	71	45 121
Carrying amount as at 31 December 2019	61 980	56 045	3 049	11 630	14 793	1 251	302	149 051

¹ Total transfers equal zero when aggregating the balances of 'Intangible assets' (see note 6.1. 'Intangible assets') and 'Property, plant and equipment' (see note 6.3. 'Property, plant and equipment') and 'Right-of-use property, plant and equipment'.

In 2018, the Group only recognized assets and liabilities in relation to leases that were classified as 'finance leases' under IAS 17 'Leases'. The assets were presented in property, plant and equipment and the liabilities were part of the Group's borrowings. The assets were reclassified to RoU property, plant and equipment in transition to IFRS 16 'Leases'. In 2018, the Group recognized rights to use land as intangible assets. These rights are paid upfront which means that no liability is recognized for them in the balance sheet. The rights to use land are reclassified from the intangible assets to the RoU property, plant and equipment category in transition to IFRS 16 'Leases'.

In transition to IFRS 16 'Leases', a provision for an onerous lease contract has been reclassified as an accumulated depreciation of the related right-of-use asset for an amount of € 7.0 million bringing the net present value of the asset to zero.

The Group leases various plants, offices, warehouses, equipment, industrial vehicles, company cars, servers and small office equipment like printers. Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, for leases of company cars and industrial vehicles for which the Group is a lessee, it has elected not to separate lease and non-lease components and instead account for these as a single lease component. The main non-lease components included in the lease component relate to costs for maintenance and for replacement of tires. The Group applied the practical expedient for low value assets to leases of printers and small office equipment. The Group applied the practical expedient for short term leases (defined as leases with a lease term of 12 months or less). There were no contracts with dismantling costs, residual value guarantees or initial direct costs,

nor contracts with variable lease expenses other than those linked to an index or rate.

The average lease term for the RoU assets (excluding the RoU land) was 10.3 years. RoU buildings had an average lease term of 14 years and the other categories of PP&E (excluding land) had an average lease term between 4 and 5 years. RoU land relates to land use rights that were paid in advance and had an average useful life of 53 years.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Group, the lessee's incremental borrowing rate is used to discount the future lease payments. The incremental borrowing rate is the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

The incremental borrowing rate is determined by Group Treasury, taking into account the market rate per currency for different relevant time buckets and the credit margin for each individual company based on its credit rating. The incremental borrowing rate is calculated as the total of both elements. The weighted average discount rate at the end of 2019 was 3.71%.

The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. For further information on the lease liability, we refer to note 6.18. 'Interest-bearing debt'.

The Group is exposed to potential future increases in variable lease payments, based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Right-of-use assets were generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

The income statement showed the following amounts relating to leases:

in thousands of €	RoU land	RoU buildings	RoU plant, machinery and equipment	RoU office equipment	RoU industrial vehicles	RoU company cars	RoU other PP&E	Total
Depreciation charge of right-of-use assets	-1 384	-10 844	-973	-4 959	-6 676	-304	-72	-25 212
Interest expense (included in finance cost)								-3 689
Expense relating to short-term leases								-695
Expense relating to low-value leases								-669
Total								-30 264

The remaining operating lease expenses in the operating result mainly related to costs linked to leased assets such as fuel for company cars, non-deductible VAT on company car contracts and property taxes on buildings.

The total cash outflow for leases in 2019 was € 29.1 million.

The following table shows the reconciliation between the future operating lease expenses as disclosed in 2018 under note 7.3. 'Contingencies and commitments' and the lease liability under IFRS 16 'Leases' at transition date.

in thousands of €	1 January 2019
Operating lease commitments at 31 December 2018 as disclosed in the Group's consolidated financial statements	96 571
- Recognition exemption for leases of low-value assets	-1 496
- Exclusion of service contracts	-389
Total	94 686
Discounted using the incremental borrowing rate at 1 January 2019	76 508
Finance lease liabilities recognized as at 31 December 2018	2 664
Lease liability linked to onerous lease contract	7 032
Lease liabilities recognized at 1 January 2019	86 203

The expenses linked to service contracts related to contracts where there is no identified asset such as expenses linked to the rent of undetermined space and handling of goods in warehouses.

6.5. Investments in joint ventures and associates

In 2019 and 2018, the Group had no investments in entities qualified as associates.

Investments excluding related goodwill

Carrying amount in thousands of €	2018	2019
As at 1 January	159 328	148 221
Capital increases and decreases	188	128
Result for the year	24 875	28 959
Dividends	-19 951	-19 506
Exchange gains and losses	-16 240	-2 511
Other comprehensive income	21	11
As at 31 December	148 221	155 302

For an analysis of the result for the year, please refer to note 5.7. 'Share in the results of joint ventures and associates'.

Exchange gains and losses related mainly to the evolution of the Brazilian real versus the euro which remained stable in 2019 while there was a substantial evolution noted in 2018 (4.4 BRL/EUR end 2018 vs 4.0 BRL/EUR end 2017).

Capital increases related to Servicios Ideal AGF Inttegra Cía Ltda, a 50/50 joint venture established in Ecuador by Ideal Alambrec SA and Steel-AGF Ecuador SA.

Related goodwill

Cost in thousands of €	2018	2019
As at 1 January	6 096	5 450
Exchange gains and losses	-646	-87
As at 31 December	5 450	5 363
Carrying amount of related goodwill as at 31 December	5 450	5 363
Total carrying amount of investments in joint ventures as at 31 December	153 671	160 665

The Group's share in the equity of joint ventures is analysed as follows:

in thousands of €		2018	2019
Joint ventures			
Belgo Bekaert Arames Ltda	Brazil	98 571	102 421
BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	Brazil	49 470	52 686
Servicios Ideal AGF Inttegra Cía Ltda	Ecuador	180	195
Total for joint ventures excluding related goodwill		148 221	155 302
Carrying amount of related goodwill		5 450	5 363
Total for joint ventures including related goodwill		153 671	160 665

The Brazilian joint ventures have been trying to compensate ICMS tax receivables with a total carrying amount of € 2.7 million (2018: € 3.8 million). They have also been facing claims relating to ICMS credits totaling € 8.9 million (2018: € 7.5 million). Several other tax claims, most of which date back several years, were filed for a total nominal amount of € 14.3 million (2018: € 19.6 million). Evidently, any potential gains and losses resulting from the above mentioned contingencies would only affect the Group to the extent of their interest in the joint ventures involved (i.e. 45%).

Unrecognized commitments to acquire property, plant and equipment amounted to € 11.1 million (2018: € 9.1 million), including € 9.8 million (2018: € 7.4 million) from other Bekaert companies. Furthermore, the Brazilian joint ventures have unrecognized commitments to purchase electricity over the next five years for an aggregate amount of € 45.6 million (2018: € 56.4 million).

In accordance with IFRS 12 'Disclosures of Interests in Other Entities', following information is provided on material joint ventures. The two Brazilian joint ventures have been aggregated in order to emphasize the predominance of the partnership with Arcelor-Mittal when analyzing the relative importance of the joint ventures.

**Proportion of ownership interest
(and voting rights) held by the
Group at year-end**

Name of joint venture in thousands of €	Country	2018	2019
Belgo Bekaert Arames Ltda	Brazil	45.0% (50.0%)	45.0% (50.0%)
BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	Brazil	44.5% (50.0%)	44.5% (50.0%)

Brazilian joint ventures: income statement

in thousands of €	2018	2019
Sales	819 005	850 227
Operating result (EBIT)	85 229	91 292
Interest income	7 108	11 873
Interest expense	-10 197	-10 440
Other financial income and expenses	-1 151	-1 807
Income taxes	-12 842	-16 366
Result for the period	68 147	74 552
Other comprehensive income for the period	46	25
Total comprehensive income for the period	68 193	74 577
Depreciation and amortization	21 718	24 050
EBITDA	106 947	115 342
Dividends received from the entity	19 951	19 506

Brazilian joint ventures: balance sheet

in thousands of €	2018	2019
Current assets	263 364	256 465
Non-current assets	250 439	254 482
Current liabilities	-132 774	-127 800
Non-current liabilities	-52 382	-39 493
Net assets	328 647	343 654

Brazilian joint ventures: net debt elements in thousands of €	2018	2019
Non-current interest-bearing debt	12 333	1 541
Current interest-bearing debt	16 990	19 900
Total financial debt	29 323	21 441
Non-current financial receivables and cash guarantees	-29 628	-18 955
Cash and cash equivalents	-20 520	-21 263
Net debt	-20 825	-18 777

There were no restrictions to transfer funds in the form of cash and dividends.
Bekaert had no commitments or contingent liabilities versus its Brazilian joint ventures.

Brazilian joint ventures: reconciliation with carrying amount in thousands of €	2018	2019
Net assets of Belgo Bekaert Arames Ltda	218 145	226 735
Proportion of the Group's ownership interest	45.0%	45.0%
Proportionate net assets	98 165	102 031
Consolidation adjustments	406	390
Carrying amount of the Group's interest in Belgo Bekaert Arames Ltda	98 571	102 421
Net assets of BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	110 502	116 919
Proportion of the Group's ownership interest	44.5%	44.5%
Proportionate net assets	49 173	52 029
Consolidation adjustments	297	657
Carrying amount of the Group's interest in BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	49 470	52 686
Carrying amount of the Group's interest in the Brazilian joint ventures	148 041	155 107

The following table reflects aggregate information for the other joint ventures which were not deemed material in this context.

Aggregate information of the other joint ventures in thousands of €	2018	2019
The Group's share in the result from continuing operations	-15	-119
The Group's share of other comprehensive income	6	6
The Group's share of total comprehensive income	-9	-113
Aggregate carrying amount of the Group's interests in these joint ventures	180	196

6.6. Other non-current assets

in thousands of €	2018	2019
Non-current financial receivables and cash guarantees	7 332	6 518
Reimbursement rights and other non-current amounts receivable	2 958	2 767
Derivatives (cf. note 7.2.)	1 407	3 374
Overfunded employee benefit plans - non-current	11 428	10 470
Equity investments at FVTOCI	11 153	13 152
Total other non-current assets	34 279	36 281

The overfunded employee benefit plans related to the UK pension plans (see note 6.16. 'Employee benefit obligations').

Equity investments at FVTOCI

Carrying amount in thousands of €	2018	2019
As at 1 January	16 400	11 153
Expenditure	133	-
Fair value changes	-5 311	2 372
Other movements	-	-328
Exchange gains and losses	-70	-45
As at 31 December	11 153	13 152

The equity investments designated as at fair value through OCI (FVTOCI) in accordance with IFRS 9 'Financial Instruments' mainly consisted of:

- » Shougang Concord Century Holdings Ltd, a Hong Kong Stock Exchange listed company. On this investment, an increase in fair value of € 0.5 million was recognized through OCI (2018: € -1.3 million).
- » Bekaert Xinyu Metal Products Co Ltd. On this investment, an increase in fair value of € 1.9 million was recognized through OCI (2018: € -4.0 million).
- » Transportes Puelche Ltda, an investment held by Acma SA and Prodalam SA (Chile).

For more information on the revaluation reserve for investments designated as at fair value through equity, see note 6.14. 'Retained earnings and other Group reserves'.

6.7. Deferred tax assets and liabilities

Carrying amount in thousands of €	Assets		Liabilities	
	2018	2019	2018	2019
As at 1 January	140 717	138 403	44 382	37 892
Increase or decrease via income statement	5 475	-5 981	-1 597	-11 351
Increase or decrease via OCI	-2 800	1 552	983	-270
Deconsolidations	-409	-	75	-
Change in accounting policies	-646	15 891	-646	15 891
Exchange gains and losses	-1 431	1 158	-2 802	710
Change in set-off of assets and liabilities	-2 503	-8 690	-2 503	-8 690
As at 31 December	138 403	142 333	37 892	34 182

Recognized deferred tax assets and liabilities

Deferred tax assets and liabilities were attributable to the following items:

in thousands of €	Assets		Liabilities		Net assets	
	2018	2019	2018	2019	2018	2019
Intangible assets	30 846	23 178	10 050	11 159	20 796	12 019
Property, plant and equipment	50 966	52 680	36 146	50 334	14 820	2 346
Financial assets	78	8	15 872	16 140	-15 794	-16 132
Inventories	9 864	9 915	4 401	3 238	5 463	6 677
Receivables	3 832	4 049	145	189	3 687	3 860
Other current assets	99	1 084	4 351	1 926	-4 252	-842
Employee benefit obligations	19 849	21 074	173	132	19 676	20 942
Other provisions	5 394	3 956	1 685	483	3 709	3 473
Other liabilities	15 706	27 561	13 835	8 036	1 871	19 525
Tax deductible losses carried forward, tax credits and recoverable income taxes	50 535	56 283	-	-	50 535	56 283
Tax assets / liabilities	187 169	199 788	86 658	91 637	100 511	108 151
Set-off of assets and liabilities	-48 766	-57 455	-48 766	-57 455	-	-
Net tax assets / liabilities	138 403	142 333	37 892	34 182	100 511	108 151

The deferred taxes on property, plant and equipment mainly related to differences in useful lives between IFRS and tax books, whereas the deferred taxes on intangible assets were mainly generated by intercompany gains which have been eliminated in the consolidated statements. The deferred taxes on employee benefit obligations were mainly generated by temporary differences arising from recognition of liabilities in accordance with IAS 19 'Employee Benefits'. The deferred tax liabilities on financial assets mainly related to temporary differences arising from undistributed profits from subsidiaries and joint ventures.

The variation in deferred tax position related to property, plant and equipment, and other liabilities was affected for € 15.9 million by the transition to IFRS 16 'Leases'.

Movements in deferred tax assets and liabilities arose from the following:

2018 in thousands of €	As at 1 January	Recognized via income statement	Recognized via OCI	Acquisitions and disposals ¹	Change in accounting policies	Exchange gains and losses	As at 31 December
Temporary differences							
Intangible assets	37 164	-16 361	-	3	-	-10	20 796
Property, plant and equipment	11 676	1 624	-	-78	-	1 598	14 820
Financial assets	-17 302	2 477	-982	-	-	13	-15 794
Inventories	8 673	-2 989	-	-148	-	-73	5 463
Receivables	7 523	-3 876	-	-4	-	44	3 687
Other current assets	-3 478	-1 411	-76	-	-	713	-4 252
Employee benefit obligations	21 542	1 012	-2 725	-158	-	5	19 676
Other provisions	2 089	1 639	-	-	-	-19	3 709
Other liabilities	-3 702	6 174	-	-	-	-601	1 871
Tax deductible losses carried forward, tax credits and recoverable income taxes	32 150	18 783	-	-99	-	-299	50 535
Total	96 335	7 072	-3 783	-484	-	1 371	100 511

2019 in thousands of €	As at 1 January	Recognized via income statement	Recognized via OCI	Acquisitions and disposals	Change in accounting policies ²	Exchange gains and losses	As at 31 December
Temporary differences							
Intangible assets	20 796	-8 461	-	-	-	-316	12 019
Property, plant and equipment	14 820	1 628	-	-	-14 203	101	2 346
Financial assets	-15 794	-670	427	-	-	-95	-16 132
Inventories	5 463	1 327	-	-	-	-113	6 677
Receivables	3 687	264	-	-	-	-91	3 860
Other current assets	-4 252	3 455	-	-	-	-45	-842
Employee benefit obligations	19 676	-284	1 570	-	-	-20	20 942
Other provisions	3 709	1 612	-175	-	-1 688	15	3 473
Other liabilities	1 871	1 401	-	-	15 891	362	19 525
Tax deductible losses carried forward, tax credits and recoverable income taxes	50 535	5 098	-	-	-	650	56 283
Total	100 511	5 370	1 822	-	-	448	108 151

¹ The acquisitions and disposals in 2018 related to the disposal of the drying activities.

² Related to the initial application of IFRS 16 'Leases'. See note 6.4. 'RoU property, plant and equipment'.

Deferred taxes related to other comprehensive income (OCI)

2018 in thousands of €	Before tax	Tax impact	After tax
Exchange differences	-36 324	-	-36 324
Inflation adjustments	2 535	-	2 535
Cash flow hedges	475	-76	399
Net fair value gain (+) / loss (-) on investments in equity instruments	-5 311	-	-5 311
Remeasurement gains and losses on defined-benefit plans	-1 387	-3 707	-5 094
Share of OCI of joint ventures and associates	21	-	21
Total	-39 991	-3 783	-43 774

2019 in thousands of €	Before tax	Tax impact	After tax
Exchange differences	14 392	-	14 392
Net fair value gain (+) / loss (-) on investments in equity instruments	2 372	-	2 372
Remeasurement gains and losses on defined-benefit plans	-833	1 822	989
Share of OCI of joint ventures and associates	11	-	11
Total	15 942	1 822	17 764

Unrecognized deferred tax assets

Deferred tax assets related to deductible temporary differences have not been recognized for a gross amount of € 239.8 million (2018: € 213.9 million). The unrecognized deferred tax assets in respect of tax losses and tax credits are presented in the table by expiry date below.

Capital losses, trade losses and tax credits by expiry date

The following table presents the gross amounts of the tax losses and tax credits generating deferred tax assets of which some were unrecognized.

2018 in thousands of €		Expiring within 1 year	Expiring between 1 and 5 years	Expiring after more than 5 years	Not expiring	Total
Capital losses	<i>Gross value</i>	1 051	-	1 919	29 792	32 762
	<i>Allowance</i>	-1 051	-	-1 919	-29 792	-32 762
	<i>Net balance</i>	-	-	-	-	-
Trade losses	<i>Gross value</i>	34 500	87 441	121 218	571 743	814 902
	<i>Allowance</i>	-21 880	-65 492	-60 717	-488 830	-636 919
	<i>Net balance</i>	12 620	21 949	60 501	82 913	177 983
Tax credits	<i>Gross value</i>	5 176	22 608	38 361	16 982	83 127
	<i>Allowance</i>	-2 307	-22 608	-16 035	-13 562	-54 512
	<i>Net balance</i>	2 869	-	22 326	3 420	28 615
Total	<i>Gross value</i>	40 727	110 049	161 498	618 517	930 791
	<i>Allowance</i>	-25 238	-88 100	-78 671	-532 184	-724 193
	<i>Net balance</i>	15 489	21 949	82 827	86 333	206 598

2019 in thousands of €		Expiring within 1 year	Expiring between 1 and 5 years	Expiring after more than 5 years	Not expiring	Total
Capital losses	<i>Gross value</i>	-	-	574	35 524	36 098
	<i>Allowance</i>	-	-	-574	-35 524	-36 098
	<i>Net balance</i>	-	-	-	-	-
Trade losses	<i>Gross value</i>	24 698	86 514	155 343	645 801	912 356
	<i>Allowance</i>	-15 857	-51 380	-132 007	-508 934	-708 178
	<i>Net balance</i>	8 841	35 134	23 336	136 867	204 178
Tax credits	<i>Gross value</i>	2 756	22 695	35 958	19 899	81 308
	<i>Allowance</i>	-	-22 695	-13 496	-17 096	-53 287
	<i>Net balance</i>	2 756	-	22 462	2 803	28 021
Total	<i>Gross value</i>	27 454	109 209	191 875	701 224	1 029 762
	<i>Allowance</i>	-15 857	-74 075	-146 077	-561 554	-797 563
	<i>Net balance</i>	11 597	35 134	45 798	139 670	232 199

The upper table represents the base amounts generating the net deferred tax assets (2019: € 56.3 million (2018: € 50.5 million)).

Deferred tax assets were recognized only to the extent that it was probable that future taxable profits would be available, taking into account all evidence, both positive and negative. This assessment was done using prudent estimates based on the business plan for the entity concerned, typically using a five year time horizon.

In some countries, deferred tax assets on capital losses, trade losses and tax credits were recognized to the extent of uncertain tax provisions recognized, in order to reflect that some audit adjustments would result in an adjustment of the amount of tax losses rather than in a cash tax out for the entity concerned.

6.8. Operating working capital

in thousands of €	2018	2019
<i>Raw materials</i>	200 622	139 985
<i>Consumables and spare parts</i>	100 916	91 125
<i>Work in progress</i>	154 598	136 425
<i>Finished goods</i>	330 625	282 018
<i>Goods purchased for resale</i>	145 047	133 477
Inventories	931 808	783 030
Trade receivables	772 731	644 908
Bills of exchange received	57 727	59 904
Advances paid	20 067	15 820
Trade payables	-778 438	-652 384
Advances received	-11 259	-18 791
Remuneration and social security payables	-112 112	-125 051
Employment-related taxes	-5 867	-8 543
Operating working capital	874 657	698 893

Carrying amount in thousands of €	2018	2019
As at 1 January	887 586	874 657
Organic increase or decrease	11 313	-171 466
Write-downs and write-down reversals	-11 284	-7 072
Deconsolidations	-2 627	-
Impact inflation accounting	1 665	-
Exchange gains and losses (-)	-11 996	2 774
As at 31 December	874 657	698 893

Weighted average operating working capital represented 18.2% of sales (2018: 20.4%).

Additional information is as follows:

» Inventories

The cost of sales included expenses related to transport and handling of finished goods amounting to € 182.7 million (2018: € 191.0 million), which have never been capitalized in inventories. Movements in inventories in 2019 included write-downs of € -38.1 million (2018: € -32.2 million) and reversals of write-downs of € 31.5 million (2018: € 21.3 million).

Similar as in 2018, in 2019 no inventories were pledged as security for liabilities.

» Trade receivables and bills of exchange received

At year-end 2019, the carrying amount of the trade receivables involved in the factoring program amounted to € 121.1 million (2018: 73.9 million).

The following table presents the movements in the allowance for bad debt on trade receivables. No allowance was posted for bills of exchange received.

Allowance for bad debt in thousands of €	2018	2019
As at 1 January	-40 880	-40 818
Losses recognized in current year	-4 167	-6 417
Losses recognized in prior years - amounts used	401	626
Losses recognized in prior years - reversal of amounts not used	3 251	5 345
Deconsolidations	19	-
Exchange gains and losses (-)	558	69
Other	-	-492
As at 31 December	-40 818	-41 687

More information about allowances and past-due receivables is provided in the following table:

Trade receivables and bills of exchange received in thousands of €	2018	2019
Gross amount	871 276	746 499
Allowance for bad debts (impaired)	-40 818	-41 687
<i>specific allowance for bad debts</i>	<i>-28 078</i>	<i>-30 348</i>
<i>general allowance for bad debts</i>	<i>-12 740</i>	<i>-11 339</i>
Net carrying amount	830 458	704 812

In accordance with the IFRS 9 'expected credit loss' model for financial assets, a general bad debt allowance is made for trade receivables to cover the unknown bad debt risk at each reporting date. This general allowance constitutes of a percentage on outstanding trade receivables at each reporting date. The percentages are taking into account historical information on losses on trade receivables and are reviewed year-on-year. For more information on credit enhancement techniques, see note 7.2. 'Financial risk management and financial derivatives'.

6.9. Other receivables

Carrying amount in thousands of €	2018	2019
As at 1 January	126 876	130 379
Increase or decrease	5 038	-21 786
Write-downs (-) and write-down reversals	-1 155	-2
Deconsolidations	-733	-
Exchange gains and losses	353	3 024
As at 31 December	130 379	111 615

Other receivables mainly related to income taxes (€ 43.3 million (2018: € 49.5 million)), VAT and other taxes (€ 53.0 million (2018: € 65.0 million)), social loans to employees (€ 4.3 million (2018: € 4.4 million)) and dividends from joint ventures (€ 1.6 million (2018: € 0.3 million)). See also note 6.21. 'Tax positions'. Write-downs of other receivables are included in note 5.5. 'Other financial income and expense'.

6.10. Cash & cash equivalents and short-term deposits

Carrying amount in thousands of €	2018	2019
Cash & cash equivalents	398 273	566 176
Short-term deposits	50 036	50 039

For the changes in cash & cash equivalents, please refer to the consolidated cash flow statement and to note 7.1. 'Notes to the cash flow statement'. Cash equivalents and short-term deposits did not include any listed securities or equity instruments at the balance sheet date.

6.11. Other current assets

Carrying amount in thousands of €	2018	2019
Financial receivables and cash guarantees	20 186	8 779
Advances paid	20 067	15 820
Derivatives (cf. note 7.2.)	8 045	4 623
Deferred charges and accrued income	10 132	11 289
As at 31 December	58 430	40 510

The financial receivables and cash guarantees mainly related to receivables from the disposal of the majority stake in the rubber reinforcement plant Sumaré (Brazil) in 2017 (€ 4.6 million, same amount as in 2018) and various cash guarantees (€ 2.5 million (2018: € 3.1 million)). In 2018, they also included the disposal of the drying activities (€ 0.8 million) and a receivable towards OVAM (€ 10.2 million) relating to an environmental provision in Belgium.

6.12. Assets classified as held for sale and liabilities associated with those assets

Carrying amount (net) in thousands of €	2018	2019
As at 1 January	8 093	546
Increases and decreases (-)	-7 524	-86
Exchange gains and losses	-23	6
As at 31 December	546	466

in thousands of €	2018	2019
Property, plant and equipment	460	466
Trade receivables	5	-
Advances paid to vendors	66	-
Other current assets	15	-
Total assets classified as held for sale	546	466
Trade payables	45	-
Other current liabilities	40	-
Total liabilities associated with assets classified as held for sale	85	-

The assets classified as held for sale related to property received as payment by customers in Ecuador and Peru (€ 0.5 million (2018: € 0.5 million)).

6.13. Ordinary shares, treasury shares and equity-settled share-based payments

Issued capital in thousands of €		2018		2019	
		Nominal value	Number of shares	Nominal value	Number of shares
1	As at 1 January	177 690	60 373 841	177 793	60 408 441
	Movements in the year				
	<i>Issue of new shares</i>	103	34 600	-	-
	As at 31 December	177 793	60 408 441	177 793	60 408 441
2	Structure				
2.1	Classes of ordinary shares				
	<i>Ordinary shares without par value</i>	177 793	60 408 441	177 793	60 408 441
2.2	Registered shares		21 857 284		21 834 895
	Non-material shares		38 551 157		38 573 546
	Authorized capital not issued	176 000		176 000	

No subscription rights were exercised under the Company's SOP 2005-2009 stock option plan in 2019, resulting in no issue of new shares of the Company.

On 31 December 2018, the Company held 3 902 032 treasury shares. Of these 3 902 032 treasury shares, 13 787 shares were transferred to the Chairman of the Board of Directors as part of his fixed remuneration and 13 670 shares were transferred to members of the BGE pursuant to the Company share-matching plan. In addition, 1 500 stock options were exercised under the Stock Option Plan 2015-2017 and 1 500 treasury shares were used for that purpose. The Company did not purchase any shares in the course of 2019 and no treasury shares were cancelled. As a result, the Company held an aggregate 3 873 075 treasury shares as of 31 December 2019.

Stock option plans ('SOP')

Details of the stock option plans which showed an outstanding balance either at the balance sheet date or at the previous balance sheet date, are as follows:

Overview of SOP2 Stock Option Plan

Date offered	Date granted	Exercise price (in €)	Number of options			Out-standing	First exercise period	Last exercise period
			Granted	Exercised	Forfeited			
21.12.2006	19.02.2007	30.175	37 500	27 500	-	10 000	22.05 - 15.11 - 30.06.2010 15.12.2021	
20.12.2007	18.02.2008	28.335	30 630	11 310	-	19 320	22.05 - 15.11 - 30.06.2011 15.12.2022	
18.12.2008	16.02.2009	16.660	64 500	64 500	-	-	22.05 - 15.11 - 30.06.2012 15.12.2018	
17.12.2009	15.02.2010	33.990	49 500	5 000	44 500	-	22.05 - 15.11 - 30.06.2013 15.12.2019	
			182 130	108 310	44 500	29 320		

Overview of SOP 2005-2009 Stock Option Plan

Date offered	Date granted	Date of issue of subscription rights	Exercise price (in €)	Number of subscription rights				Out-standing	First exercise period	Last exercise period
				Granted	Exercised	Forfeited				
22.12.2005	20.02.2006	22.03.2006	23.795	190 698	184 283	15	6 400	22.05 - 30.06.2009	15.11 - 15.12.2020	
21.12.2006	19.02.2007	22.03.2007	30.175	153 810	144 240	600	8 970	22.05 - 30.06.2010	15.11 - 15.12.2021	
20.12.2007	18.02.2008	22.04.2008	28.335	215 100	147 550	12 700	54 850	22.05 - 30.06.2011	15.11 - 15.12.2022	
18.12.2008	16.02.2009	20.10.2009	16.660	288 150	268 650	19 500	-	22.05 - 30.06.2012	15.11 - 15.12.2018	
17.12.2009	15.02.2010	08.09.2010	33.990	225 450	69 600	155 850	-	22.05 - 30.06.2013	15.11 - 15.12.2019	
				1 073 208	814 323	188 665	70 220			

Overview of SOP 2010-2014 Stock Option Plan

Date offered	Date granted	Exercise price (in €)	Number of options				Out-standing	First exercise period	Last exercise period
			Granted	Exercised	Forfeited				
16.12.2010	14.02.2011	77.000	360 925	-	65 200	295 725	28.02 - 13.04.2014	Mid Nov. - 15.12.2020	
22.12.2011	20.02.2012	25.140	287 800	231 100	2 600	54 100	27.02 - 12.04.2015	Mid Nov. - 21.12.2021	
20.12.2012	18.02.2013	19.200	267 200	215 342	2 700	49 158	End Feb. - 10.04.2016	Mid Nov. - 19.12.2022	
29.03.2013	28.05.2013	21.450	260 000	126 000	-	134 000	End Feb. - 09.04.2017	End Feb. - 28.03.2023	
19.12.2013	17.02.2014	25.380	373 450	188 250	2 400	182 800	End Feb. - 09.04.2017	Mid Nov. - 18.12.2023	
18.12.2014	16.02.2015	26.055	349 810	22 000	18 510	309 300	End Feb. - 08.04.2018	Mid Nov. - 17.12.2024	
				1 899 185	782 692	91 410	1 025 083		

Overview of SOP 2015-2017 Stock Option Plan

Date offered	Date granted	Exercise price (in €)	Number of options				Out-standing	First exercise period	Last exercise period
			Granted	Exercised	Forfeited				
17.12.2015	15.02.2016	26.375	227 250	1 500	4 500	221 250	End Feb. - 07.04.2019	Mid Nov. - 16.12.2025	
15.12.2016	13.02.2017	39.426	273 325	-	4 875	268 450	End Feb. - 12.04.2020	Mid Nov. - 14.12.2026	
21.12.2017	20.02.2018	34.600	225 475	-	3 500	221 975	End Feb. - 11.04.2021	Mid Nov. - 20.12.2027	
				726 050	1 500	12 875	711 675		

SOP2 Stock Option Plan	2018		2019	
	Number of options	Weighted average exercise price (in €)	Number of options	Weighted average exercise price (in €)
Outstanding as at 1 January	87 820	29.549	73 820	31.993
Forfeited during the year	-	-	-44 500	33.990
Exercised during the year	-14 000	16.660	-	-
Outstanding as at 31 December	73 820	31.993	29 320	28.963

SOP 2005-2009 Stock Option Plan	2018		2019	
	Number of subscription rights	Weighted average exercise price (in €)	Number of subscription rights	Weighted average exercise price (in €)
Outstanding as at 1 January	208 170	29.142	173 570	31.630
Forfeited during the year	-	-	-103 350	33.990
Exercised during the year	-34 600	16.660	-	-
Outstanding as at 31 December	173 570	31.630	70 220	28.156

SOP 2010-2014 Stock Option Plan	2018		2019	
	Number of options	Weighted average exercise price (in €)	Number of options	Weighted average exercise price (in €)
Outstanding as at 1 January	1 075 993	38.972	1 025 083	39.653
Forfeited during the year	-13 710	26.055	-	-
Exercised during the year	-37 200	24.969	-	-
Outstanding as at 31 December	1 025 083	39.653	1 025 083	39.653

SOP 2015-2017 Stock Option Plan	2018		2019	
	Number of options	Weighted average exercise price (in €)	Number of options	Weighted average exercise price (in €)
Outstanding as at 1 January	493 075	33.530	718 550	33.866
Granted during the year	225 475	34.600	-	-
Forfeited during the year	-	-	-5 375	36.283
Exercised during the year	-	-	-1 500	26.375
Outstanding as at 31 December	718 550	33.866	711 675	33.863

Weighted average remaining contractual life

in years	2018	2019
SOP2	1.4	2.6
SOP 2005-2009	2.0	2.6
SOP 2010-2014	4.2	3.2
SOP 2015-2017	8.0	7.0

As there were no options or subscription rights exercised in 2019, there was no weighted average share price for the SOP2 options (2018: € 22.26), for the SOP 2005-2009 subscription rights (2018: € 25.49) and for the SOP 2010-2014 options (2018: € 38.22). For the SOP 2015-2017 options, the weighted average share price at the date of exercise in 2019 was € 26.38 (2018: n/a). The exercise price of the subscription rights and options is equal to the lower of (i) the average closing price of the Company's share during the thirty days preceding the date of the offer, and (ii) the last closing price preceding the date of the offer. When subscription rights are exercised under the SOP 2005-2009 plan, equity is increased by the amount of the proceeds received. Under the terms of the SOP2 plan any subscription rights or options granted through 2004 were vested immediately.

Under the terms of the SOP 2010-2014 stock option plan, options to acquire existing Company shares have been offered to the members of the Bekaert Group Executive, the Senior Vice Presidents and senior executive personnel during the period 2010-2014. The grant dates of each offering were scheduled in the period 2011-2015. The exercise price of the SOP 2010-2014 options was determined in the same manner as in the previous plans. The vesting conditions of the SOP 2010-2014 grants, as well as of the SOP 2005-2009 grants and of the SOP2 grants beginning in 2006, are such that the subscription rights or options will be fully vested on 1 January of the fourth year after the date of the offer. In accordance with the Economic Recovery Act of 27 March 2009, the exercise period of the SOP2 options and SOP 2005-2009 subscription rights granted in 2006, 2007 and 2008 was extended by five years in favor of the persons who were plan beneficiaries and subject to Belgian income tax at the time such extension was offered.

The options granted under SOP2, SOP 2010-2014 and SOP 2015-2017 and the subscription rights granted under SOP 2005-2009 are recognized at fair value at grant date in accordance with IFRS 2 (see note 6.14. 'Retained earnings and other Group reserves'). The fair value of the options is determined using a binomial pricing model. For the tranches that entailed an expense in the current or prior period, inputs and outcome of this pricing model are detailed below:

Pricing model details Stock option plan 2015-2017	Granted in February 2016	Granted in February 2017	Granted in February 2018
Inputs to the model			
Share price at grant date (in €)	27.25	39.39	37.40
Exercise price (in €)	26.38	39.43	34.60
Expected volatility	39%	39%	39%
Expected dividend yield	3%	3%	3%
Vesting period (years)	3.00	3.00	3.00
Contractual life (years)	10	10	10
Employee exit rate	3%	3%	3%
Risk-free interest rate	0.05%	-0.18%	0.08%
Exercise factor	1.40	1.40	1.40
Outcome of the model			
Fair value (in €)	7.44	10.32	10.61
Outstanding options	221 250	268 450	221 975

The model allows for the effects of early exercise through an exercise factor. An exercise factor of 1.40 stands for the assumption that the beneficiaries exercise the options and the subscription rights after the vesting date when the share price exceeds the exercise price by 40% (on average).

During 2019, no options (2018: 225 475) were granted under SOP 2015-2017 (2018: at a fair value per unit of € 10.61). The Group has recorded an expense against equity of € 1.8 million (2018: € 2.6 million) for the options granted, based on their fair value and vesting period.

Performance Share Plan ('PSP')

The members of the Bekaert Group Executive, the senior management and a limited number of management staff members of the Company and a number of its subsidiaries received Performance Share Units entitling the beneficiary to acquire Performance Shares: (1) during 2015, 2016 and 2017 subject to the conditions of the Performance Share Plan 2015-2017 and (2) in 2019 under the conditions of the Performance Share Plan 2018-2020. These Performance Share Units will vest following a vesting period of three years, conditional to the achievement of a pre-set performance target. The performance target was set by the Board of Directors, in line with the Company strategy. For more information we refer to the 'Remuneration Report' in the 'Report of the Board of Directors'.

Overview of Performance Share Plan

	Date granted	Number of units					Out-standing	Expiry date
		Granted	Delivered	Forfeited	Expired			
PSP 2015-2017	17.12.2015	50 850	-	1 533	49 317	-	31.12.2018	
PSP 2015-2017	29.02.2016	10 000	-	-	10 000	-	31.12.2018	
PSP 2015-2017	30.06.2016	2 500	-	-	2 500	-	31.12.2018	
PSP 2015-2017	15.12.2016	52 450	-	3 917	48 533	-	31.12.2019	
PSP 2015-2017	06.03.2017	10 000	-	-	10 000	-	31.12.2019	
PSP 2015-2017	01.09.2017	5 000	-	-	5 000	-	31.12.2019	
PSP 2015-2017	21.12.2017	55 250	-	4 300	-	50 950	31.12.2020	
PSP 2018-2020	15.02.2019	178 233	-	7 276	-	170 957	31.12.2021	
PSP 2018-2020	26.07.2019	35 663	-	-	-	35 663	31.12.2021	
		399 946	-	17 026	125 350	257 570		

The Performance Share Units granted under these plans are recognized at fair value at grant date in accordance with IFRS 2 (see note 6.14. 'Retained earnings and other Group reserves'). The fair value of the Performance Share Units under the PSP 2015-2017 is determined using a binomial pricing model. For the outstanding tranches, inputs and outcome of the pricing model are detailed below:

Pricing model details <i>Performance Share Plan</i>	Granted in					
	February 2016	July 2016	December 2016	March 2017	September 2017	December 2017
Inputs to the model						
Share price at grant date (in €)	32.00	38.38	39.49	46.90	40.58	34.60
Expected volatility	39%	39%	39%	39%	39%	39%
Expected dividend yield	3%	3%	3%	3%	3%	3%
Vesting period (years)	2.83	2.50	3.00	2.83	2.25	3.00
Employee exit rate	3%	3%	3%	0%	3%	3%
Risk-free interest rate	-0.41%	-0.56%	-0.53%	-0.53%	-0.55%	-0.46%
Outcome of the model						
Fair value (in €)	46.89	50.30	52.15	46.90	54.34	40.19
Outstanding PSP Units	-	-	-	-	-	50 950

Under the PSP 2015-2017, the Group has recorded an expense against equity of € 1.9 million (2018: € 3.0 million) for the Performance Share Units granted, based on their fair value and vesting period.

In 2019, (1) on 15 February an offer of 178 233 equity settled performance share units and (2) on 26 July an offer of 35 663 equity settled performance share units, was made under the terms of the PSP 2018-2020. The fair value of the Performance Share Units under this plan are equal to the share price at grant date (15 February 2019: € 23.76 and 26 July 2019: € 23.94), since the performance conditions are non-market conditions (Underlying EBITDA and operational cash flow). The grant in 2019 represented a fair value of € 5.1 million. The Group has recorded an expense against equity of € 2.2 million in 2019.

Personal Shareholding Requirement Plan ('PSR')

In March 2016, the Company introduced a Personal Shareholding Requirement Plan for the Chief Executive Officer and the other members of the Bekaert Group Executive ('BGE'), pursuant to which they can build and maintain a personal shareholding in Company shares and whereby the acquisition of the number of Company shares is supported by a so-called Company matching mechanism. The Company matching mechanism provides that the Company will match the BGE member's investment in Company shares in year x, with a direct grant of a similar number of Company shares as acquired by the BGE member (such grant to be made at the end of year x + 2). These PSR units will vest following a vesting period of three years, conditional to a service condition subject to bad or good leaver conditions. For more information we refer to the 'Remuneration Report' in the 'Report of the Board of Directors'.

Overview of Personal Shareholding Requirement Plan

	Date acquired	Number of units			Out-standing	Expiry date
		Acquired	Matched	Forfeited		
PSR 2016	31.03.2016	18 324	17 796	528	-	31.12.2018
PSR 2016	30.06.2016	2 003	2 003	-	-	31.12.2018
PSR 2016	31.03.2017	14 668	13 428	1 240	-	31.12.2019
PSR 2016	01.09.2017	2 523	2 523	-	-	31.12.2019
PSR 2016	14.05.2018	15 251	530	1 060	13 661	31.12.2020
		52 769	36 280	2 828	13 661	

The matching shares to be granted under the Personal Shareholding Requirement Plan 2016 are recognized at fair value at start date in accordance with IFRS 2 (see note 6.14. 'Retained earnings and other Group reserves'). The fair value of the matching shares is determined using a binomial pricing model. For the outstanding tranches, inputs and outcome of this pricing model are detailed below:

Pricing model details <i>Personal Shareholding Requirement plan</i>	To be matched in December 2018		To be matched in December 2019		To be matched in December 2020
	Start date March 2016	Start date June 2016	Start date March 2017	Start date Sep 2017	Start date May 2018
	Inputs to the model				
Share price at start date (in €)	35.71	38.97	45.87	40.04	34.00
Expected volatility	39%	39%	39%	39%	39%
Expected dividend yield	3%	3%	3%	3%	3%
Vesting period (years)	2.75	2.50	2.75	2.33	2.60
Employee exit rate	4%	4%	4%	4%	4%
Risk-free interest rate	-0.40%	-0.01%	-0.51%	-0.54%	-0.39%
Outcome of the model					
Fair value (in €)	29.27	32.16	37.60	33.20	27.95
Outstanding PSR Units	-	-	-	-	13 661

The matching shares to be granted represented a fair value of € 0.4 million (2018: € 0.9 million). The Group has recorded an expense against equity of € 0.4 million (2018: € 0.6 million) for the matching shares to be granted, based on their fair value and vesting period.

6.14. Retained earnings and other Group reserves

Carrying amount in thousands of €	2018	2019
<i>Revaluation reserve for non-consolidated equity investments</i>	-14 489	-12 117
<i>Remeasurement reserve for defined-benefit plans</i>	-68 267	-67 017
<i>NCl put option reserve</i>	-8 200	-
<i>Other revaluation reserve</i>	-6	-6
<i>Deferred tax reserve</i>	26 694	28 104
Other reserves	-64 268	-51 036
Cumulative translation adjustments	-130 102	-113 964
Total other Group reserves	-194 370	-165 000
Treasury shares	-108 843	-107 463
Retained earnings	1 484 600	1 492 028

In the following sections of this disclosure, the movements in the Group reserves and in retained earnings are presented and commented.

Hedging reserve in thousands of €	2018	2019
As at 1 January	-296	-
Recycled to income statement	296	-
As at 31 December	-	-

Changes in the fair value of hedging instruments designated as effective cash flow hedges are recognized directly in equity. In accordance with IFRSs hedge accounting policies for cash flow hedges, exchange gains or losses arising from translating the hedged items at the closing rate are offset by recycling the equivalent amounts to the income statement. All cash flow hedges expired in 2018.

Revaluation reserve for non-consolidated equity investments in thousands of €	2018	2019
As at 1 January (as reported)	1 057	-14 489
Restatement	-10 240	-
As at 1 January (restated)	-9 183	-14 489
Fair value changes	-5 306	2 372
As at 31 December	-14 489	-12 117
Of which		
<i>Investment in Xinyu Xinsteel Metal Products Co. Ltd</i>	-3 980	-2 112
<i>Investment in Shougang Concord Century Holdings Ltd</i>	-10 601	-10 097
<i>Other investments</i>	92	92

The revaluation of the investment in Shougang Concord Century Holdings Ltd is based on the closing price of the share on the Hong Kong Stock Exchange. In 2018, the restatement related to IFRS 9 superseding IAS 39 (see note 2.8. 'Restatement and reclassification effects' of the 2018 Annual Report). The fair value of the investment in Xinyu Xinsteel Metal Products Co Ltd is determined using a discounted cash flow model based on the company's most recent business plan for 2020-2024. See also note 6.6. 'Other non-current assets'.

Remeasurement reserve for defined-benefit plans

in thousands of €	2018	2019
As at 1 January	-70 683	-68 267
Remeasurements of the period	-3 410	1 261
Inflation effects	-578	-
Changes in Group structure	6 404	-11
As at 31 December	-68 267	-67 017

The remeasurements originate from using different actuarial assumptions in calculating the defined-benefit obligation, from differences with actual returns on plan assets at the balance sheet date and any changes in unrecognized assets due to the asset ceiling principle (see note 6.16. 'Employee benefit obligations').

Non-controlling-interest ('NCI') put option reserve

The 'NCI put option reserve' primarily consists of a liability of € 8.2 million that has initially been set up at fair value versus equity, which represents the put option granted to Maccaferri on its remaining non-controlling interests in Bekaert Maccaferri Underground Solutions BVBA. Any subsequent changes in fair value of this financial liability are recognized through income statement in accordance with IFRS. On 31 October 2019, Bekaert concluded the buy-out of Maccaferri's 50% share in Bekaert Maccaferri Underground Solutions BVBA, resulting in derecognizing the put option reserve amongst others.

Deferred tax reserve

in thousands of €	2018	2019
As at 1 January	30 307	26 694
Deferred taxes relating to other comprehensive income	-2 824	1 407
Inflation effects	197	-
Changes in Group structure	-986	3
As at 31 December	26 694	28 104

Deferred taxes relating to other comprehensive income are also recognized in OCI (see note 6.7. 'Deferred tax assets and liabilities').

Treasury shares

in thousands of €	2018	2019
As at 1 January	-103 037	-108 843
Shares purchased	-12 961	-
Shares sold	7 155	1 380
As at 31 December	-108 843	-107 463

The number of shares on hand were sufficient, both to anticipate any dilution and to hedge the cash flow risk on share-based payment plans. No additional shares were bought back in 2019 (2018: 352 000). 28 957 treasury shares were sold to the beneficiaries of the share-based payment plans of the Group (2018: 86 248). Treasury shares are accounted for using the FIFO principle (first-in, first-out). Gains and losses on disposals of treasury shares are directly recognized through retained earnings (see movements in retained earnings on the next page). See also note 6.13. 'Ordinary shares, treasury shares and equity-settled share-based payments'.

Cumulative translation adjustments

in thousands of €

	2018	2019
As at 1 January	-105 723	-130 102
Exchange differences on dividends declared	-7 158	-1 601
Recycled to income statement - relating to disposed entities or step acquisitions	599	-
Changes in Group structure	6 670	-
Movements arising from exchange rate fluctuations	-24 490	17 739
As at 31 December	-130 102	-113 964
Of which relating to entities with following functional currencies		
<i>Chinese renminbi</i>	96 904	100 394
<i>US dollar</i>	29 659	29 945
<i>Brazilian real</i>	-166 524	-169 744
<i>Chilean peso</i>	-12 345	-17 347
<i>Venezuelan bolivar soberano</i> ¹	-59 691	-59 691
<i>Indian rupee</i>	-6 535	-6 756
<i>Czech koruna</i>	9 272	9 738
<i>British pound</i>	-10 986	3 200
<i>Russian ruble</i>	-5 140	-2 742
<i>Other currencies</i>	-4 716	-961

¹ As a consequence of the functional currency switch to the US dollar on 1 January 2019, the value related to Venezuelan bolivar soberano remains frozen.

The swings in CTA reflected both the exchange rate evolution and the relative importance of the net assets denominated in the presented currencies.

Retained earnings

in thousands of €

	Notes	2018	2019
As at 1 January (as reported)		1 529 268	1 484 600
Restatement	2.8.	7 655	-4 365
As at 1 January (restated)		1 536 923	1 480 235
Equity-settled share-based payments	6.13.	6 599	4 390
Result for the period attributable to equity holders of Bekaert		39 768	41 329
Dividends		-62 153	-39 557
Inflation adjustments		2 827	-
Treasury shares transactions	6.13.	-5 475	-1 341
Changes in Group structure		-33 889	6 973
As at 31 December		1 484 600	1 492 028

In 2018, inflation adjustments reflected the use of inflation accounting in Venezuela, as required under IFRS in a hyperinflationary economy. Treasury shares transactions (€ -1.3 million vs € -5.5 million in 2018) represented the difference between the proceeds and the FIFO book value of the shares that were sold. Changes in Group structure in 2019 predominantly related to the purchase of NCI in Bekaert Maccaferri Underground Solutions BVBA (€ +7.0 million), while in 2018 (€ -33.9 million) this mainly related to purchases of non-controlling interests in BBRG.

6.15. Non-controlling interests

Carrying amount in thousands of €	2018	2019
As at 1 January	95 381	119 071
Changes in Group structure	66 715	-13 504
Share of the result for the period	-36 980	6 871
Share of other comprehensive income excluding CTA	1 766	-1 667
Dividend pay-out	-2 881	-13 247
Equity-settled share-based payments	93	-
Capital increases	71	652
Exchange gains and losses (-)	-5 094	-1 746
As at 31 December	119 071	96 430

The changes in Group structure in 2019 mainly related to the purchase of the non-controlling interests ('NCI') in the Bekaert Maccaferri Underground Solutions BVBA, the carrying amount of which amounted to € +13.6 million at the transaction date. The changes in 2018 almost exclusively related to the purchase of virtually all non-controlling interests ('NCI') in the Bridon Bekaert Ropes Group ('BBRG').

Most of the entities in which NCI are held, had a better performance than last year. However the biggest impact on the share of the result for the period resulted from the omission of BBRG given the minority shareholder buy-out last year.

In accordance with IFRS 12 'Disclosures of Interests in Other Entities', following information is provided on subsidiaries that have non-controlling interests that are material to the Group. The objective of IFRS 12 is to require an entity to disclose information that enables users of its financial statements to evaluate (a) the nature and risks associated with its interests in other entities, and (b) the effects of those interests on its financial position, financial performance and cash flows. Bekaert has many partnerships across the world, most entities of which would not individually meet any reasonable materiality criterion. Therefore, the Group has identified two non-wholly owned groups of entities which are interconnected through their line of business and shareholder structure: (1) the Wire entities in Chile and Peru, where the non-controlling interests are mainly held by the Chilean partners, and (2) the Wire entities in the Andina region, where the non-controlling interests are mainly held by the Ecuadorian Kohn family and ArcelorMittal. In presenting aggregated information for these entity groups, only intercompany effects within each entity group have been eliminated, while all other entities of the Group have been treated as third parties. Since the non-controlling interests in the BBRG entities is non-existing since the acquisition of the remaining 40% non-controlling interests in October 2018, information on BBRG as a non-wholly owned group is no longer presented in this annual report.

Entities included in material NCI disclosure	Country	Proportion of NCI at year-end	
		2018	2019
BBRG entities			
Inversiones BBRG Lima SA	Peru	3.9%	3.9%
Procables SA	Peru	3.9%	3.9%
Wire entities Chile and Peru			
Acma SA	Chile	48.0%	48.0%
Acmanet SA	Chile	48.0%	48.0%
Industrias Acmanet Ltda	Chile	48.0%	48.0%
Industrias Chilenas de Alambre - Inchalam SA	Chile	48.0%	48.0%
Inversiones Impala Perú SA Cerrada	Peru	48.0%	-
Procercos SA	Chile	48.0%	48.0%
Prodalam SA	Chile	48.0%	48.0%
Prodicom Selva SAC	Peru	62.5%	62.5%
Prodimin SAC	Peru	-	62.5%
Prodac Contrata SAC	Peru	62.5%	62.5%
Productos de Acero Cassadó SA	Peru	62.5%	62.5%
Wire entities Andina region			
Bekaert Ideal SL	Spain	20.0%	20.0%
Bekaert Costa Rica SA	Costa Rica	41.6%	41.6%
BIA Alambres Costa Rica SA	Costa Rica	41.6%	41.6%
Ideal Alambrec SA	Ecuador	41.6%	41.6%
InverVicson SA	Venezuela	20.0%	20.0%
Productora de Alambres Colombianos Proalco SAS	Colombia	20.0%	20.0%
Vicson SA	Venezuela	20.0%	20.0%

The principal activity of the main entities listed above is manufacturing and selling wire and other wire products, mainly for the local market. Following entities are essentially holdings, having interests in one or more of the other entities listed above: Industrias Acmanet Ltda, Procercos SA, Inversiones Impala Perú SA Cerrada and Bekaert Ideal SL. The following table shows the relative importance of the entity groups with material NCI in terms of results and equity attributable to NCI.

Material and other NCI in thousands of €	Result attributable to NCI		Equity attributable to NCI	
	2018	2019	2018	2019
BBRG entities ¹	-39 058	-	270	-
Wire entities Chile and Peru	6 006	5 248	75 481	71 643
Wire entities Andina region	-1 577	1 489	16 356	12 017
Consolidation adjustments on material NCI	1 895	659	-28 552	-28 031
Contribution of material NCI to consolidated NCI	-32 734	7 396	63 555	55 630
Other NCI	-4 246	-525	55 516	40 800
Total consolidated NCI	-36 980	6 871	119 071	96 430

¹ The immaterial amount of NCI related to a few BBRG entities is included in 'Other NCI' from 2019 onwards.

The substantial consolidation adjustments to the equity attributable to material NCI are largely due to the wire entities in Chile and Peru.

The following tables show concise basic statements of the non-wholly owned groups of entities.

Wire entities Chile and Peru in thousands of €	2018	2019
Current assets	238 595	206 915
Non-current assets	139 880	134 516
Current liabilities	197 941	133 503
Non-current liabilities	37 067	72 797
Equity attributable to equity holders of Bekaert	67 986	63 488
Equity attributable to NCI	75 481	71 643

Wire entities Chile and Peru in thousands of €	2018	2019
Sales	498 007	495 350
Expenses	-485 760	-483 891
Result for the period	12 246	11 459
Result for the period attributable to equity holders of Bekaert	6 241	6 211
Result for the period attributable to NCI	6 006	5 248
Other comprehensive income for the period	-5 623	-5 946
OCI attributable to equity holders of Bekaert	-3 242	-3 338
OCI attributable to NCI	-2 381	-2 608
Total comprehensive income for the period	6 623	5 513
Total comprehensive income attributable to equity holders of Bekaert	2 999	2 873
Total comprehensive income attributable to NCI	3 625	2 640
Dividends paid to NCI	-	-6 720
Net cash inflow (outflow) from operating activities	13 377	56 707
Net cash inflow (outflow) from investing activities	-13 379	-8 956
Net cash inflow (outflow) from financing activities	7 841	-40 962
Net cash inflow (outflow)	7 839	6 788

The changes in balance sheet composition mainly followed the tight working capital control efforts, resulting in lower trade receivables and lower inventory levels, partially offset by lower trade payables. In addition long term financing was taken out resulting in a rebalancing from current to non-current liabilities.

The entities maintained the same level of performance in 2019 as the year before.

The cash flows from operating activities were significantly higher due to the reduction in working capital. Lower capital expenditure further contributed to the higher cash flow generation. The change in cash flows from financing activities resulted from dividend pay-out in 2019 and a partial refinancing of maturing debt.

Wire entities Andina region in thousands of €	2018	2019
Current assets	102 723	78 647
Non-current assets	46 172	46 229
Current liabilities	93 608	82 759
Non-current liabilities	15 769	9 014
Equity attributable to equity holders of Bekaert	23 162	21 086
Equity attributable to NCI	16 356	12 017

Wire entities Andina region in thousands of €	2018	2019
Sales	203 928	182 162
Expenses	-208 517	-177 069
Result for the period	-4 589	5 093
Result for the period attributable to equity holders of Bekaert	-3 012	3 604
Result for the period attributable to NCI	-1 577	1 489
Other comprehensive income for the period	2 398	-1 220
OCI attributable to equity holders of Bekaert	1 381	-560
OCI attributable to NCI	1 016	-660
Total comprehensive income for the period	-2 191	3 873
Total comprehensive income attributable to equity holders of Bekaert	-1 631	3 044
Total comprehensive income attributable to NCI	-561	829
Dividends paid to NCI	-606	-5 691
Net cash inflow (outflow) from operating activities	-4 957	16 288
Net cash inflow (outflow) from investing activities	800	-1 801
Net cash inflow (outflow) from financing activities	11 131	-20 161
Net cash inflow (outflow)	6 974	-5 674

Tight working capital measures during the year lead to lower outstanding trade receivables and lower inventory levels, offset to some degree by lower trade payables. The closure of some long term employee benefit plans in Ecuador explained the lower non-current liabilities.

Sales in 2019 were lower following the closure of the Dramix® plant in Costa Rica (2018). As one-off expenses related to the closure of the Dramix® plant in Costa Rica were recognized in 2018, and no operational losses were incurred in 2019, the result of the period improved significantly in 2019.

Vicson SA (Venezuela) remains exposed to restrictions on the repatriation of cash due to foreign exchange regulations in Venezuela, although these restrictions were softened by the authorities over the past year. Cash & cash equivalents and short-term deposits amounted to € 1.3 million at 31 December 2019 (vs € 2.0 million at 31 December 2018). See also note 6.10. 'Cash & cash equivalents and short-term deposits'.

6.16. Employee benefit obligations

The total net liabilities for employee benefit obligations, which amounted to € 261.7 million as at 31 December 2019 (€ 248.5 million as at year-end 2018), are as follows:

in thousands of €	2018	2019
Liabilities for		
<i>Post-employment defined-benefit plans</i>	136 080	120 248
<i>Other long-term employee benefits</i>	4 535	4 437
<i>Cash-settled share-based payment employee benefits</i>	877	1 662
<i>Short-term employee benefits</i>	112 112	125 051
<i>Termination benefits</i>	6 374	20 794
Total liabilities in the balance sheet	259 977	272 193
of which		
<i>Non-current liabilities</i>	141 550	123 409
<i>Current liabilities</i>	118 427	148 784
Assets for		
<i>Defined-benefit pension plans</i>	-11 428	-10 470
Total assets in the balance sheet	-11 428	-10 470
Total net liabilities	248 549	261 722

Post-employment benefit plans

In accordance with IAS 19, 'Employee benefits', plans are classified as either defined-contribution plans or defined-benefit plans.

Defined-contribution plans

For defined-contribution plans, Bekaert pays contributions to publicly or privately administered pension funds or insurance companies. Once the contributions have been paid, the Group has no further payment obligation. These contributions constitute an expense for the year in which they are due.

The Belgian defined-contribution pension plans are by law subject to minimum guaranteed rates of return. Pension legislation defines the minimum guaranteed rate of return as a variable percentage linked to government bond yields observed in the market as from 1 January 2016 onwards. As of 2016 the minimum guaranteed rate of return became 1.75% on both employer contributions and employee contributions. The old rates (3.25% on employer contributions and 3.75% on employee contributions) continue to apply to the accumulated past contributions in the group insurance as at 31 December 2015. As a consequence, the defined-contribution plans are reported as defined benefit obligations at year-end, whereby an actuarial valuation was performed.

Bekaert participates in a multi-employer defined benefit plan in the Netherlands funded through the Pensioenfonds Metaal & Techniek ('PMT'). This plan is treated as a defined-contribution plan because no information is available with respect to the plan assets attributable to Bekaert. Contributions for the plan amounted to € 1.9 million (2018: € 1.8 million). Employer contributions are set every five years by PMT, they are equal for all participating companies and are expressed as a percentage of pensionable salary. Bekaert's total contribution represents less than 0.1% of the overall PMT contribution. The financing rules specify that an employer is not obliged to pay any further contributions in respect of previously accrued benefits. The funded status of PMT was 98.8% at 31 December 2019 (2018: 102.3%). During the five year period 2015 to 2019 there is no obligation for participating companies to fund any deficit of PMT (nor to receive any surplus). After 2019, PMT has some flexibility to set the employer contribution above the required minimum should it wish to improve its funded status.

Defined-contribution plans

in thousands of €	2018	2019
Expenses recognized	15 149	16 601

Defined-benefit plans

Several Bekaert companies operate retirement benefit and other post-employment benefit plans. These plans generally cover all employees and provide benefits which are related to salary and length of service.

The latest actuarial valuations under IAS 19 were carried out as of 31 December 2019 for all significant post-employment defined-benefit plans by independent actuaries. The Group's largest defined-benefit obligations were in Belgium, the United States and the United Kingdom. They accounted for 89.2% (2018: 87.3%) of the Group's defined-benefit obligations and 99.6% (2018: 99.5%) of the Group's plan assets.

Plans in Belgium

The funded plans in Belgium mainly related to retirement plans representing a defined-benefit obligation of € 216.3 million (2018: € 198.4 million) and € 202.0 million assets (2018: € 176.6 million). This is including the related plans funded through a group insurance.

The traditional defined-benefit plans foresee in a lump sum payment upon retirement and in risk benefits in case of death or disability prior to retirement. The plans are externally funded through two self-administrated institutions for occupational retirement provision (IORP). On a regular basis, an Asset Liability Matching (ALM) study is performed in which the consequences of strategic investment policies are analyzed in terms of risk-and-return profiles. Statement of investment principles and funding policy are derived from this study. The purpose is to have a well-diversified asset allocation to control the risk. Investment risk and liability risk are monitored on a quarterly basis. Funding policy targets to be at least fully funded in terms of the technical provision (this is a prudent estimate of the pension liabilities).

Other plans mainly related to pre-retirement pensions (defined-benefit obligation € 10.4 million (2018: € 11.2 million)) which are not externally funded. An amount of € 4.4 million (2018: € 4.6 million) related to employees in active service who have not yet entered into any pre-retirement agreement.

Plans in the United States

The funded plans in the United States mainly related to pension plans representing a defined-benefit obligation of € 130.9 million (2018: € 116.2 million) and assets of € 99.5 million (2018: € 81.0 million). The plans provide for benefits for the life of the plan members but have been closed for new entrants. Plan assets are invested, in fixed-income funds and in equities. Based on an ALM study the strategic asset allocation has been shifted more towards long duration fixed income funds. Funding policy targets to be sufficiently funded in terms of Pension Protection Act requirements and thus to avoid benefit restrictions or at-risk status of the plans.

Unfunded plans included medical care plans (defined-benefit obligation € 4.0 million (2018: € 3.9 million)).

Plans in the United Kingdom

The funded plan in the United Kingdom related to a pension scheme closed for new entrants and further accrual representing a defined-benefit obligation of € 95.4 million (2018: 79.7 million) and assets of € 105.8 million (2018: 91.2 million). The scheme is administrated by a separate board of Trustees which is legally separate from the company. The Trustees are composed of representatives of both employer and employees. The Trustees are required by law to act in the interest of all relevant beneficiaries and are responsible for the investment policy with regard to the assets plus the day-to-day administration of the benefits.

The defined benefit obligation solely includes benefits for deferred pensioners and current pensioners. Broadly, about 80% of the liabilities are attributable to non-pensioners and 20% to current pensioners (2018: 20% pensioners).

UK legislation requires that pension schemes are funded prudently. The funding valuation of the scheme carried out as at 31 December 2016 by a qualified actuary showed a deficit of € 6.5 million. The company entered into a funding agreement in order to make good this shortfall with recovery plan contributions running from January 2019 up to and including August 2021. As part of this funding agreement the company has made € 3.1 million payments up to 31 December 2019 and will continue to make payments of € 0.8 million p.a. from 1 January 2020 up to 31 August 2021. The above contributions are excluding administration costs which are reported separately from IAS 19.

The amounts recognized in the balance sheet are as follows:

in thousands of €	2018	2019
Belgium		
Present value of funded obligations	198 425	216 335
Fair value of plan assets	-176 557	-201 965
Deficit / surplus (-) of funded obligations	21 868	14 369
Present value of unfunded obligations	11 176	10 449
Total deficit / surplus (-) of obligations	33 044	24 818
United States		
Present value of funded obligations	116 221	130 913
Fair value of plan assets	-81 043	-99 463
Deficit / surplus (-) of funded obligations	35 178	31 450
Present value of unfunded obligations	8 831	9 612
Total deficit / surplus (-) of obligations	44 009	41 062
United Kingdom		
Present value of funded obligations	79 749	95 353
Fair value of plan assets	-91 167	-105 823
Deficit / surplus (-) of funded obligations	-11 418	-10 470
Present value of unfunded obligations	-	-
Total deficit / surplus (-) of obligations	-11 418	-10 470
Other		
Present value of funded obligations	1 346	1 377
Fair value of plan assets	-1 582	-1 570
Deficit / surplus (-) of funded obligations	-236	-193
Present value of unfunded obligations	59 253	54 561
Total deficit / surplus (-) of obligations	59 017	54 368
Total		
Present value of funded obligations	395 741	443 977
Fair value of plan assets	-350 350	-408 821
Deficit / surplus (-) of funded obligations	45 391	35 156
Present value of unfunded obligations	79 260	74 622
Total deficit / surplus (-) of obligations	124 651	109 778

The movement in the defined-benefit obligation, plan assets, net liability and asset over the year were as follows:

in thousands of €	Defined-benefit obligation	Plan assets	Amount not recognized as an asset ('asset ceiling')	Net liability / asset (-)
As at 1 January 2018	489 409	-358 013	-	131 396
Current service cost	17 219	-	-	17 219
Past service cost	-4 174	-	-	-4 174
Gains (-) / losses from settlements	-685	685	-	-
Interest expense / income (-)	11 982	-8 393	-	3 588
Net benefit expense / income (-) recognized in profit and loss	24 342	-7 709	-	16 634
<i>Components recognized in EBIT</i>				13 045
<i>Components recognized in financial result</i>				3 588
Remeasurements				
<i>Return on plan assets, excluding amounts included in interest expense / income (-)</i>	-	18 467	-	18 467
<i>Gain (-) / loss from change in demographic assumptions</i>	-4 631	-	-	-4 631
<i>Gain (-) / loss from change in financial assumptions</i>	-19 093	-	-	-19 093
<i>Experience gains (-) / losses</i>	6 644	-	-	6 644
Changes recognized in equity	-17 080	18 467	-	1 387
Contributions				
Employer contributions / direct benefit payments	-	-25 637	-	-25 637
Employee contributions	127	-127	-	-
Payments from plans				
Benefit payments	-25 712	25 712	-	-
Reclassifications	-549	-	-	-549
Foreign-currency translation effect	4 473	-3 042	-	1 431
As at 31 December 2018	475 011	-350 350	-	124 661
As at 1 January 2019	475 011	-350 350	-	124 661
Current service cost	16 483	-	-	16 483
Past service cost	-3 624	-	-	-3 624
Gains (-) / losses from settlements	-3 047	574	-	-2 474
Interest expense / income (-)	13 008	-9 099	-	3 909
Net benefit expense / income (-) recognized in profit and loss	22 819	-8 525	-	14 294
<i>Components recognized in EBIT</i>				10 385
<i>Components recognized in financial result</i>				3 909
Remeasurements				
<i>Return on plan assets, excluding amounts included in interest expense / income (-)</i>	-	-53 233	-	-53 233
<i>Gain (-) / loss from change in demographic assumptions</i>	-2 993	-	-	-2 993
<i>Gain (-) / loss from change in financial assumptions</i>	57 575	-	-	57 575
<i>Experience gains (-) / losses</i>	-517	-	-	-517
Changes recognized in equity	54 066	-53 233	-	833
Contributions				
Employer contributions / direct benefit payments	-	-29 551	-	-29 551
Employee contributions	169	-169	-	-
Payments from plans				
Benefit payments	-39 489	39 489	-	-
Foreign-currency translation effect	6 024	-6 482	-	-458
As at 31 December 2019	518 600	-408 821	-	109 778

The past service cost mainly related to the restructuring in Belgium. Gains and losses from settlements mainly related to plan changes in post-retirement healthcare plans and the restructurings. In the income statement, current and past service cost, including gains or losses from settlements are included in the operating result (EBIT), and interest expense or income is included in interest expense, under interest element of interest-bearing provisions.

Reimbursement rights arising from reinsurance contracts covering retirement pensions, death and disability benefits in Germany amounted to € 0.2 million (2018: € 0.2 million).

Estimated contributions and direct benefit payments for 2020 are as follows:

Estimated contributions and direct benefit payments	2020
in thousands of €	
Pension plans	22 319
Total	22 319

Fair values of plan assets at 31 December were as follows:

in thousands of €	2018	2019
Belgium		
Bonds	42 925	53 875
Equity	60 638	78 740
Cash	9 906	5 570
Insurance contracts	63 088	63 782
Total Belgium	176 557	201 965
United States		
Bonds		
USD Long Duration Bonds	30 559	31 608
USD Fixed Income	8 296	4 765
USD Guaranteed Deposit	-	3 749
Equity		
USD Equity	28 714	37 665
Non-USD Equity	13 474	16 671
Real estate	-	5 006
Total United States	81 043	99 463
United Kingdom		
Bonds	1 092	45 457
Derivatives	59 782	50 246
Equity	27 107	8 029
Cash	3 186	2 091
Total United Kingdom	91 167	105 823
Other		
Bonds	1 583	1 569
Total Other	1 583	1 569
Total	350 350	408 821

In the USA, investments are primarily made through mutual fund investments and insurance company separate accounts, in quoted equity and debt instruments. In Belgium, the investments are made through mutual fund investments in quoted equity and debt instruments. Investments are well-diversified so that the failure of any single investment would not have a material impact on the overall level of assets. In UK the strategic asset allocation was altered during 2019, in the context of de-risking, by reducing the proportion of assets invested in equity at the benefit of liability driven investments and bonds.

The Group's plan assets include no direct positions in Bekaert shares or bonds, nor do they include any property used by a Bekaert entity.

The principal actuarial assumptions on the balance sheet date (weighted averages based on outstanding DBO) were:

Actuarial assumptions	2018	2019
Discount rate	2.8%	1.9%
Future salary increases	3.2%	3.0%
Underlying inflation rate	2.2%	1.9%
Health care cost increases (initial)	6.8%	7.0%
Health care cost increases (ultimate)	4.7%	5.0%
Health care (years to ultimate rate)	8	8

The discount rate for the UK, USA and Belgium is reflective both of the current interest rate environment and the plan's distinct liability characteristics. The plan's projected cash flows are matched to spot rates, after which an associated present value is developed. A single equivalent discount rate is then determined that produces that same present value. The underlying yield curve for deriving spot rates is based on high quality AA-credit rated corporate bonds issues denominated in the currency of the applicable regional market.

This resulted into the following discount rates:

Discount rates	2018	2019
Belgium	1.7%	0.8%
United States	4.2%	3.2%
United Kingdom	2.9%	2.1%
Other	3.8%	2.6%

This resulted into the following inflation rates.

Inflation rates	2018	2019
Belgium	1.8%	1.5%
United States	-	-
United Kingdom	3.0%	2.8%
Other	2.5%	2.1%
Total	2.2%	1.9%

Assumptions regarding future mortality are based on actuarial advice in accordance with published statistics and experience in each territory. These assumptions translated into the following average life expectancy in years for a pensioner retiring at age 65.

	2018	2019
Life expectancy of a man aged 65 (years) at balance sheet date	20.4	19.7
Life expectancy of a woman aged 65 (years) at balance sheet date	22.9	22.9
Life expectancy of a man aged 65 (years) ten years after balance sheet date	21.2	20.5
Life expectancy of a woman aged 65 (years) ten years after balance sheet date	23.7	23.7

Sensitivity analyses show the following effects:

Sensitivity analysis in thousands of €	Change in assumption	Impact on defined-benefit obligation		
Discount rate	-0.50%	Increase by	32 601	6.3%
Salary growth rate	0.50%	Increase by	10 703	2.1%
Health care cost	0.50%	Increase by	186	0.03%
Life expectancy	1 year	Increase by	7 971	1.5%

The above analyses were done on a mutually exclusive basis, while holding all other assumptions constant.

Through its defined-benefit plans, the Group is exposed to a number of risks, the most significant of which are detailed below:

Asset volatility	The plan liabilities are calculated using a discount rate set with reference to corporate bond yields; if plan assets underperform this yield, this will create a deficit.
Changes in bond yields	A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.
Salary risk	The majority of the plans' benefit obligations are calculated by reference to the future salaries of plan members. As such, a salary increase of plan members higher than expected will lead to higher liabilities.
Longevity risk	Belgian pension plans provide for lump sum payments upon retirement. As such, there is limited or no longevity risk. Pension plans in the USA and UK provide for benefits for the life of the plan members, so increases in life expectancy will result in an increase in the plans' liabilities.

The weighted average durations of the defined-benefit obligations were as follows:

Weighted average durations of the DBO in years	2018	2019
Belgium	14.6	13.7
United States	11.6	12.1
United Kingdom	23.0	23.0
Other	9.3	9.9
Total	14.6	14.7

Termination benefits

Termination benefits are cash and other services paid to employees when their employment has been terminated. The increase in 2020 mainly related to the setup for the restructuring program in Belgium, offset by the usage of these termination benefits.

Other long-term employee benefits

The other long-term employee benefits related to service awards.

Cash-settled share-based payment employee benefits

Stock appreciation rights ('SAR')

The Group issues stock appreciation rights (SARs) for certain management employees, granting them the right to receive the intrinsic value of the SARs at the date of exercise. These SARs are accounted for as cash-settled share-based payments in accordance with IFRS 2. The fair value of each grant is recalculated at balance sheet date, using the same binomial pricing model as for the equity-settled share-based payments (see note 6.13. 'Ordinary shares, treasury shares and equity-settled share-based payments'). Based on local regulations, the exercise price for any grant under the USA SAR plan is equal to the average closing price of the Company's share during the thirty days following the date of the offer. The exercise price for the other SAR plans is determined in the same way as for the equity-settled stock option plans: it is equal to the lower of (i) the average closing price of the Company's share during the thirty days preceding the date of the offer, and (ii) the last closing price preceding the date of the offer.

Following inputs to the model are used for all grants: share price at balance sheet date: € 26.50 (2018: € 21.06), expected volatility of 35% (2018: 36%), expected dividend yield of 3.0% (2018: 3.0%), vesting period of 3 years, contractual life of 10 years and an exercise factor of 1.40 (2018: 1.40). Inputs for risk-free interest rates vary by grant and are based on the return of Belgian OLO's (Obligation Linéaire / Lineaire Obligatie) with a term equal to the maturity of the SAR grant under consideration.

Exercise prices and fair values of outstanding SARs by grant are shown below:

USA SAR Plan details by grant in €	Granted	Exercise price	Fair value as at	Fair value as at
			31 December 2018	31 December 2019
Grant 2011	29 700	83.43	0.01	-
Grant 2012	21 200	27.63	2.36	3.80
Grant 2013	20 900	22.09	3.92	6.43
Grant 2014	36 800	25.66	3.43	5.36
Grant 2015	40 200	25.45	3.76	5.73
Grant 2016	20 250	28.38	3.53	5.23
Grant 2017	26 375	38.86	2.64	3.76
Grant 2018	16 875	37.06	3.07	4.31

Other SAR Plans details by grant in €	Granted	Exercise price	Fair value as at	Fair value as at
			31 December 2018	31 December 2019
Grant 2010	13 800	33.99	0.29	-
Grant 2011	28 800	77.00	0.02	-
Grant 2012	19 500	25.14	2.86	4.69
Grant 2013	24 500	19.20	4.71	8.03
Exceptional grant 2013	10 000	21.45	4.31	6.89
Grant 2014	54 800	25.38	3.52	5.50
Grant 2015	44 700	26.06	3.69	5.61
Grant 2016	38 500	26.38	3.82	5.69
Grant 2017	53 000	39.43	2.58	3.70
Grant 2018	37 500	34.60	3.32	4.68

At 31 December 2019, the total liability for the USA SAR plan amounted to € 0.3 million (2018: € 0.2 million), while the total liability for the other SAR plans amounted to € 0.7 million (2018: € 0.4 million).

The Group recorded a total cost of € 0.4 million (2018: income of € 1.6 million) during the year in respect of SARs.

Performance Share Units ('PSU')

Certain management employees received cash-settled Performance Share Units (PSUs) entitling the beneficiary to receive the value of Performance Share Units: (1) during 2015, 2016 and 2017 subject to the conditions of the Performance Share Plan 2015-2017 and (2) in 2019 under the conditions of the Performance Share Plan 2018-2020. These Performance Share Units will vest following a vesting period of three years, conditional to the achievement of a pre-set performance target. The performance target was set by the Board of Directors, in line with the Company strategy.

These Performance Share Units are accounted for as cash-settled share-based payments in accordance with IFRS 2. The fair value of each grant under PSU 2015-2017 is recalculated at balance sheet date, using the same binomial pricing model as for the equity-settled share-based payments (see note 6.13. 'Ordinary shares, treasury shares and equity-settled share-based payments'). Following inputs to the model are used: share price at balance sheet date: € 26.50 (2018: € 21.06), expected volatility of 35% (2018: 36%), expected dividend yield of 3.0% (2018: 3.0%), vesting period of 3 years. Inputs for risk-free interest rates vary by grant and are based on the return of Belgian OLO's with a term equal to the maturity of the PSU grant under consideration.

The fair value of each grant under PSU 2018-2020 is equal to the share price at balance sheet date, since the performance conditions are non-market conditions (Underlying EBITDA and operational cash flow).

The fair value of outstanding Performance Share Units by grant is shown below:

Performance Share Units details by grant in €		Fair value as at		
		Granted	Fair value as at 31 December 2018	Fair value as at 31 December 2019
PSU 2015-2017	Grant 2016	12 150	0.89	-
PSU 2015-2017	Grant 2017	13 500	5.28	5.51
PSU 2018-2020	Grant 2019	51 995	-	26.50

At 31 December 2019, the total liability for the USA PSUs amounted to € 0.1 million (2018: nearly nil), while the total liability for the other PSUs amounted to € 0.5 million (2018: nearly nil).

The Group recorded a total cost of € 0.6 million (2018: income of € 0.7 million) during the year in respect of PSUs.

Short-term employee benefit obligations

Short-term employee benefit obligations relate to liabilities for remuneration and social security that are due within twelve months after the end of the period in which the employees render the related service.

6.17. Provisions

in thousands of €	Restructuring	Claims	Environment	Other	Total
As at 1 January 2019	16 205	6 792	33 290	9 937	66 224
Additional provisions	4 904	9 620	403	224	15 152
Unutilized amounts released	-60	-5 134	-654	-406	-6 254
Increase in present value	-	-	-	202	202
Charged to the income statement	4 844	4 486	-250	20	9 100
Amounts utilized during the year	-8 885	-2 950	-577	-831	-13 243
Change in accounting policy	-	-	-	-7 032	-7 032
Exchange gains (-) and losses	-10	130	25	32	177
As at 31 December 2019	12 155	8 458	32 488	2 127	55 227
Of which					
<i>current</i>	11 104	4 246	14 574	298	30 222
<i>non-current - between 1 and 5 years</i>	1 051	3 813	1 973	1 518	8 355
<i>non-current - more than 5 years</i>	-	399	15 941	311	16 651

in thousands of €	Restructuring	Claims	Environment	Other	Total
As at 1 January 2018	2 395	7 379	29 591	15 890	55 255
Additional provisions	15 343	5 353	8 483	738	29 917
Unutilized amounts released	-254	-3 777	-4 248	-2 429	-10 708
Increase in present value	-	-	-	562	562
Charged to the income statement	15 089	1 576	4 235	-1 129	19 771
Deconsolidations	-	-589	-	-	-589
Amounts utilized during the year	-1 502	-1 551	-494	-4 478	-8 025
Transfers	222	-	-	-222	-
Exchange gains (-) and losses	1	-23	-42	-124	-188
As at 31 December 2018	16 205	6 792	33 290	9 937	66 224
Of which					
<i>current</i>	16 146	5 331	14 628	1 089	37 194
<i>non-current - between 1 and 5 years</i>	59	1 138	2 423	6 520	10 140
<i>non-current - more than 5 years</i>	-	323	16 239	2 328	18 890

The decrease of the restructuring programs mainly related to the utilization of the provision for the rubber reinforcement plant in Figline (Italy), partially offset by the setup of a provision for restructuring in North America and Malaysia.

Provisions for claims mainly related to product warranty programs and various product quality claims in several entities.

The environmental provisions mainly related to sites in EMEA. The expected soil sanitation costs are reviewed at each balance sheet date, based on external expert assessments. Timing of settlement is uncertain as it is often triggered by decisions on the destination of the premises.

The decrease of other provisions mainly related to the reclassification of a property lease provision linked to an onerous lease contract (€ -7.0 million) as an accumulated depreciation of the RoU asset in transition to IFRS 16 'Leases' (see note 6.4. 'RoU property, plant and equipment').

6.18. Interest-bearing debt

An analysis of the carrying amount of the Group's interest-bearing debt by contractual maturity is presented below:

2019 in thousands of €	Due within 1 year	Due between 1 and 5 years	Due after 5 years	Total
Interest-bearing debt				
<i>Lease liability</i>	19 728	42 689	25 835	88 253
<i>Credit institutions</i>	358 843	370 368	181 019	910 230
<i>Bonds</i>	45 614	-	200 000	245 614
<i>Convertible bonds</i>	-	364 399	-	364 399
Total financial debt	424 184	777 456	406 854	1 608 495

2018 in thousands of €	Due within 1 year	Due between 1 and 5 years	Due after 5 years	Total
Interest-bearing debt				
<i>Finance leases</i>	810	1 854	-	2 664
<i>Credit institutions</i>	746 231	159 449	125 727	1 031 407
<i>Bonds</i>	195 000	45 614	-	240 614
<i>Convertible bonds</i>	-	354 021	-	354 021
Total financial debt	942 041	560 938	125 727	1 628 705

An analysis of the undiscounted outflows relating to the Group's financial liabilities by contractual maturity is presented in note 7.2. 'Financial risk management and financial derivatives'. The financial debt due within one year decreased significantly as a result of the refinancing of the bridge loan (€ 410.0 million) and a matured retail bond (€ 195.0 million) by a new 7 years retail bond (€ 200.0 million) and by several Schuldschein loans (€ 320.5 million) maturing between 4 and 8 years.

As a general principle, loans are entered into by Group companies in their local currency to avoid currency risk. If funding is in another currency without an offsetting position on the balance sheet, the companies hedge the currency risk through derivatives (cross-currency interest-rate swaps or forward exchange contracts). Bonds, commercial paper and debt towards credit institutions are unsecured, except for the factoring programs.

For further information on financial risk management, we refer to note 7.2. 'Financial risk management and financial derivatives'.

Net debt calculation

Similar to all financial derivative assets and liabilities, the conversion option (€ 0.1 million vs € 0.2 million in 2018) embedded in the convertible bond is not included in the net debt (see note 6.19. 'Other non-current liabilities'). The table below summarizes the calculation of the net debt.

in thousands of €	2018	2019
Non-current interest-bearing debt	686 665	1 184 310
Current interest-bearing debt	942 041	424 184
Total financial debt	1 628 705	1 608 495
Non-current financial receivables and cash guarantees	-7 332	-6 518
Current loans	-20 186	-8 779
Short-term deposits	-50 036	-50 039
Cash and cash equivalents	-398 273	-566 176
Net debt	1 152 878	976 984

Changes in liabilities arising from financing activities

In accordance with the disclosure requirements of IAS 7 'Statement of Cash Flows', this section presents an overview of the changes in liabilities arising from financing activities. The qualification as long-term vs short-term debt is based on the initial maturity of the debt. In the consolidated cash flow statement, the cash flows from long-term interest-bearing debt are analyzed between proceeds and repayments. Acquisitions and disposals in 2019 related to the extinguishment of the put option as part of the transaction in which the Group purchased the non-controlling interest from Maccaferri. In 2019, other changes in financial debt mainly related to the non-cash movements on the lease liability in adopting and applying IFRS 16 'Leases' (€ 108.0 million) (see also note 6.4. 'RoU property, plant and equipment'), and interest accruals from amortizations on liabilities using the effective interest method (€ 14.2 million). Derivatives held to hedge financial debt included swaps and options that provide (economic) hedges for interest-rate risk, see note 7.2. 'Financial risk management and financial derivatives'. Other changes in 2018 mainly related to the conversion of the shareholders' loan into capital for € -52.6 million, interest accruals from amortizations on liabilities using the effective interest method, and the effect of the changed accounting for a modification or exchange of debt under IFRS 9 (€ 2.6 million).

2018 in thousands of €	As at 1 January	Cash flows	Acquisitions & disposals	Non-cash changes			As at 31 December
				Cumulative translation adjust- ments	Fair value changes	Other changes	
Financial debt							
Long-term interest-bearing debt ¹	1 332 628	59 576	-	-407	-	-19 037	1 372 759
<i>Finance leases</i>	3 146	-683	-	-75	-	275	2 664
<i>Credit institutions</i>	647 503	160 259	-	-332	-	-31 969	775 461
<i>Bonds</i>	340 614	-100 000	-	-	-	-	240 614
<i>Convertible bonds</i>	341 364	-	-	-	-	12 656	354 021
Short-term interest bearing debt	302 121	-62 590	-32	16 448	-	-	255 946
Total financial debt	1 634 748	-3 014	-32	16 041	-	-19 037	1 628 705
Derivatives held to hedge financial debt							
Interest-rate swaps	440	-	-	-	-440	-	-
Cross-currency interest-rate swaps	-4 905	-	-	-32	5 459	-	522
Interest-rate options	24	-	-	-	-24	-	-
Other liabilities from financing activities							
Put options of NCI	9 133	-	-	-	1 900	-	11 033
Conversion derivative	17 545	-	-	-	-17 325	-	220
Total liabilities from financing activities	1 656 986	-3 014	-32	16 009	-10 431	-19 037	1 640 480

¹ Including the current portion of non-current interest-bearing debt of € 152.3 million as at 1 January and € 686.1 million as at 31 December.

2019 in thousands of €	Non-cash changes						As at 31 December
	As at 1 January	Cash flows	Acquisitions & disposals	Cumulative translation adjust- ments	Fair value changes	Other changes	
Financial debt							
Long-term interest- bearing debt ¹	1 372 759	-89 560	-	-1 594	-	122 199	1 403 804
<i>Finance leases</i>	2 664	-	-	-	-	-2 664	-
<i>Lease liability</i>	-	-27 866	-	1 784	-	114 335	88 253
<i>Credit institutions</i>	775 461	-66 694	-	-3 378	-	150	705 539
<i>Bonds</i>	240 614	5 000	-	-	-	-	245 614
<i>Convertible bonds</i>	354 021	-	-	-	-	10 378	364 398
Short-term interest bearing debt	255 946	-76 715	-	25 460	-	-	204 691
Total financial debt	1 628 705	-166 275	-	23 866	-	122 199	1 608 495
Derivatives held to hedge financial debt							
Interest-rate swaps	-	-	-	-	496	-	496
Cross-currency interest-rate swaps	522	-	-	-	-4 227	-	-3 705
Other liabilities from financing activities							
Put options of NCI	11 033	-	-11 033	-	-	-	-
Conversion derivative	220	-	-	-	-105	-	115
Total liabilities from financing activities	1 640 480	-166 275	-11 033	23 866	-3 837	122 199	1 605 400

¹ Including the current portion of non-current interest-bearing debt of € 686.1 million as at 1 January and € 219.5 million as at 31 December.

6.19. Other non-current liabilities

Carrying amount in thousands of €	2018	2019
Other non-current amounts payable	149	150
Derivatives (cf. note 7.2.)	220	115
Put options on NCI (cf. note 7.2.)	11 033	-
Total	11 402	265

The derivatives related to the embedded financial instrument (€ 0.1 million (2018: € 0.2 million)) of the convertible bond (see notes 6.18. 'Interest-bearing debt' and 7.2. 'Financial risk management and financial derivatives'). The put option has been extinguished due to the purchase of the non-controlling interest from Maccaferri in 2019 (2018: € 11.0 million).

6.20. Other current liabilities

Carrying amount in thousands of €	2018	2019
Other amounts payable	10 355	7 375
Derivatives (cf. note 7.2.)	4 734	2 116
Advances received	11 259	18 791
Other taxes	28 841	30 307
Accruals and deferred income	7 445	9 399
Total	62 634	67 988

The derivatives included forward-exchange contracts (€ 1.4 million (2018: € 1.5 million)) and CCIRs (€ 0.7 million (2018: € 3.2 million)). Other taxes predominantly related to VAT payable, employment-related taxes withheld and other non-income taxes payable.

6.21. Tax positions

The table below provides an overview of the tax receivables, tax payables and uncertain tax positions recognized at balance sheet closing date. The tax receivables and payables include both current income taxes, VAT and other taxes.

in thousands of €	2018	2019
Tax receivables	114 412	90 614
Certain tax liabilities	35 464	29 071
Uncertain tax positions	64 687	64 728

7. Miscellaneous items

7.1. Notes to the cash flow statement

Summary

in thousands of €	2018	2019
<i>Operating result (EBIT)</i>	146 880	155 017
<i>Non-cash items added back to operating result (EBIT)</i>	239 624	248 271
EBITDA	386 504	403 288
<i>Other gross cash flows from operating activities</i>	-107 956	-61 567
Gross cash flows from operating activities	278 548	341 721
<i>Changes in operating working capital ¹</i>	-28 948	168 549
<i>Other operating cash flows</i>	-5 880	14 056
Cash from operating activities	243 720	524 326
Cash from investing activities	-102 375	-91 089
Cash from financing activities	-157 293	-268 793
Net increase or decrease in cash and cash equivalents	-15 948	164 444

¹ The value differs from the organic increase reported in note 6.8. 'Operating working capital' due to a reclassification of € -20.6 million for capex related to trade payables balances at year-end (2018: € -17.6 million).

The cash flow from operating activities is presented using the indirect method, whereas the direct method is used for the cash flows from other activities. The direct method focuses on classifying gross cash receipts and gross cash payments by category.

Cash from operating activities

Details of selected operating items

in thousands of €	2018	2019
Non-cash items included in operating result (EBIT)		
<i>Depreciation and amortization ¹</i>	218 173	229 069
<i>Impairment losses on assets</i>	21 451	19 202
Non-cash items added back to operating result (EBIT)	239 624	248 271
<i>Employee benefits: set-up / reversal (-) of amounts not used</i>	10 543	41 385
<i>Provisions: set-up / reversal (-) of amounts not used</i>	10 814	11 152
<i>CTA recycled on business disposals</i>	599	-
<i>Equity-settled share-based payments</i>	6 692	4 390
Other non-cash items included in operating result (EBIT)	28 648	56 928
Total	268 272	305 198
Investing items included in operating result (EBIT)		
<i>Gains (-) and losses on business disposals (portion sold)</i>	-1 478	-
<i>Gains (-) and losses on disposals of intangible assets + PP&E</i>	-29 783	3 428
Total	-31 261	3 428
Amounts used on provisions and employee benefit obligations		
<i>Employee benefits: amounts used</i>	-28 346	-45 801
<i>Provisions: amounts used</i>	-8 025	-15 498
Total	-36 371	-61 299
Income taxes paid		
<i>Current income tax expense</i>	-65 536	-56 451
<i>Increase or decrease (-) in net income taxes payable</i>	-3 436	-4 173
Total	-68 972	-60 624
Other operating cash flows		
<i>Movements in other receivables and payables</i>	-3 551	10 610
<i>Other</i>	-2 329	3 446
Total	-5 880	14 056

¹ Including € -7.1 million (2018: € -11.3 million) write-downs / (reversals of write-downs) on inventories and trade receivables (see note 6.8. 'Operating working capital').

Gross cash flows from operating activities increased by € +63.2 million as a result of higher operating performance (€ +16.8 million EBITDA), lower cash-outs on income taxes (€ +8.3 million), higher add-backs for other non-cash items (€ +28.3 million, mainly a higher setup of employee benefit obligations for termination benefits related to the restructuring program in Belgium) and higher investing items (€ +34.7 million). Offset by higher usage provisions (€ -24.9 million), amongst others this was related to the usage of the restructuring provision in Bekaert Figline SpA (€ -8.7 million) and in North America (€ -5.1 million) and the amounts used for the termination benefits in the restructuring program in Belgium (€ -15.0 million).

Investing items in 2019 (€ 3.4 million) were limited and related to gains and losses on disposals of assets. Last year the investing items consisted of (1) the gain on the disposal of the drying activities and (2) gains and losses on disposals of assets, mainly related to the sale of property as part of the closure of the Huizhou plant (China) and the Shah Alam plant (Malaysia).

Decreases in working capital amounted to € +168.5 million in 2019 (2018: € -28.9 million) (see organic increase in note 6.8. 'Operating working capital') fueled by the introduction of an off-balance sheet factoring program since the second half of 2018, tight inventory control and significant efforts done in collecting outstanding receivables.

Other operating cash flows mainly relate to swings in other receivables and payables not included in working capital and not arising from investing or financing activities.

Income taxes paid were € 8.3 million lower than in 2018. Less taxes were paid mainly in Slovakia (€ 5.6 million) and Turkey (€ 4.6 million) whereas more taxes were paid mainly in China (€ -1.5 million) and Indonesia (€ -1.3 million).

Cash from investing activities

In 2018 the net consideration received for the disposal of the drying activities is presented in 'Proceeds from disposals of investments'. The earn-out for this disposal was paid in 2019 and presented in this line. Cash-outs from capital expenditure for property, plant and equipment decreased from € 181.3 million in 2018 to € 94.5 million in 2019. The 2019 cash-out for the rights to use land related to the start-up of the green field in Vietnam.

Proceeds from sales of fixed assets in 2018 related to the sale of (1) rights to use land and (2) buildings and equipment of the closure of the Huizhou plant (China) and the Shah Alam plant (Malaysia). In 2019 there was only a minor amount for the sale of assets.

The following table presents more details on selected investing cash flows:

Details of selected investing items in thousands of €	2018	2019
Other portfolio investments		
Other investments	-411	-
Total	-411	-
Proceeds from disposals of fixed assets		
Proceeds from disposals of intangible assets	24 297	-
Proceeds from disposals of property, plant and equipment	31 791	1 349
Total	56 088	1 349

Cash from financing activities

New long-term debt issued (€ 585.7 million) mainly related to (1) the retail bond issued in October 2019 (€ 200.0 million), (2) the cash-in from the Schuldschein loans (€ 320.5 million) and (3) financing transactions in China, Chile and Peru (€ 66,5 million (2018: € 468.4 million, mainly in Belgium and China)). Repayments of long-term debt (€ -675.3 million) mainly related to (1) the repayment of the bridge loan (€ -410.0 million), (2) the repayment of the retail bond maturing in December 2019 (€ -195.0 million) and (3) loans in China (€ -34.1 million), in Chile (€ -9.1 million) and in Australia (€ -3.7 million). Cash-outs from short-term debt amounted to € -76.7 million in 2019 (2018: € -62.6 million). For an overview of the movements in liabilities arising from financing activities, see note 6.18. 'Interest-bearing debt'.

In 2019 there were almost no treasury shares transactions (2018: € -11.3 million, consisted of share buy-backs (€ -13.0 million) and proceeds from options being exercised (€ 1.7 million)).

In 2019 'Sales and purchases of non-controlling interests' concerned the buy-out of Maccaferri's 50% share in Bekaert Maccaferri Underground Solutions BVBA (€ -9.5 million). In 2018, it mainly consisted of the purchase of the non-controlling interest of the BBRG entities (€ -7.4 million).

As for other financing cash flows, cash-ins resulted from capital increases in the parent company (nil vs € 0.6 million in 2018), capital contributions paid by the partner in Bekaert Costa Rica SA (2018: minor capital contributions) and net receipts from loans and receivables (€ 11.9 million vs € -2.3 million in 2018). Net investments in short-term deposits amounted to almost nil (2018: net disposals of € 0.4 million). Other financial income and expenses mainly related amongst others to taxes and bank charges on financial transactions (€ -3.8 million vs € -7.7 million in 2018).

The following table presents more details about selected financing items:

Details of selected financing items	2018	2019
in thousands of €		
Other financing cash flows		
New shares issued following exercise of subscription rights	576	-
Capital paid in by non-controlling interestholders	205	652
Increase (-) or decrease in current and non-current receivables	-2 313	11 902
Increase (-) or decrease in current financial assets	365	-3
Other financial income and expenses	-9 067	-5 012
Total	-10 234	7 540

7.2. Financial risk management and financial derivatives

Principles of financial risk management

The Group is exposed to risks from movements in exchange rates, interest rates and market prices that affect its assets and liabilities. Financial risk management within the Group aims at reducing the impact of these market risks through ongoing operational and financing activities. Selected derivative hedging instruments are used depending on the assessment of risk involved. The Group mainly hedges the risks that affect the Group's cash flows. Derivatives are used exclusively as hedging instruments and not for trading or other speculative purposes. To reduce the credit risk, hedging transactions are generally only concluded with financial institutions whose credit rating is at least A.

The guidelines and principles of the Bekaert financial risk policy are defined by the Audit and Finance Committee and overseen by the Board of the Group. Group Treasury is responsible for implementing the financial risk policy. This encompasses defining appropriate policies and setting up effective control and reporting procedures. The Audit and Finance Committee is regularly kept informed as to the currency and interest-rate exposure.

Currency risk

The Group's currency risk can be split into two categories: translational and transactional currency risk.

Translational currency risk

A translational currency risk arises when the financial data of foreign subsidiaries are converted into the Group's presentation currency, the euro. The main currencies are Chinese renminbi, US dollar, Czech koruna, Brazilian real, Chilean peso, Russian ruble, Indian rupee and pound sterling. Since there is no impact on the cash flows, the Group usually does not hedge against such risk.

Transactional currency risk

The Group is exposed to transactional currency risks resulting from its investing, financing and operating activities.

Foreign currency risk in the area of investment results from the acquisition and disposal of investments in foreign companies, and sometimes also from dividends receivable from foreign investments. If material, these risks are hedged by means of forward exchange contracts.

Foreign currency risk in the financing area results from financial liabilities in foreign currencies. In line with its policy, Group Treasury hedges these risks using cross-currency interest-rate swaps and forward exchange contracts to convert financial obligations denominated in foreign currencies into the entity's functional currency. At the reporting date, the foreign currency liabilities for which currency risks were hedged mainly consisted of intercompany loans in euro and US dollar.

Foreign currency risk in the area of operating activities arises from commercial activities with sales and purchases in foreign currencies, as well as payments and receipts of royalties. The Group uses forward-exchange contracts to limit the currency risk on the forecasted cash inflows and outflows for the coming three months. Significant exposures and firm commitments beyond that time frame may also be covered.

Currency sensitivity analysis

Currency sensitivity relating to the operating, investing and financing activities

The following table summarizes the Group's net foreign currency positions of operating, investing and financing receivables and payables at the reporting date for the most important currency pairs. The net currency positions are presented before intercompany eliminations. Positive amounts indicate that the Group has a net future cash inflow in the first currency. In the table, the 'Total exposure' column represents the position on the balance sheet, while the 'Total derivatives' column includes all financial derivatives hedging those balance sheet positions as well as forecasted transactions.

Currency pair - 2019

in thousands of €

	Total exposure	Total derivatives	Open position
AUD/USD	1 614	-6 044	-4 431
BRL/EUR	25 900	-	25 900
CLP/EUR	-20 164	-	-20 164
CZK/EUR	870	-820	50
EUR/CNY	-81 668	39 553	-42 116
EUR/GBP	-8 033	6 101	-1 932
EUR/INR	-33 154	-	-33 154
EUR/MYR	-15 551	15 000	-551
EUR/RON	-42 080	7 473	-34 607
EUR/USD	-2 043	6 212	4 169
IDR/USD	8 199	-	8 199
JPY/CNY	4 792	-2 657	2 135
JPY/USD	4 158	-2 478	1 680
NOK/GBP	9 547	-	9 547
NZD/USD	-9 347	-859	-10 206
RUB/EUR	32 263	-32 256	8
TRY/EUR	25 074	-	25 074
USD/BRL	-20 256	-	-20 256
USD/CLP	8 004	-	8 004
USD/CNY	-59 157	68 126	8 968
USD/COP	-10 586	18 359	7 773
USD/EUR	230 415	-254 001	-23 587
USD/GBP	100 058	-	100 058
USD/INR	-42 405	18 539	-23 866

Currency pair - 2018

in thousands of €

	Total exposure	Total derivatives	Open position
AUD/USD	4 555	-3 262	1 293
CZK/EUR	10 569	-6 906	3 663
EUR/BRL	-15 031	-	-15 031
EUR/CNY	-117 627	42 191	-75 436
EUR/GBP	-17 789	9 019	-8 770
EUR/INR	-31 591	18 254	-13 337
EUR/MYR	-15 524	15 000	-524
EUR/RON	-48 369	4 787	-43 582
EUR/USD	4 882	-	4 882
HKD/EUR	-7 355	-	-7 355
IDR/USD	11 206	-	11 206
JPY/CNY	6 810	-2 010	4 800
JPY/EUR	2 734	-2 401	334
NOK/GBP	5 817	-	5 817
NZD/USD	-9 687	-778	-10 465
RUB/EUR	28 314	-28 307	7
TRY/EUR	18 885	-	18 885
USD/BRL	-14 105	-	-14 105
USD/CLP	7 460	-	7 460
USD/CNY	-87 148	117 106	29 958
USD/COP	-15 393	21 607	6 213
USD/EUR	358 915	-311 637	47 278
USD/GBP	82 347	-	82 347
USD/INR	-79 818	-	-79 818

The reasonably possible changes used in this calculation were based on annualized volatility relating to the daily movement of the exchange rate of the reported year, with a 95% confidence interval.

If rates had weakened/strengthened by such changes with all other variables constant, the result for the period before taxes would have been € 7.3 million lower/higher (2018: € 3.7 million).

Currency sensitivity in relation to hedge accounting

At 31 December 2019 the Group does not apply hedge accounting (also none at 31 December 2018).

Interest-rate risk

The Group is exposed to interest-rate risk, mainly on debt denominated in US dollar, Chinese renminbi and euro. To minimize the effects of interest-rate fluctuations in these regions, the Group manages the interest-rate risk for net debt denominated in the respective currencies of these countries separately. General guidelines are applied to cover interest-rate risk:

- » The target average life of long-term debt is four years.
- » The allocation of long-term debt between floating and fixed interest rates must remain within the defined limits approved by the Audit and Finance Committee.

Group Treasury uses interest-rate swaps and cross-currency interest-rate swaps to ensure that the floating and fixed portions of the long-term debt remain within the defined limits.

The following table summarizes the weighted average interest rates, including the effects of any swaps, at the balance sheet date.

The convertible bond (EUR) is carried at amortized cost using the effective interest method so as to spread the separate recognition of the conversion option and any transaction fees over time via interest charges. This results in effective interest charges exceeding the nominal interest charges.

2019	Long-term			Short-term	Total
	Fixed rate	Floating rate	Total		
US dollar	4.65%	4.12%	4.28%	2.77%	3.06%
Chinese renminbi	-	4.63%	4.63%	4.13%	4.44%
Euro	1.30%	1.40%	1.32%	1.25%	1.32%
Other	6.74%	-	6.74%	5.22%	5.72%
Total	1.65%	2.06%	1.75%	3.57%	2.16%

2018	Long-term			Short-term	Total
	Fixed rate	Floating rate	Total		
US dollar	4.20%	3.36%	3.50%	3.26%	3.29%
Chinese renminbi	-	4.63%	4.63%	4.56%	4.62%
Euro	1.76%	1.03%	1.72%	0.41%	1.30%
Other	8.52%	-	8.52%	4.92%	5.63%
Total	2.02%	2.85%	2.12%	2.16%	2.14%

Interest-rate sensitivity analysis

Interest-rate sensitivity of the financial debt

As disclosed in note 6.18. 'Interest-bearing debt', the total financial debt of the Group as of 31 December 2019 amounted to € 1 608.5 million (2018: € 1 628.7 million). The following table shows the currency and interest rate profile, i.e. the percentage distribution of the total financial debt by currency and by type of interest rate (fixed, floating), including the effect of any swaps.

2019	Long-term		Short-term	Total
	Fixed rate	Floating rate	Floating rate	
US dollar	1.00%	2.20%	14.10%	17.30%
Chinese renminbi	-	1.90%	1.20%	3.10%
Euro	54.70%	14.70%	0.20%	69.60%
Other	3.30%	-	6.70%	10.00%
Total	59.00%	18.80%	22.20%	100.00%

2018	Long-term		Short-term	Total
	Fixed rate	Floating rate	Floating rate	
US dollar	0.50%	2.60%	17.70%	20.80%
Chinese renminbi	-	1.40%	0.40%	1.80%
Euro	44.30%	2.20%	22.50%	69.00%
Other	1.60%	-	6.80%	8.40%
Total	46.40%	6.20%	47.40%	100.00%

On the basis of the annualized daily volatility of the 3-month Interbank Offered Rate in 2019 and 2018, the reasonable estimates of possible interest rate changes, with a 95% confidence interval, are set out for the main currencies in the table below.

2019	Interest rate at 31 December	Reasonably possible changes (+/-)
Chinese renminbi ¹	2.64%	0.44%
Euro	0.00%	0.00%
US dollar	1.91%	0.28%

2018	Interest rate at 31 December	Reasonably possible changes (+/-)
Chinese renminbi ¹	2.72%	0.45%
Euro	0.00%	0.00%
US dollar	2.80%	0.27%

¹ For the Chinese renminbi, the interest rate is the PBOC benchmark interest rate for lending up to six months.

Applying the estimated possible changes in the interest rates to the floating rated debt, with all other variables constant, the result for the period before tax would have been € 1.7 million higher/lower (2018: € 1.6 million higher/lower). Since the EURIBOR was negative and Bekaert has a 0% floor in place, reasonably possible changes in the EURIBOR will not generate any effect.

Interest-rate sensitivity in relation to hedge accounting

At 31 December 2019, the Group does not apply hedge accounting (2018: none) and no sensitivity analysis was required.

Credit risk

The Group is exposed to credit risk from its operating activities and certain financing activities. In respect of its operating activities, the Group has a credit policy in place, which takes into account the risk profiles of the customers in terms of the market segment to which they belong. Based on activity platform, product sector and geographical area, a credit risk analysis is made of customers and a decision is taken regarding the covering of the credit risk. The exposure to credit risk is monitored on an ongoing basis and credit evaluations are made of all customers. In terms of the characteristics of some steel wire activities with a limited number of global customers, the concentration risk is closely monitored and, in combination with the existing credit policy, appropriate action is taken when needed. In accordance with IFRS 8 §34, none of the specified disclosures on individual customers (or groups of customers under common control) are required, since none of the Group's customers accounts for more than 10% of its revenues. At 31 December 2019, 64.7% (2018: 47.4%) of the credit risk exposure was covered by credit insurance policies and by trade finance techniques. In respect of financing activities, transactions are normally concluded with counterparties that have at least an A credit rating. There are also limits allocated to each counterparty which depend on their rating. Due to this approach, the Group considers the risk of counterparty default to be limited in both operating and financing activities. In accordance with the IFRS 9 'expected credit loss' model for financial assets, a general bad debt allowance is made for trade receivables to cover the unknown bad debt risk at each reporting date. This general allowance constitutes of a percentage on outstanding trade receivables at each reporting date. The percentages are taken into account historical information on losses on trade receivables and are reviewed year-on-year.

Liquidity risk

Liquidity risk is the risk that the Group will be unable to meet its obligations as they come due because of an inability to liquidate assets or obtain adequate funding. To ensure liquidity and financial flexibility at all times, the Group, in addition to its available cash, has several uncommitted short-term credit lines at its disposal in the major currencies and in amounts considered adequate for current and near-future financing needs. These facilities are generally of the mixed type and may be utilized, for example, for advances, overdrafts, acceptances and discounting. The Group also has committed credit facilities at its disposal up to a maximum equivalent of € 200 million (2018: € 100 million) at floating interest rates with fixed margins. At year-end, nothing was outstanding under these facilities (2018: nil). In addition, the Group has a commercial paper and medium-term note program available for a maximum of € 123.9 million (2018: € 123.9 million). At the end of 2019, no commercial paper notes were outstanding (2018: nil). At year-end, no external bank debt was subject to debt covenants (2018: nil). The Group has discounted outstanding receivables per 31 December 2019 for a total amount of € 90.2 million (2018: € 73.9 million) under its existing factoring agreements. In 2019, the Group has entered into new factoring agreements in North America and India under which at the end of 2019, € 31.1 million was withdrawn. Under these agreements, substantially all risks and rewards of ownership of the receivables are transferred to the factor. As a consequence, at the end of 2019, the factored receivables are derecognized.

The following table shows the Group's contractually agreed (undiscounted) outflows in relation to financial liabilities (including financial liabilities reclassified as liabilities associated with assets held for sale). Only net interest payments and principal repayments are included.

2019 in thousands of €	2020	2021	2022-2024	2025 and thereafter
Financial liabilities - principal				
<i>Trade payables</i>	-652 384	-	-	-
<i>Other payables</i>	-7 375	-150	-	-
<i>Interest-bearing debt</i> ¹	-427 578	-452 771	-349 021	-416 826
<i>Derivatives - gross settled</i>	-196 609	-	-4 930	-
Financial liabilities - interests				
<i>Trade and other payables</i>	-	-	-	-
<i>Interest-bearing debt</i>	-24 786	-13 917	-35 708	-13 895
<i>Derivatives - net settled</i>	-596	-809	-982	-21
<i>Derivatives - gross settled</i>	-5 150	-539	-581	-
Total undiscounted cash flow	-1 314 478	-468 186	-391 222	-430 742

¹ Including lease liabilities as from IFRS 16 adoption onwards.

2018 in thousands of €	2019	2020	2021-2023	2024 and thereafter
Financial liabilities - principal				
<i>Trade payables</i>	-778 438	-	-	-
<i>Other payables</i>	-10 355	-150	-	-
<i>Interest-bearing debt</i>	-942 041	-163 964	-422 953	-125 727
<i>Derivatives - gross settled</i>	-256 452	-13 687	-	-
Financial liabilities - interests				
<i>Trade and other payables</i>	-	-	-	-
<i>Interest-bearing debt</i>	-31 009	-5 618	-5 423	-2 119
<i>Derivatives - net settled</i>	-	-	-	-
<i>Derivatives - gross settled</i>	-7 123	-1 514	-	-
Total undiscounted cash flow	-2 025 418	-184 933	-428 376	-127 846

All instruments held at the reporting date and for which payments had been contractually agreed are included. Forecasted data relating to future, new liabilities have not been included. Amounts in foreign currencies have been translated at the closing rate at the reporting date. The variable interest payments arising from the financial instruments were calculated using the applicable forward interest rates.

Hedging

All financial derivatives the Group enters into, relate to an underlying transaction or forecasted exposure. In function of the expected impact on the income statement and if the stringent IFRS 9 criteria are met, the Group decides on a case-by-case basis whether hedge accounting will be applied. The following sections describe the transactions whereby hedge accounting is applied and transactions which do not qualify for hedge accounting but constitute an economic hedge.

Hedge accounting

The Group did not apply hedge accounting in 2019. The limited number of cash flow hedges in Bridon International Ltd, which in the past hedged its currency risk on operating cash flows through foreign-exchange contracts designated as cash flow hedges, have expired in 2018.

Fair value hedges

There were no fair value hedges in 2019 and 2018.

Cash flow hedges

The limited number of cash flow hedges have expired in 2018. There were no new cash flow hedges in 2019.

Economic hedging and other derivatives

The Group also uses financial instruments that represent an economic hedge but for which no hedge accounting is applied, either because the criteria to qualify for hedge accounting defined in IFRS 9 'Financial Instruments' are not met or because the Group has elected not to apply hedge accounting. These derivatives are treated as free-standing instruments held for trading.

- » The Group uses cross-currency interest-rate swaps and forward-exchange contracts to hedge the currency risk on inter-company loans involving two entities with different functional currencies. Until now, the Group has elected not to apply hedge accounting as defined in IFRS 9. Since nearly all cross-currency interest-rate swaps are floating-to-floating, the fair value gain or loss on the financial instruments is expected to offset the foreign-exchange result arising from the remeasurement of the intercompany loans. The major currencies involved are US dollars, euros and Russian rubles.
- » To manage its interest-rate exposure, the Group uses interest-rate swaps to convert its floating-rate debt to a fixed rate debt. In 2019, the Group entered into interest-rate swaps for € 196.5 million to hedge the Schuldschein loans with floating interest rates (2018: nil).
- » The Group uses forward exchange contracts to limit currency risks on its various operating and financing activities. For all forward exchange contracts, the fair value change is recorded immediately under other financial income and expenses.
- » In June 2016, a € 380 million convertible bond maturing in 2021 was issued with a zero coupon interest. The characteristics of the convertible bond are such that the conversion option constitutes a non-closely related embedded derivative which, in accordance with IFRS 9, is separated from the host contract. The fair value of the conversion derivative on the bond amounted to € 0.1 million at 31 December 2019 (2018: € 0.2 million), as a result of which a gain of € 0.1 million was recognized in other financial income (2018: a gain of € 17.3 million). The host contract (the plain vanilla debt without the conversion option) is

recognized at amortized cost using the effective interest method; its effective interest expense amounts to € 10.4 million (2018: € 10.1 million).

- » The put option relating to the 2014 business combination with Maccaferri qualifies as a non-current financial liability measured at fair value through profit or loss. In 2019, the put option was extinguished as part of the transaction in which the Group purchased the non-controlling interest from Maccaferri.
- » In June 2019, the Group entered into a renewable energy Virtual Power Purchase Agreement (VPPA) for a wind generation facility located in North America. The characteristics of the contract are such that the VPPA constitutes a derivative in accordance with IFRS 9. The fair value of the derivative amounted to € 2.5 million at 31 December 2019, as a result of which a gain of € 2.5 million was recognized in other financial income.

Derivatives

The following table analyzes the notional amounts of the derivatives according to their maturity date. For derivatives designated for hedge accounting as set out in IFRS 9, a distinction is made depending on whether these are part of a fair value hedge (FVH) or cash flow hedge (CFH):

2019 in thousands of €	Due within one year	Due between one and 5 years	Due after more than 5 years
Held for trading			
Forward exchange contracts	192 025	-	-
Interest-rate swaps	-	196 500	-
Cross-currency interest-rate swaps	312 895	4 930	-
Conversion derivative	-	380 000	-
Total	504 920	581 430	-

2018 in thousands of €	Due within one year	Due between one and 5 years	Due after more than 5 years
Held for trading			
Forward exchange contracts	252 776	-	-
Cross-currency interest-rate swaps	341 308	13 687	-
Conversion derivative	-	380 000	-
Total	594 084	393 687	-

The following table summarizes the fair values of the various derivatives carried. For derivatives designated for hedge accounting as set out in IFRS 9, a distinction is made depending on whether these are part of a fair value hedge (FVH) or cash flow hedge (CFH):

Fair value of current and non-current derivatives in thousands of €	Assets		Liabilities	
	2018	2019	2018	2019
Financial instruments				
Held for trading				
Forward exchange contracts	6 748	1 602	1 507	1 424
Interest-rate swaps	-	-	-	496
Cross-currency interest-rate swaps	2 704	3 902	3 226	197
Conversion derivative	-	-	220	115
Other derivative financial assets	-	2 492	-	-
Total	9 452	7 997	4 953	2 231
Non-current	1 407	3 374	220	610
Current	8 045	4 623	4 734	1 621
Total	9 452	7 997	4 954	2 231

In 2019, the other derivative financial assets related to the VPPA derivative (€ 2.5 million).

The Group has no financial assets and financial liabilities that are presented net in the balance sheet due to set-off in accordance with IAS 32. The Group enters into ISDA (International Swaps and Derivatives Association) master agreements with its counterparties for some of its derivatives, allowing the counterparties to net derivative assets with derivative liabilities when settling in case of default. Under these agreements, no collateral is being exchanged, neither in cash nor in securities.

The potential effect of the netting of derivative contracts is shown below:

Effect of enforceable netting agreements in thousands of €	Assets		Liabilities	
	2018	2019	2018	2019
Total derivatives recognized in balance sheet	9 452	7 997	4 954	2 231
Enforceable netting	-1 297	-197	-1 297	-197
Net amounts	8 155	7 800	3 657	2 034

Additional disclosures on financial instruments by class and category

The following tables list the different classes of financial assets and liabilities with their carrying amounts and their respective fair values, analyzed by their measurement category in accordance with IFRS 9 'Financial Instruments'.

Cash and cash equivalents, short-term deposits, trade and other receivables, bills of exchange received, loans and receivables primarily have short terms to maturity; hence, their carrying amounts at the reporting date approximate the fair values. Trade and other payables also generally have short terms to maturity and, hence, their carrying amounts also approximate their fair values. The Group has no exposure to collateralized debt obligations (CDOs).

The following abbreviations are used for the IFRS 9 categories:

Abbreviation	Category in accordance with IFRS 9
AC	Financial assets or financial liabilities at amortized cost
FVTOCI/Eq	Equity instruments designated as at fair value through OCI
FVTPL/Mnd	Financial assets mandatorily measured at fair value through profit or loss
HfT	Financial liabilities Held for Trading
FVTPL	Financial liabilities measured as at fair value through profit or loss

Carrying amount vs fair value in thousands of €	Category in accordance with IFRS 9	31 December 2018		31 December 2019	
		Carrying amount	Fair value	Carrying amount	Fair value
Assets					
Non-current financial assets					
- Financial & other receivables and cash guarantees	AC	10 021	10 021	9 026	9 026
- Equity investments	FVTOCI/Eq	11 153	11 153	13 152	13 152
- Derivatives					
- Held for trading	FVTPL/Mnd	1 407	1 407	3 374	3 374
Current financial assets					
- Financial receivables and cash guarantees	AC	20 186	20 186	8 779	8 779
- Cash and cash equivalents	AC	398 273	398 273	566 176	566 176
- Short term deposits	AC	50 036	50 036	50 039	50 039
- Trade receivables	AC	772 731	772 731	644 908	644 908
- Bills of exchange received	AC	57 727	57 727	59 904	59 904
- Other current assets					
- Other receivables	AC	15 929	15 929	17 831	17 831
- Derivatives					
- Held for trading	FVTPL/Mnd	8 045	8 045	4 623	4 623
Liabilities					
Non-current interest-bearing debt					
- Finance leases	AC	1 854	1 854	-	-
- Lease liabilities	AC	-	-	68 525	68 525
- Credit institutions	AC	285 176	285 176	551 387	551 387
- Bonds	AC	399 635	410 729	564 399	567 749
Current interest-bearing debt					
- Finance leases	AC	810	810	-	-
- Lease liabilities	AC	-	-	19 728	19 728
- Credit institutions	AC	746 231	746 231	358 843	358 843
- Bonds	AC	195 000	199 626	45 614	46 523
Other non-current liabilities					
- Conversion option	HfT	220	220	115	115
- Put option	FVTPL	11 033	11 033	-	-
- Other payables	AC	150	150	150	150
Trade payables	AC	778 438	778 438	652 384	652 384
Other current liabilities					
- Other payables	AC	21 614	21 614	26 165	26 165
- Derivatives					
- Held for trading	HfT	4 734	4 734	2 116	2 116
Aggregated by category in accordance with IFRS 9					
Financial assets					
	AC	1 324 903	1 324 903	1 356 662	1 356 662
	FVTOCI/Eq	11 153	11 153	13 152	13 152
	FVTPL/Mnd	9 452	9 452	7 997	7 997
Financial liabilities					
	AC	2 428 907	2 444 627	2 287 195	2 291 454
	HfT	4 954	4 954	2 231	2 231
	FVTPL	11 033	11 033	-	-

The fair value of all financial instruments measured at amortized cost in the balance sheet has been determined using level-2 fair value measurement techniques.

Financial instruments by fair value measurement hierarchy

The fair value measurement of financial assets and financial liabilities can be characterized in one of the following ways:

- » 'Level 1' fair value measurement: the fair values of financial assets and liabilities with standard terms and conditions and traded on active liquid markets are determined with reference to quoted market prices in these active markets for identical assets and liabilities. This mainly relates to financial assets at fair value through other comprehensive income such as the investment in Shougang Concord Century Holdings Ltd (see note 6.6. 'Other non-current assets').
- » 'Level 2' fair value measurement: the fair values of other financial assets and financial liabilities are determined in accordance with generally accepted pricing models based on discounted cash flow analysis using prices from observable current market transactions and dealer quotes for similar instruments. This mainly relates to derivative financial instruments. Forward exchange contracts are measured using quoted forward-exchange rates and yield curves derived from quoted interest rates with matching maturities. Interest-rate swaps are measured at the present value of future cash flows estimated and discounted using the applicable yield curves derived from quoted interest rates. The fair value measurement of cross-currency interest-rate swaps is based on discounted estimated cash flows using quoted forward-exchange rates, quoted interest rates and applicable yield curves derived therefrom.
- » 'Level 3' fair value measurement: the fair value of the remaining financial assets and financial liabilities is derived from valuation techniques which include inputs that are not based on observable market data. The share conversion option in the convertible bond issued in June 2016 is a non-closely related embedded derivative that has to be separated from the host debt instrument and measured at fair value through profit or loss. The fair value of the conversion option is determined as the difference between the fair value of the convertible bond as a whole (mid – source: Bloomberg) and the fair value of the host debt contract using a valuation model based on the prevailing market interest rate for similar plain vanilla debt instruments. The main factors determining the fair value of the conversion bond are the Bekaert share price (level 1), the reference swap rate (level 2), the volatility of the Bekaert share (level 3) and the credit spread (level 3). Consequently, the fair value of the VPPA contract is determined using a Monte Carlo valuation model. The main factors determining the fair value of the VPPA agreement are the discount rate (level 2), the estimated energy output based on wind studies in the area and the off-peak/on-peak price volatility (level 3).

Convertible bond issued in 2016	Issue date	31 December 2018	31 December 2019
Level 1 inputs			
Share price	€ 37.97	€ 21.06	€ 26.50
Level 2 inputs			
Reference swap rate	0.03%	-0.13%	-0.31%
Level 3 inputs			
Volatility	29.00%	22.00%	22.00%
Credit spread	225 bps	200 bps	190 bps
Outcome of the model (in thousands of €)			
Fair value of the convertible debt	380 000	363 432	371 564
Fair value of the plain vanilla debt	339 509	363 212	371 449
Fair value of the conversion option	40 491	220	115

Derivative in VPPA arrangement	31 December 2019
Level 2 inputs	
Discount rate	Weighted average of investment grade corporate bond curves
Level 3 inputs	
Power forward sensitivity	Estimated on peak/off peak price forecasts
Production sensitivity	Based on wind studies in the area
Outcome of the model (in thousands of €)	
Fair value of the VPPA derivative	2 492

The carrying amount (i.e. the fair value) of the level-3 liabilities/(assets) has evolved as follows:

Level-3 Financial liabilities / (assets) in thousands of €	2018	2019
At 1 January	26 678	11 253
Extinguished	-	-11 033
(Gain) / loss in fair value	-15 425	-2 597
At 31 December	11 253	-2 378

Gains and losses in fair value are reported in other financial income and expenses. The put option has been extinguished as part of the transaction in which the Group purchased the non-controlling interest in Bekaert Maccaferri Underground Solutions BVBA.

The following table shows the sensitivity of the fair value calculation to the most significant level-3 inputs for the conversion option and the VPPA agreement.

Sensitivity analysis in thousands of €	Change	Impact on conversion option
Volatility	3.5%	increase by 266
	-3.5%	decrease by -76
Credit spread	25 bps	increase by -17
	-25 bps	decrease by -29

Sensitivity analysis

in thousands of €

	Change	Impact on VPPA derivative	
Power forward sensitivity	+10%	increase by	1 335
	-10%	decrease by	-1 424
Production sensitivity	+5%	increase by	178
	-5%	decrease by	-356

The following table provides an analysis of financial instruments measured at fair value in the balance sheet, in accordance with the fair value measurement hierarchy described above:

2019

in thousands of €

	Level 1	Level 2	Level 3	Total
Financial assets mandatorily measured as at fair value through profit or loss				
<i>Derivative financial assets</i>	-	5 505	2 492	7 997
Equity instruments designated as at fair value through OCI				
<i>Equity investments</i>	5 745	7 407		13 152
Total assets	5 745	12 912	2 492	21 149
Financial liabilities held for trading				
<i>Conversion option</i>	-	-	115	115
<i>Other derivative financial liabilities</i>	-	2 116	-	2 116
Total liabilities	-	2 116	115	2 231

2018

in thousands of €

	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss				
<i>Derivative financial assets</i>	-	9 452	-	9 452
Financial assets at fair value through OCI				
<i>Equity investments</i>	5 241	5 913	-	11 154
Total assets	5 241	15 365	-	20 606
Financial liabilities - hedge accounting				
<i>Conversion option</i>	-	-	220	220
<i>Other derivative financial liabilities</i>	-	4 734	-	4 734
Financial liabilities designated as at fair value through profit or loss				
<i>Put option relating to non-controlling interests</i>	-	-	11 033	11 033
Total liabilities	-	4 734	11 253	15 986

Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue as a going concern while maximizing the return to shareholders through the optimization of the net debt and equity balance. The Group's overall strategy remains unchanged from 2018.

The capital structure of the Group consists of net debt, as defined in note 6.18. 'Interest-bearing debt', and equity (both attributable to equity holders of Bekaert and to non-controlling interests).

Gearing ratio

The Group's Audit and Finance Committee reviews the capital structure on a semi-annual basis. As part of this review, the committee assesses the cost of capital and the risks associated with each class of capital. The Group has a target gearing ratio of 50% determined as the proportion of net debt to equity. To realize this target (excluding the impact of IFRS 16 'Leases'), the Group is following systematically a number of guidelines, a.o.

- » strict cost control to improve profitability;
- » managing working capital levels by:
 - operational excellence,
 - cash collection actions;
 - better aligned payment terms;
 - optimized factoring usage,
- » strict control of capital expenditure;
- » active business portfolio management, including M&A and divestments.

Gearing in thousands of €	2018	2019
Net debt	1 152 878	976 984
Equity	1 516 002	1 531 540
Net debt to equity ratio	76.0%	63.8%

7.3. Contingencies and commitments

As at 31 December, the important contingencies and commitments were:

in thousands of €	2018	2019
Contingent liabilities	704	8 830
Commitments to purchase fixed assets	28 107	50 072
Commitments to invest in venture capital funds	9 437	10 835

At year-end 2019, there were no outstanding bank guarantees linked to environmental obligations.

The Group has entered into several rental contracts for which, in 2019, a right-of-use asset and lease liability has been recognized in transition to IFRS 16 'Leases' (see note 6.4. 'RoU property, plant and equipment'). In 2018, the rental contracts classified as operating leases were disclosed in accordance with IAS 17.

Future payments in thousands of €	2018	2019
Within one year	21 580	-
Between one and five years	41 673	-
More than five years	33 318	-
Total	96 571	-

Expenses in thousands of €	2018	2019
Vehicles	10 823	-
Industrial buildings	8 816	-
Equipment	5 920	-
Offices	4 802	-
Land	156	-
Other	741	-
Total	31 258	-

Weighted average lease term in years	2018	2019
Vehicles	4	-
Industrial buildings	7	-
Equipment	4	-
Offices	3	-
Land	1	-
Other	1	-

7.4. Related parties

Transactions between the Company and its subsidiaries, which are related parties, have been eliminated in the consolidation and are accordingly not disclosed in this note. Transactions with other related parties are disclosed below.

Transactions with joint ventures in thousands of €	2018	2019
Sales of goods	20 247	17 377
Purchases of goods	29 107	23 998
Services rendered	193	282
Royalties and management fees received	13 172	12 944
Dividends received	19 408	19 439

Outstanding balances with joint ventures in thousands of €	2018	2019
Non-current receivables	-	24
Trade receivables	11 287	5 817
Other current receivables	-	1 499
Trade payables	7 372	5 134

None of the related parties have entered into any other transactions with the Group that meet the requirements of IAS 24 'Related Party Disclosures'.

Key Management includes the Board of Directors, the CEO, the members of the Bekaert Group Executive (BGE) and the Senior Vice Presidents (see last page of the Financial Review).

Key Management remuneration in thousands of €	2018	2019
Number of persons	38	34
Short-term employee benefits		
<i>Basic remuneration</i>	7 108	7 607
<i>Variable remuneration</i>	3 602	792
<i>Remuneration as directors of subsidiaries</i>	516	596
Post-employment benefits		
<i>Defined-benefit pension plans</i>	524	517
<i>Defined-contribution pension plans</i>	761	721
Share-based payment benefits	4 251	4 991
Total gross remuneration	16 762	15 224
Average gross remuneration per person	441	448
Number of options and stock appreciation rights granted	163 750	-
Number of performance share units granted (cash-settled and equity-settled)	-	156 026
Number of matching share units acquired	15 251	-
Number of shares granted	-	13 787

The disclosures relating to the Belgian Corporate Governance Code are included in the Corporate Governance Statement of this annual report.

7.5. Events after the balance sheet date

- » A grant of 182 900 equity settled performance share units was made on 21 January 2020 under the terms of the PSP 2018-2020 Performance Share Plan. The *granted* performance share units represented a fair value of € 4.6 million.
- » A grant of 45 141 cash settled performance share units was made on 21 January 2020 under the terms of the PSU 2018-2020 Performance Share Plan. The granted performance share units represented a fair value of € 1.1 million.
- » On 29 February 2020 the buy-out of Continental in Bekaert Slatina S.R.L. through the acquisition by Bekaert Combustion Technology BV of Conti's 20% shareholding was closed.
- » Matthew Taylor will retire from his position as Chief Executive Officer and Director of the Company with effect as of 12 May 2020.

» COVID-19

At the time of the approval of these consolidated accounts, the corona pandemic presents material uncertainty and risk with respect to the performance of the Group and the related financial results. The rapid development and fluidity of the situation makes any prediction about an ultimate impact of the coronavirus pandemic on our business impossible now, but demand evolutions and plant shutdowns will significantly affect our results of the first half of the year. COVID-19 is a non-adjusting subsequent event. Management has considered the implication on the going concern assumptions and positively concluded on its validity. However, as mentioned above, it is impossible to predict the ultimate impact of the coronavirus on our business performance.

Given the current impact of the coronavirus pandemic on populations and economies worldwide, Bekaert has implemented global and local measures and is continuously evaluating the need for additional actions in order to:

1. Safeguard the health and safety of all employees and their families, and of contractors and visitors on our sites
2. Rigorously comply with the regulations deployed in all countries hosting Bekaert activities
3. Closely communicate with customers and suppliers so that our supply chain actions are aligned
4. Mitigate the consequences of the crisis on the profitability and liquidity of the Group

Operations: plant shutdowns

Government-mandated lockdowns, customer shutdowns, and preventative actions implemented by Bekaert have now led to a number of temporary plant shutdowns. The involved Bekaert plants are located in EMEA (all countries), India, Canada and several countries in Latin America. The Bekaert plants in China resumed operations on 10 February and are since then operating at fairly normal levels.

Markets: demand and order book

In China, the outbreak of the Covid-19 virus impacted all activities but business returned back to fairly normal levels after the reopening of our plants. At present, demand is reasonably good in most businesses, with the exception of construction markets, due to delays in reopening construction sites.

In Latin America, government-mandated lockdowns are currently applicable in Ecuador, Peru, Colombia and Venezuela, causing a temporary fall in demand. Demand in other countries in the region is slowing down since the second half of March.

Demand from utility and agricultural markets has been strong in the US at the start of 2020 but started to slow down in March. Also the demand from tire and automotive markets is declining since mid-March.

EMEA markets are significantly affected due to the many government-mandated lockdowns and a significantly affected tire & automotive industry and construction sector.

Bekaert's global supply network has been extremely helpful in securing the availability of raw material, auxiliaries and Personal Protection Equipment in all sites worldwide.

Actions

A number of priorities to mitigate and to stabilize the business for the short term have been taken :

In order to continue safeguarding the health and safety of our people and their families. This applies to all personnel active at the normal workplace, to those in self-isolation, continuing their tasks through telework, and to the teams who are on a scheme of temporary unemployment;

- In order to understand our customers' current and projected needs and to adjust our supply chain decisions and actions in an agile way;
- In order to continue to rigorously control working capital levels, capital expenditure, and cost, to mitigate as far as possible the impact of the pandemic on our liquidity and bottom-line result.

Liquidity

Management prepared multiple scenarios to stress-test the impact on the Group's liquidity position. Even under very extreme assumptions, assuming no production in the plants currently or planned to go in lockdown as mentioned above for a consecutive period of two months and a delay from budget, in the range between -50% and -30% , for the remainder of the year, these scenarios still indicated a positive cash position. As extra protective measures, the Group drew on the committed facilities with the banks for an amount of € 190 million, while negotiations are ongoing in prolonging existing loan arrangements.

7.6. Services provided by the statutory auditor and related persons

During 2019, the statutory auditor and persons professionally related to him performed additional services for fees amounting to € 812 704.

These fees essentially relate to further assurance services (€ 89 431), tax advisory services (€ 687 014) and other non-audit services (€ 36 259). The additional services were approved by the Audit and Finance Committee.

The audit fees for NV Bekaert SA and its subsidiaries amounted to € 2 318 774.

7.7. Subsidiaries, joint ventures and associates

Companies forming part of the Group as at 31 December 2019

Subsidiaries

<i>Industrial companies</i>	<i>Address</i>	<i>FC¹</i>	<i>%²</i>
EMEA			
Bekaert Advanced Cords Aalter NV	Aalter, Belgium	EUR	100
Bekaert Bohumín sro	Bohumín, Czech Republic	CZK	100
Bekaert Bradford UK Ltd	Bradford, United Kingdom	GBP	100
Bekaert Combustion Technology BV	Assen, Netherlands	EUR	100
Bekaert Figline SpA	Milano, Italy	EUR	100
Bekaert Heating Romania SRL	Negoiesti, Brazi Commune, Romania	RON	100
Bekaert Hlohovec as	Hlohovec, Slovakia	EUR	100
Bekaert Izmit Çelik Kord Sanayi ve Ticaret AS	Izmit, Turkey	EUR	100
Bekaert Kartepe Çelik Kord Sanayi ve Ticaret AS	Kartepe, Turkey	EUR	100
Bekaert Petrovice sro	Petrovice, Czech Republic	CZK	100
Bekaert Sardegna SpA	Assemini, Italy	EUR	100
Bekaert Slatina SRL	Slatina, Romania	RON	80
Bekaert Slovakia sro	Sládkovičovo, Slovakia	EUR	100
Bekintex	Wetteren, Belgium	EUR	100
Bridon International GmbH	Gelsenkirchen, Germany	EUR	100
Bridon International Ltd	Doncaster, United Kingdom	GBP	100
Industrias del Ubierna SA	Burgos, Spain	EUR	100
OOO Bekaert Lipetsk	Gryazi, Russian Federation	RUB	100
North America			
Bekaert Corporation	Wilmington (Delaware), United States	USD	100
Bridon-American Corporation	New York, United States	USD	100
Wire Rope Industries Ltd/Industries de Câbles d'Acier Ltée	Pointe-Claire, Canada	CAD	100
Latin America			
Acma SA	Santiago, Chile	CLP	52
Acmanet SA	Talcahuano, Chile	CLP	52
BBRG - Osasco Cabos Ltda	São Paulo, Brazil	BRL	100
Bekaert Costa Rica SA	San José-Santa Ana, Costa Rica	USD	58
BIA Alambres Costa Rica SA	San José-Santa Ana, Costa Rica	USD	58
Ideal Alambrec SA	Quito, Ecuador	USD	58
Industrias Chilenas de Alambre - Inchalam SA	Talcahuano, Chile	CLP	52
Prodimin SAC	Lima, Peru	USD	38
Prodinsa SA	Maipú, Chile	CLP	100
Productora de Alambres Colombianos Proalco SAS	Bogotá, Colombia	COP	80
Productos de Acero Cassadó SA	Callao, Peru	USD	38
Vicson SA	Valencia, Venezuela	USD	80
Asia Pacific			
Bekaert Applied Material Technology (Shanghai) Co Ltd	Shanghai, China	CNY	100
Bekaert Binjiang Steel Cord Co Ltd	Jiangyin (Jiangsu province), China	CNY	90
Bekaert (China) Technology Research and Development Co Ltd	Jiangyin (Jiangsu province), China	CNY	100
Bekaert (Chongqing) Steel Cord Co Ltd	Chongqing, China	CNY	100
Bekaert Heating Technology (Suzhou) Co Ltd	Taicang City (Jiangsu province), China	CNY	100
Bekaert (Huizhou) Steel Cord Co Ltd	Huizhou (Guangdong province), China	CNY	100
Bekaert Industries Pvt Ltd	Taluka Shirur, District Pune, India	INR	100
Bekaert Ipoh Sdn Bhd	Kuala Lumpur, Malaysia	MYR	100
Bekaert (Jining) Steel Cord Co Ltd	Jining City, Yanzhou district (Shandong Province), China	CNY	60
Bekaert Jiangyin Wire Products Co Ltd	Jiangyin (Jiangsu province), China	CNY	100
Bekaert Mukand Wire Industries Pvt Ltd	Pune, India	INR	100
Bekaert New Materials (Suzhou) Co Ltd	Suzhou (Jiangsu province), China	CNY	100
Bekaert (Qingdao) Wire Products Co Ltd	Qingdao (Shandong province), China	CNY	100
Bekaert Shah Alam Sdn Bhd	Kuala Lumpur, Malaysia	MYR	100
Bekaert (Shandong) Tire Cord Co Ltd	Weihai (Shandong province), China	CNY	100
Bekaert (Shenyang) Advanced Cords Co Ltd	Shenyang (Liaoning province), China	CNY	100
Bekaert Shenyang Advanced Products Co Ltd	Shenyang (Liaoning province), China	CNY	100
Bekaert Toko Metal Fiber Co Ltd	Tokyo, Japan	JPY	70
Bekaert Vietnam Co Ltd	Son Tinh District, Quang Ngai Province, Vietnam	USD	100
Bekaert Wire Ropes Pty Ltd	Mayfield East, Australia	AUD	100
Bridon (Hangzhou) Ropes Co Ltd	Hangzhou (Zhejiang province), China	CNY	100
China Bekaert Steel Cord Co Ltd	Jiangyin (Jiangsu province), China	CNY	90
PT Bekaert Indonesia	Karawang, Indonesia	USD	100
PT Bekaert Wire Indonesia	Karawang, Indonesia	USD	100
PT Bridon	Bekasi, West Java, Indonesia	USD	100

¹ Functional currency

² Financial interest percentage

<i>Sales offices, warehouses and others</i>	<i>Address</i>	<i>FC¹</i>	<i>%²</i>
EMEA			
Bekaert AS	Hellerup, Denmark	DKK	100
Bekaert Emirates LLC	Dubai, United Arab Emirates	AED	49
Bekaert France SAS	Lille, France	EUR	100
Bekaert Ges mbH	Vienna, Austria	EUR	100
Bekaert GmbH	Neu-Anspach, Germany	EUR	100
Bekaert Maccaferri Underground Solutions BVBA	Aalst (Erembodegem), Belgium	EUR	100
Bekaert Middle East LLC	Dubai, United Arab Emirates	AED	49
Bekaert Norge AS	Oslo, Norway	NOK	100
Bekaert Poland Sp z oo	Warsaw, Poland	PLN	100
Bekaert (Schweiz) AG	Baden, Switzerland	CHF	100
Bekaert Svenska AB	Gothenburg, Sweden	SEK	100
Bridon-Bekaert ScanRope AS	Tonsberg, Norway	NOK	100
Bridon Ropes NV/SA	Zwevegum, Belgium	EUR	100
Bridon Scheme Trustees Ltd	Doncaster, United Kingdom	GBP	100
British Ropes Ltd	Doncaster, United Kingdom	GBP	100
Leon Bekaert SpA	Milano, Italy	EUR	100
OOO Bekaert Wire	Moscow, Russian Federation	RUB	100
Rylands-Whitecross Ltd	Bradford, United Kingdom	GBP	100
Scheldestroom NV	Zwevegum, Belgium	EUR	100
Twil Company	Bradford, United Kingdom	GBP	100
Latin America			
Bekaert Guatemala SA	Ciudad de Guatemala, Guatemala	GTQ	58
Bekaert Specialty Films de Mexico SA de CV	Monterrey, Mexico	MXN	100
Bekaert Trade Mexico S de RL de CV	Mexico City, Mexico	MXN	100
Inversiones BBRG Lima SA	Lima, Peru	PEN	96
Procables SA	Callao, Peru	PEN	96
Prodac Contrata SAC	Callao, Peru	USD	38
Prodalam SA	Santiago, Chile	CLP	52
Prodicom Selva SAC	Ucayali, Peru	USD	38
Specialty Films de Services Company SA de CV	Monterrey, Mexico	MXN	100
Asia Pacific			
Bekaert Architectural Design Consulting (Shanghai) Co Ltd	Shanghai, China	CNY	100
Bekaert Japan Co Ltd	Tokyo, Japan	JPY	100
Bekaert Korea Ltd	Seoul, South-Korea	KRW	100
Bekaert Management (Shanghai) Co Ltd	Shanghai, China	CNY	100
Bekaert Singapore Pte Ltd	Singapore	SGD	100
Bekaert Taiwan Co Ltd	Taipei, Taiwan	TWD	100
Bekaert (Thailand) Co Ltd	Tambol Pluakdaeng, Amphur Pluakdaeng, Thailand	USD	100
BOSFA Pty Ltd	Port Melbourne, Australia	AUD	100
Bridon Hong Kong Ltd	Hong Kong, China	HKD	100
Bridon New Zealand Ltd	Auckland, New Zealand	NZD	100
Bridon Singapore (Pte) Ltd	Singapore	SGD	100
Bridon (South East Asia) Ltd	Hong Kong, China	HKD	100
PT Bekaert Trade Indonesia	Karawang, Indonesia	USD	100

¹ Functional currency² Financial interest percentage

Financial companies	Address	FC¹	%²
Acma Inversiones SA	Maipú, Chile	CLP	100
BBRG Finance (UK) Ltd	Doncaster, United Kingdom	EUR	100
BBRG Holding (UK) Ltd	Doncaster, United Kingdom	EUR	100
BBRG Operations (UK) Ltd	Doncaster, United Kingdom	EUR	100
BBRG Production (UK) Ltd	Doncaster, United Kingdom	EUR	100
BBRG (Purchaser) Ltd	Doncaster, United Kingdom	EUR	100
BBRG (Subsidiary) Ltd	Doncaster, United Kingdom	EUR	100
Becare DAC	Dublin, Ireland	EUR	100
Bekaert Building Products Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Carding Solutions Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Coördinatiecentrum	Zwevegem, Belgium	EUR	100
Bekaert do Brasil Ltda	Contagem, Brazil	BRL	100
Bekaert Holding Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Ibérica Holding SL	Burgos, Spain	EUR	100
Bekaert Ideal SL	Burgos, Spain	EUR	80
Bekaert Investments NV	Zwevegem, Belgium	EUR	100
Bekaert Investments Italia SpA	Milano, Italy	EUR	100
Bekaert North America Management Corporation	Wilmington (Delaware), United States	USD	100
Bekaert Services Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Singapore Holding Pte Ltd	Singapore	SGD	100
Bekaert Specialty Wire Products Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Stainless Products Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Steel Cord Products Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Strategic Partnerships Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Wire Products Hong Kong Ltd	Hong Kong, China	EUR	100
Bekaert Wire Rope Industry NV	Aalst (Erembodegem), Belgium	EUR	100
Bridon-Bekaert Ropes Group Ltd	Doncaster, United Kingdom	EUR	100
Bridon-Bekaert Ropes Group (UK) Ltd	Doncaster, United Kingdom	EUR	100
Bridon Holdings Ltd	Doncaster, United Kingdom	GBP	100
Bridon Ltd	Doncaster, United Kingdom	GBP	100
Industrias Acmanet Ltda	Talcahuano, Chile	CLP	52
Inversiones Bekaert Andean Ropes SA	Santiago, Chile	CLP	100
InverVicson SA	Valencia, Venezuela	USD	80
Proceros SA	Talcahuano, Chile	CLP	52

Joint ventures

Industrial companies	Address	FC¹	%²
Latin America			
Belgo Bekaert Arames Ltda	Contagem, Brazil	BRL	45
BMB-Belgo Mineira Bekaert Artefatos de Arame Ltda	Vespasiano, Brazil	BRL	45
Servicios Ideal AGF Integra Cia Ltda	Quito, Ecuador	USD	29

Sales offices, warehouses and others	Address	FC¹	%²
EMEA			
Netlon Sentinel Ltd	Blackburn, United Kingdom	GBP	50
Asia Pacific			
Bekaert Engineering (India) Pvt Ltd	New Delhi, India	INR	40

Financial companies	Address	FC¹	%²
EMEA			
Agro - Bekaert Springs SL	Burgos, Spain	EUR	40

No items of PP&E of subsidiaries and joint ventures were pledged as collateral for loans with the exception of lease assets that guarantee the related lease obligations.

¹ Functional currency

² Financial interest percentage

Changes in 2019

1. New investments

Subsidiaries	Address	%¹
Prodimin SAC	Lima, Peru	38
Joint ventures	Address	%¹
Agro - Bekaert Springs SL	Burgos, Spain	40

2. Changes in ownership without change in control

Subsidiaries	Address	%¹
Bekaert Maccaferri Underground Solutions BVBA	Aalst (Erembodegem), Belgium	From 50 to 100

3. Mergers / conversions

Subsidiaries	Merged into
Inversiones Impala Perú SA Cerrada	Productos de Acero Cassadó SA
Procables Wire Ropes SA	Acma Inversiones SA
Prodinsa Ingeniería y Proyectos SA	Prodinsa SA

4. Name changes

New name	Former name
Bekaert Architectural Design Consulting (Shanghai) Co Ltd	Bekaert Advanced Products (Shanghai) Co Ltd
Prodicom Selva SAC	Prodac Selva SAC

5. Closed down

Companies	Address
BBRG MIPCo Ltd	Bradford, United Kingdom
Bekaert Maccaferri Underground Solutions Srl	Zola Predosa, Bologna, Italy
Bridon Coatbridge Ltd	Doncaster, United Kingdom

In accordance with Belgian legislation, the table below lists the registered numbers of the Belgian companies.

Companies	Company number
Bekaert Advanced Cords Aalter NV	BTW BE 0645.654.071 RPR Gent, division Gent
Bekaert Coördinatiecentrum	BTW BE 0426.824.150 RPR Gent, division Kortrijk
Bekaert Investments NV	BTW BE 0406.207.096 RPR Gent, division Kortrijk
Bekaert Maccaferri Underground Solutions BVBA	BTW BE 0561.750.457 RPR Gent, division Dendermonde
Bekaert Wire Rope Industry NV	BTW BE 0550.983.358 RPR Gent, division Dendermonde
Bekintex	BTW BE 0452.746.609 RPR Gent, division Dendermonde
Bridon Ropes NV/SA	BTW BE 0401.637.507 RPR Gent, division Kortrijk
NV Bekaert SA	BTW BE 0405.388.536 RPR Gent, division Kortrijk
Scheldestroom NV	BTW BE 0403.676.188 RPR Gent, division Kortrijk

¹ Financial interest percentage

PARENT COMPANY INFORMATION

Annual report of the Board of Directors and financial statements of NV Bekaert SA

The report of the Board of Directors and the financial statements of the parent company, NV Bekaert SA (the 'Company'), are presented below in a condensed form.

The report of the Board of Directors ex Article 96 of the Belgian Companies Code is not included in full in the report ex Article 119.

Copies of the full directors' report and of the full financial statements of the Company are available free of charge upon request from:

NV Bekaert SA
Bekaertstraat 2
BE-8550 Zwevegem
Belgium
www.bekaert.com

The statutory auditor has issued an unqualified report on the financial statements of the Company.

The directors' report and financial statements of the Company, together with the statutory auditor's report, will be deposited with the National Bank of Belgium as provided by law.

Condensed income statement

in thousands of € - Year ended 31 December	2018	2019
Sales	375 395	319 403
Operating result before non-recurring items	42 298	-2 950
Non-recurring operational items	-736	386
Operating result after non-recurring items	41 562	-2 564
Financial result before non-recurring items	386 535	101 126
Non-recurring financial items	-116 236	-40 472
Financial result after non-recurring items	270 299	60 654
Profit before income taxes	311 236	58 089
Income taxes	3 372	3 237
Result for the period	314 608	61 327

Condensed balance sheet after profit appropriation

in thousands of € - 31 December	2018	2019
Fixed assets	2 155 481	2 167 320
Formation expenses, intangible fixed assets	79 648	76 887
Tangible fixed assets	46 571	40 577
Financial fixed assets	2 029 263	2 049 856
Current assets	391 227	322 614
Total assets	2 546 708	2 489 934
Shareholders' equity	1 059 361	1 081 112
Share capital	177 793	177 793
Share premium	37 751	37 751
Revaluation surplus	1 995	1 995
Statutory reserve	17 779	17 779
Unavailable reserve	82 177	102 636
Reserves available for distribution, retained earnings	741 865	743 158
Provisions and deferred taxes	36 102	56 887
Creditors	1 451 246	1 351 936
Amounts payable after one year	625 764	1 025 650
Amounts payable within one year	825 482	326 286
Total equity and liabilities	2 546 708	2 489 934

Valuation principles

Valuation and foreign currency translation principles applied in the parent company's financial statements are based on Belgian accounting legislation.

Summary of the annual report of the Board of Directors

The Belgium-based entity's sales amounted to € 319.4 million, a decrease of -15% compared to 2018. The operating loss before non-recurring items was € -3.0 million, compared with a gain of € 42.3 million last year. The decrease of the operating result was driven by lower sales volumes.

Non-recurring items included in the operating result amounted to € 0.4 million in 2019, compared to € -0.7 million last year.

The financial result before non-recurring items was € 101.1 million compared to € 386.5 million last year. The high dividend income in 2018 (€ 396 million) was the main element explaining this evolution.

The non-recurring financial items amounted to € -40.5 million in 2019, against € -116.2 million in the previous year, which was mainly driven by write-downs on portfolio.

The income taxes of € 3.2 million were positive due to tax credit receivable on intangible fixed assets, similar to last year.

This led to a result for the period of € 61.3 million compared with € 314.6 million in 2018.

Environmental programs

The provisions for environmental programs decreased to € 17.8 million (2018: € 18.5 million).

Information on research and development

Information on the company's research and development activities can be found in the 'Technology and Innovation' section in the 'Report of the Board of Directors'.

Interests in share capital

In connection with the entry into force of the Act of 2 May 2007 on the disclosure of significant participations (the Transparency Act), the Company has in its Articles of Association set the thresholds of 3% and 7.50% in addition to the legal thresholds of 5% and each multiple of 5%. In 2019, the Company did not receive any transparency notifications. On 31 December 2019, the total number of securities conferring voting rights was 60 408 441.

Detailed information can be found on: www.bekaert.com/other-regulated-information.

Proposed appropriation of NV Bekaert SA 2019 result

The after-tax result for the year was € 61 326 822, compared with € 314 608 988 for the previous year.

The Board of Directors has proposed that the Annual General Meeting to be held on 13 May 2020 appropriate the above result as follows:

	in €
Result of the year to be appropriated	61 326 822
Transfer to other reserves	-21 752 066
Profit for distribution	39 574 756

The Board of Directors has proposed that the Annual General Meeting approve the distribution of a gross dividend of € 0.70 per share (2018: € 0.70 per share).

The dividend will be payable in euros on 18 May 2020 by the following banks:

- » BNP Paribas Fortis, ING Belgium, Bank Degroof Petercam, KBC Bank, Belfius Bank in Belgium;
- » Société Générale in France;
- » ABN AMRO Bank in The Netherlands;
- » UBS in Switzerland.

Appointments pursuant to the Articles of Association

The term of office of the directors Celia Baxter, Christophe Jacobs van Merlen, Pamela Knapp, Emilie van de Walle de Ghelcke and Henri Jean Velge will expire at the Annual General Meeting of Shareholders of 13 May 2020. Celia Baxter and Pamela Knapp do not seek re-appointment.

Matthew Taylor will resign from his position as Director with effect as of 12 May 2020. Oswald Schmid was co-opted as Director by the Board of Directors, with effect as of 12 May 2020.

The Board of Directors has proposes that the General Meeting:

- » confirms the mandate of Oswald Schmid as Director for a term of two years, up to and including the Annual General Meeting to be held in 2022;
- » appoints Henrietta Fenger Ellekrog as independent Director for a term of one year, up to and including the Annual General Meeting to be held in 2021;
- » appoints Eriikka Söderström as independent Director for a term of one year, up to and including the Annual General Meeting to be held in 2021;
- » re-appoints Christophe Jacobs van Merlen as Director for a term of four years, up to and including the Annual General Meeting to be held in 2024;
- » re-appoints Emilie van de Walle de Ghelcke as Director for a term of four years, up to and including the Annual General Meeting to be held in 2024;
- » re-appoints Henri Jean Velge as Director for a term of four years, up to and including the Annual General Meeting to be held in 2024.

AUDITOR'S REPORT

Deloitte.



NV Bekaert SA

Statutory auditor's report to the shareholders' meeting for the year ended
31 December 2019 - Consolidated financial statements

The original text of this report is in Dutch

NV Bekaert SA | 31 December 2019

Statutory auditor's report to the shareholders' meeting of NV Bekaert SA for the year ended 31 December 2019 - Consolidated financial statements

In the context of the statutory audit of the consolidated financial statements of NV Bekaert SA ("the company") and its subsidiaries (jointly "the group"), we hereby submit our statutory audit report. This report includes our report on the consolidated financial statements and the other legal and regulatory requirements. These parts should be considered as integral to the report.

We were appointed in our capacity as statutory auditor by the shareholders' meeting of 8 May 2019, in accordance with the proposal of the board of directors ("bestuursorgaan" / "organe d'administration") issued upon recommendation of the audit committee and presentation of the works council. Our mandate will expire on the date of the shareholders' meeting deliberating on the financial statements for the year ending 31 December 2021. Due to a lack of online archives dating back prior to 1997, we have not been able to determine exactly the first year of our appointment. We have performed the statutory audit of the consolidated financial statements of NV Bekaert SA for at least 23 consecutive periods.

Report on the consolidated financial statements

Unqualified opinion

We have audited the consolidated financial statements of the group, which comprise the consolidated balance sheet as at 31 December 2019, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flow for the year then ended, as well as the summary of significant accounting policies and other explanatory notes. The consolidated statement of financial position shows total assets of 4 304 684 (000) EUR and the consolidated statement of comprehensive income shows a profit for the year then ended of 48 200 (000) EUR.

In our opinion, the consolidated financial statements give a true and fair view of the group's net equity and financial position as of 31 December 2019 and of its consolidated results and its consolidated cash flow for the year then ended, in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium.

Basis for the unqualified opinion

We conducted our audit in accordance with International Standards on Auditing (ISA), as applicable in Belgium. In addition, we have applied the International Standards on Auditing approved by the IAASB applicable to the current financial year, but not yet approved at national level. Our responsibilities under those standards are further described in the "Responsibilities of the statutory auditor for the audit of the consolidated financial statements" section of our report. We have complied with all ethical requirements relevant to the statutory audit of consolidated financial statements in Belgium, including those regarding independence.

We have obtained from the board of directors and the company's officials the explanations and information necessary for performing our audit.

We believe that the audit evidence obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter

We draw attention to note 7.5 of the consolidated financial statements where management and the board of directors are disclosing the current impact of the corona pandemic on the group and highlight the risks and uncertainties as well as the measures taken to deal with these circumstances. Furthermore, they indicate it is currently not possible to estimate the impact of the corona pandemic on the financial performance of the group due to the rapid development and fluidity of the situation. Our opinion is not modified in respect of this matter.

NV Bekaert SA | 31 December 2019

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matters	How our audit addressed the key audit matters
<p>Valuation of goodwill - BBRG cash-generating unit</p> <p>At 31 December 2019, goodwill amounts to 150 million EUR. The majority of this goodwill (127 million EUR) relates to the Bridon Bekaert Ropes group ('BBRG') cash-generating unit.</p> <p>The company defines annually the carrying amounts of non-current assets allocated to the BBRG cash-generating unit.</p> <p>Bekaert assesses the recoverable amount by calculating the value in use of the assets within the cash-generating unit, using a discounted cash flow method ("DCF"). This method is complex and requires significant judgement in making estimates of cash flow projections, sales growth, margin evolution and the discount rate. Due to the inherent uncertainty involved in forecasting and discounting cash flows, we consider this assessment as a key audit matter.</p> <p>The company disclosed the nature and the value of the assumptions used in the impairment analyses in note 3.2 and 6.2 to the consolidated financial statements.</p>	<p>In our audit, we assessed and tested, with the assistance of our valuation experts, management's critical assumptions used in the discounted cash flow model.</p> <p>We challenged the key drivers of projected future cash flows, including estimated sales growth, estimated gross margin and the applied discount rate. Our procedures furthermore include the evaluation of the design and implementation of controls over the preparation and approval of BBRG's budget, which serves as the basis in the DCF model. We critically assessed the budgets considering historical budgeting accuracy of management. Moreover, we specifically focused on the sensitivity in the available headroom of BBRG's cash-generating unit and whether a reasonable possible change in assumptions could cause the carrying amount to exceed its recoverable amount.</p> <p>We assessed the adequacy of the company's disclosure note to the consolidated financial statements.</p>
<p>Control Assumption Venezuelan operations</p> <p>The group equity shows translation adjustments amounting to 59,7 million EUR (debit) relating to the Venezuelan subsidiaries Vicson and Invervicson. The group periodically evaluates the assumption of control over the Venezuelan subsidiaries taking into account the political and monetary instability in the country. A loss of control over the Venezuelan subsidiaries would lead to a disposal of controlling interest and the necessary adjustments in this respect in accordance with IFRS 10 including, amongst others, the reclassification to profit and loss of any amounts relating to the assets and liabilities of the subsidiaries previously recognized in other comprehensive income. The cumulative translation adjustment reserve would in this case be recorded in profit and loss ("recycling").</p>	<p>We assessed and challenged the group's assessment of control over the Venezuelan subsidiaries and evaluated the design and implementation of internal controls over the related process.</p> <p>We assessed and challenged the group's position and arguments supporting the assumption of control over the Venezuelan subsidiaries taking into consideration the restrictions to transfer funds to the parent company. More specifically, we assessed the ability of the Venezuelan subsidiaries to source raw materials, steer the local production and operations and generate cash flows.</p>

NV Bekaert SA | 31 December 2019

Given the uncertainty of the Venezuelan business environment and the potential material impact on the group result, we consider the company's assumption of control over the Venezuelan subsidiaries to be a key audit matter.

The group disclosed the outcome of this evaluation in 3.1 and note 6.14 to the consolidated financial statements.

Income taxes payable – Uncertain tax positions

Uncertain tax positions recognized as income taxes payable amount to 64,7 million EUR as at 31 December 2019.

The group operates across a number of different tax jurisdictions and is subject to periodic challenges by local tax authorities in the normal course of business, including transaction-related taxes and transfer pricing arrangements. In those cases where the amount of tax payable is uncertain, the group accrues based on its judgement of the probable amount of the liability. Management exercises judgement in assessing the level of accruals for uncertain tax positions.

The group disclosed the outcome of its assessment in note 3.2 and 6.21 to the consolidated financial statements.

We obtained a detailed understanding of the group's tax strategy as well as key technical tax issues and risks related to business and legislative developments. We assessed the status of ongoing local tax authority audits. We evaluated and challenged management's judgement in relation to uncertain tax positions and the determination of related tax accruals. We considered advice received by management from external parties to support their position. We evaluated the process and internal controls framework around uncertain tax positions, including how judgement and estimates are derived, approved and accounted for.

Income taxes – recoverability of deferred tax assets

The group has recognized deferred tax assets for an amount of 142,3 million EUR. Bekaert is required to estimate the recoverability of its deferred tax asset position. The assessment of the recoverability of deferred tax assets depends on key assumptions applied by the group, such as budgeted and forecasted profitability on an entity-by-entity basis, including assumptions about the applicable tax rates.

The recoverability of deferred tax assets is considered a key audit matter as the amount is material to the financial statements and the assessment process is judgemental and requires careful consideration in relation to expected future market and economic conditions.

The group disclosed deferred tax assets in note 5.6 and 6.7 of the consolidated financial statements.

As part of our audit procedures, we assessed and challenged management's assumptions to determine the probability that the recognized deferred tax assets are expected to be recovered through future taxable income. During these procedures, we evaluated management's budgets and forecasts and considered relevant tax laws. Where applicable, we critically assessed the consistency of the group's budgets and forecasts as well as the assessment of tax rates.

NV Bekaert SA | 31 December 2019

Employee benefit plan measurement

The group has defined benefit plans in various countries, but primarily in Belgium, US and the UK, which give rise to defined benefit obligations of 109,8 million EUR as detailed in note 6.16 to the consolidated financial statements. The valuation of defined benefit obligations is sensitive to changes in key assumptions such as salary increase, discount rate, inflation and mortality estimates.

We considered the measurement of defined benefit plans to be a key audit matter given the magnitude of the amounts, management's judgement applied in setting assumptions for salary increase, inflation, discount rates and mortality rates and given the technical expertise required to determine these amounts.

We evaluated and challenged the key actuarial and demographic assumptions and valuation methodologies used by management to assess pension obligations. With support of our own actuarial expert we considered the process applied by the group's internal and external actuaries, the scope of the valuation performed and the key assumptions applied. We benchmarked key variables used by the group and tested payroll data as well as reconciled the membership census data used in the actuarial models to the payroll data.

We also assessed the adequacy of the company's disclosure note 6.16 to the consolidated financial statements.

Responsibilities of the board of directors for the preparation of the consolidated financial statements

The board of directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium and for such internal control as the board of directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the board of directors is responsible for assessing the group's ability to continue as a going concern, disclosing, as applicable, matters to be considered for going concern and using the going concern basis of accounting unless the board of directors either intends to liquidate the group or to cease operations, or has no other realistic alternative but to do so.

NV Bekaert SA | 31 December 2019

Responsibilities of the statutory auditor for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a statutory auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

During the performance of our audit, we comply with the legal, regulatory and normative framework as applicable to the audit of consolidated financial statements in Belgium. The scope of the audit does not comprise any assurance regarding the future viability of the company nor regarding the efficiency or effectiveness demonstrated by the board of directors in the way that the company's business has been conducted or will be conducted.

As part of an audit in accordance with ISA, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from an error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the group's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the board of directors;
- conclude on the appropriateness of the use of the going concern basis of accounting by the board of directors and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our statutory auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our statutory auditor's report. However, future events or conditions may cause the group to cease to continue as a going concern;
- evaluate the overall presentation, structure and content of the consolidated financial statements, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities and business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

NV Bekaert SA | 31 December 2019

We communicate with the audit committee regarding, amongst other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the audit committee with a statement that we have complied with relevant ethical requirements regarding independence, and we communicate with them about all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated to the audit committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our report unless law or regulation precludes any public disclosure about the matter.

Other legal and regulatory requirements

Responsibilities of the board of directors

The board of directors is responsible for the preparation and the content of the directors' report on the consolidated financial statements, the statement of non-financial information attached to the directors' report on the consolidated financial statements and other matters disclosed in the annual report on the consolidated financial statements.

Responsibilities of the statutory auditor

As part of our mandate and in accordance with the Belgian standard complementary to the International Standards on Auditing (ISA) as applicable in Belgium, our responsibility is to verify, in all material respects, the director's report on the consolidated financial statements, the statement of non-financial information attached to the directors' report on the consolidated financial statements and other matters disclosed in the annual report on the consolidated financial statements, as well as to report on these matters.

Aspects regarding the directors' report on the consolidated financial statements

In our opinion, after performing the specific procedures on the directors' report on the consolidated financial statements, this report is consistent with the consolidated financial statements for that same year and has been established in accordance with the requirements of article 3:32 of the Code of companies and associations.

In the context of our statutory audit of the consolidated financial statements we are also responsible to consider, in particular based on information that we became aware of during the audit, if the directors' report on the consolidated financial statements is free of material misstatement, either by information that is incorrectly stated or otherwise misleading. In the context of the procedures performed, we are not aware of such material misstatement.

The non-financial information as required by article 3:32, § 2 of the Code of companies and associations, has been disclosed in a separate report, attached to the directors' report on the consolidated financial statements. This statement on non-financial information includes all the information required by article 3:32, § 2 of the Code of companies and associations and is in accordance with the consolidated financial statements for the financial year then ended. The non-financial information has been established by the company in accordance with the GRI standards. In accordance with article 3:80, § 1, 5° of the Code of companies and associations we do not express any opinion on the question whether this non-financial information has been established in accordance with the GRI standards mentioned in the directors' report on the consolidated financial statements.

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Statements regarding independence

- Our audit firm and our network have not performed any prohibited services and our audit firm has remained independent from the group during the performance of our mandate.
- The fees for the additional non-audit services compatible with the statutory audit, as defined in article 3:65 of the Code of companies and associations, have been properly disclosed and disaggregated in the notes to the consolidated financial statements.

Other statements

- This report is consistent with our additional report to the audit committee referred to in article 11 of Regulation (EU) No 537/2014.

Gent, 26 March 2020

The statutory auditor



Deloitte Bedrijfsrevisoren/Réviseurs d'Entreprises CVBA/SCRL
Represented by Charlotte Vanrobaeys

As of end of March 2020

Bekaert Group Executive

Matthew Taylor	Chief Executive Officer
Juan Carlos Alonso	Chief Strategy Officer
Taoufiq Boussaid	Chief Financial Officer
Rajita D'Souza	Chief Human Resources Officer
Arnaud Lesschaeve	Divisional CEO Rubber Reinforcement
Jun Liao	Divisional CEO Specialty Businesses
Oswald Schmid	Chief Operations Officer
Curd Vandekerckhove	Divisional CEO BBRG
Stijn Vanneste	Divisional CEO Steel Wire Solutions

Senior Vice Presidents

Jan Boelens	Senior Vice President Steel Wire Solutions EMEA
Bruno Cluydts	Chief Strategy Officer BBRG
Philip Eyskens	Senior Vice President General Counsel, Legal, IP & GRC
Tom Hautekiet	Senior Vice President Building Products
Lieven Larmuseau	Executive Vice President Strategy, Sales & Marketing Rubber Reinforcement
	Senior Vice President Rubber Reinforcement North Asia ad interim
Patrick Louwagie	Senior Vice President Global Engineering
Dirk Moyson	Senior Vice President Global Operations Rubber Reinforcement
Steven Parewyck	Senior Vice President Latin America
Raf Rentmeesters	Senior Vice President Strategy & Marketing Steel Wire Solutions
Luc Vankemmelbeke	Senior Vice President Procurement
Piet Van Riet	Executive Vice President Steel Wire Solutions South & Central America
Geert Voet	Chief Operations Officer Ropes BBRG
Zhigao Yu	Senior Vice President Technology Rubber Reinforcement

Company Secretary

Isabelle Vander Vekens

Auditors

Deloitte Bedrijfsrevisoren

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The annual report for the 2019 financial year is available in English and Dutch on annualreport.bekaert.com

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Statement from the responsible persons

The undersigned persons state that, to the best of their knowledge:

- » the consolidated financial statements of NV Bekaert SA and its subsidiaries as of 31 December 2019 have been prepared in accordance with the International Financial Reporting Standards, and give a true and fair view of the assets and liabilities, financial position and results of the whole of the companies included in the consolidation; and
- » the annual report on the consolidated financial statements gives a fair overview of the development and the results of the business and of the position of the whole of the companies included in the consolidation, as well as a description of the principal risks and uncertainties faced by them.

On behalf of the Board of Directors:



Matthew Taylor
Chief Executive Officer



Jürgen Tinggren
Chairman of the Board of Directors

Disclaimer

This report may contain forward-looking statements. Such statements reflect the current views of management regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Bekaert is providing the information in this report as of this date and does not undertake any obligation to update any forward-looking statements contained in this report in light of new information, future events or otherwise. Bekaert disclaims any liability for statements made or published by third parties and does not undertake any obligation to correct inaccurate data, information, conclusions or opinions published by third parties in relation to this or any other report or press release issued by Bekaert.

Financial calendar

Visit: www.bekaert.com/financialcalendar

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