

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1145-AR-8 AFIN: 60-00049

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

GS Roofing Products Company, Inc. - CertainTeed
2701 East Roosevelt Road
Little Rock, Arkansas 72206

3. PERMIT WRITER:

Andrea Sandage

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Asphalt Shingle and Coating Materials Manufacturing
NAICS Code: 324122

5. SUBMITTALS:

5/31/2012

6. REVIEWER'S NOTES:

GS Roofing Products Company (GS Roofing), currently owned by CertainTeed Corporation, operates an asphalt roofing manufacturing facility in Little Rock, Arkansas (Pulaski County). GS Roofing requested a modification to replace SN-142 Modified Line Pre-Coater Asphalt Storage Tank with SN-917 and add SN-918 Modified Line Ceko Filter (Emissions routed from SN-917). Total permitted emissions decreases are PM/PM₁₀ 0.1 tpy and increases are Polycyclic Organic Matter (POM) 0.01 tpy.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was inspected in May, 2012 and was found out of compliance for Specific Conditions 13 (PM emissions) and 26 (emissions testing). The facility's responded and has corrected both issues. This application does not address these issues.

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8. PSD APPLICABILITY: no change

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b. Is the facility categorized as a major source for PSD? N

- Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list, or
- CO_2e potential to emit $\geq 100,000$ tpy and ≥ 100 tpy/ ≥ 250 tpy of combined GHGs?

9. GHG MAJOR SOURCE (TITLE V): This facility is a minor source.

Indicate one:

Facility is classified as a major source for GHG and the permit includes this designation

Facility does not have the physical potential to be a major GHG source

Facility has restrictions on GHG or throughput rates that limit facility to a minor GHG source. Describe these restrictions: _____

10. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Asphalt Storage Tanks (SN-120, SN-144, SN-145, SN-206, SN207 & SN-917), Mineral Handling & Storage Equipment (SN-148, SN-149, SN-151, SN-152, SN-153, SN-154, SN-165, SN-166, & SN-167), Pre-coaters & Coaters (SN-102, SN-103, SN-131, & SN-132)	PM/PM ₁₀	40 CFR Part 60 (NSPS) Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. MODELING: no change

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Non-Criteria Pollutants:

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLV) that pass the PAER or PAIL. Therefore, modeling of specific non-criteria pollutants was not performed.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Formaldehyde	0.37	0.0407	1.75	No
Carbonyl Sulfide ¹	24.57	2.703	0.94	Yes
Glycol Ethers ²	95	10.45	0.5	Yes
Polycyclic Organic Matter (POM) ³	0.2	0.022	0.02	Yes
Toluene	188	20.68	0.31	Yes
Fluorene	1.55	0.17	0.01	Yes
Ammonia	17.4	1.92	0.4	Yes

1. The TLV for Carbonyl Sulfide was not reported in the ACGIH. Based on H₂S.
2. The TLV for Glycol Sulfide was not reported in the ACGIH. Used EPA website info.
3. The TLV for POM is based on the TLV for Phenanthrene.

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Formaldehyde*	15	10.68	Yes

* Modeling results from Permit #1145-AR-7

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Comments (includes Control Equipment/Efficiency)
102,103,104, 105	Asphalt Roofing Manufacturer's Association (ARMA)	VOC CO Formaldehyde Carbonyl Sulfide	0.359 0.0754 0.00915 0.00808	(Emission factor are based on pound of pollutant per ton of asphalt processed)*
102,103,131, 132	NSPS Subpart UU	PM	0.08 lb/ton of roll roofing produced	
104	AP-42 §13.2.4	PM	0.00032	Aggregate Handling & Storage
105,137	ARMA	PM	0.85	*
113,114,116, 116,117,118, 120,131,133, 134,135,136, 137,144,145, 156,159,164, 205, 207	VOC emission factor based on stack test data	VOC	0.17	VOC emission factor based on July 2007 stack test data as measured by EPA Test Method 25A
132	stack test data	VOC	0.13	July 2007 stack test data
113,116,117, 118,120,131, 133,134,135, 136,137,144, 156,159,207	ARMA	CO	0.0754	*
113,164,205	ARMA	CO	0.0202	*
114,145	ARMA	CO	0.019	*
113	ARMA	Formaldehyde Carbonyl Sulfide	0.0252 0.0046	*
114,115	ARMA	Formaldehyde Carbonyl Sulfide	0.00397 0.00025	*
116,117,118, 120,144,156, 159,206,207	ARMA	Formaldehyde Carbonyl Sulfide	0.00568 0.0049	*
164, 205	ARMA	Formaldehyde Carbonyl Sulfide	0.0252 0.0046	*

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Comments (includes Control Equipment/Efficiency)	
131 thru 137	ARMA	Formaldehyde Carbonyl Sulfide	0.00915 0.00808	*	
113		PM	----	Emissions from 113 are routed to SN-903 (Baghouse)	
114,145,205	ARMA	PM	0.5000		
116,117,118, 120,144,159, 206,207	ARMA	PM	0.105		
164	ARMA	PM	----	Emissions from 164 are routed to SN-912 (Baghouse)	
133,134,135, 136	ARMA	PM	0.00032	Surfacing PM/PM10 - All PM/PM10 is composed of organic compounds. Therefore, the total VOC emissions are the sum of THC (as carbon) and the emitted PM/PM10.	
129,183,122, 115,119,121, 143,158,157, 160,139,180	AP-42 §1.4(NG) and AP-42 1.5(Propane)	CO NOx PM/PM10 SO2 VOC	MMBtu/h		These Sources may use propane as a backup fuel
			NG	Propane	
			0.0824	0.0210	
			0.098	0.155	
			0.0075	0.0044	
			0.0006	0.0166	
			0.0054	0.0055	
SN-183	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion	CO NOx PM/PM10 SO2 VOC	See AP-42 (above row)		Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1
SN-106, SN-140, SN-178	Mass Balance				Paint, part washer usage. Max VOC content lb/gal.
131,132,102, 103	ARMA	PM/PM10 THC(as C)	0.850 0.359		Emission for SN 131 & 132 are routed to SN-

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Comments (includes Control Equipment/Efficiency)
		CO Toluene Formaldehyde Carbon Sulfide Phenol	7.54E-02 6.18E-03 9.15E-03 8.08E-03 2.52E-04 (lb/ton Asphalt)	907; Emission from SN-102 routed to SN-912 and emission from SN-103 routed to SN-902
SN-175	Tank Program		-	
SN-902	ARMA	PM/PM ₁₀	NSPS Subpart UU	Must meet NSPS UU PM limit 0.08 lb/ton
SN-903	Publication from EPA's Clean Air Technology Center (CATC)	PM/PM ₁₀ , also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft ³)	Baghouse exit flow rate: 5400 cubic feet per minute (cfm). (Vents SN-109,110,111,112, and 113)
SN-904		PM/PM ₁₀	0.02 gr/ft ³	Baghouse exit flow rate: 1000 cfm
SN-905	CATC	PM/PM ₁₀	0.02 gr/ft ³	Baghouse exit flow rate: 900 cfm
SN-906	CATC	PM/PM ₁₀ , also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft ³)	Baghouse exit flow rate: 12,800 cfm. Vents SN-125, 127, 128.
SN-907	NSPS Subpart UU	PM/PM ₁₀	0.02 (gr/ft ³)	Must meet NSPS UU PM limit 0.08 lb/ton
SN-908	CATC	PM/PM ₁₀	0.02 (gr/ft ³)	Baghouse exit flow rate: 1000 cfm, passive.
SN-909	CATC	PM/PM ₁₀	0.02 (gr/ft ³)	Baghouse exit flow rate: 900 cfm, passive
SN-910	CATC	PM/PM ₁₀	0.02 (gr/ft ³)	Baghouse exit flow rate: 1800cfm
SN-911	CATC	PM/PM ₁₀	0.02 (gr/ft ³)	Baghouse exit flow rate: 1000 cfm

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Comments (includes Control Equipment/Efficiency)	
SN-912	CATC	PM/PM ₁₀ , also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)	Baghouse exit flow rate: 4500 cfm. Vents SN-164	
SN-913	CATC	PM/PM ₁₀	0.02 (gr/ft3)	Baghouse exit flow rate: 1050 cfm.	
SN-914	CATC	PM/PM ₁₀	0.02 (gr/ft3)	Baghouse exit flow rate: 433 cfm passive	
SN-915	CATC	PM/PM ₁₀ , also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)	Baghouse exit flow rate: 433 cfm passive. Must meet NSPS UU PM limit 0.08 lb/ton	
SN-916		PM/PM ₁₀	0.02 (gr/ft3)	Baghouse exit flow rate: 1500 cfm	
SN-182	Mass Balance				
SN-183	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion		See AP-42	Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1	
SN-918	stack test data	VOC	0.17	July 2007 stack test data	Emissions from SN-917 are routed to SN-918
	ARMA – pound of pollutant per ton of asphalt processed	PM/PM ₁₀	0.105	Ceco Filter 90% eff	
		CO	0.0754		
		Formaldehyde	0.00568		
		Carbonyl Sulfide	0.0049		
POM	0.0000986				

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutant	Test Method	Justification
SN-131 and SN-132 (Outlet of SN-907)	PM/PM ₁₀	5A, 22, 9	To demonstrate compliance with the permitted emission limits.
SN-145 (Outlet of SN-907)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-120 (Outlet of SN-902)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-148 (Outlet of SN-908)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-149 (Outlet of SN-909)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-151, SN-152, and SN-153 (Outlet of SN-910)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-154 (Outlet of SN-911)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-165, SN-166, SN-167 (Outlet of SN-913)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-102 and SN-103 (Outlet of SN-915 and 902)	PM/PM ₁₀	5A, 22, 9	To demonstrate compliance with the permitted emission limits.
SN-917 (Outlet of SN-918)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.

15. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency	Report (Y/N)
907, 902, and 915	Inlet temperature reading	Thermocouple	Continuously	N
902 and 915	Pressure Drop Across Unit	Pressure Gauge	Weekly	N

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Plantwide	Asphalt usage	96,850 tpy	Monthly	N
Plantwide	Roofing Material Production	205,000 tpy	Monthly	N
Plantwide	VOC emissions	95.5 ton	Monthly	N
182	Coating VOC and ammonia limits	0.5 lb/gallon	Monthly	N
178	Part Washer Solvent VOC limit	8.0 lb/gallon	Monthly	N
106 and 140	HAPs usage	5.0 tons	Monthly	N
	VOC limit	See Specific Condition # 5		
106 and 140	Paint	2 lb/gallon	Monthly	N

17. OPACITY:

SN	Limit (%)	Regulatory Citation
SN-122	20	19.503
104, 105, 106, 118, 126, 133, 134, 135, 136, 137, 140, 146, 147, 150, 156, 159, 178, 179, 182, 183, 903, 904, 905, 906, and 912.	5	18.501
SN-902 when SN-103 is operating.	20	19.503
SN-902 when SN-103 is not operating and SN-120 is operating	0	60.472(c)
SN-915 when SN-102, 207, and 206 are operating.	20	19.503
SN-915 when 102 is not operating, and 207, 206 are operating.	0	60.472(c)
SN-907 when SN-131 and SN-132 are operating.	20	60.472(a)(2)
SN-907 when SN-131 and SN-132 are not operating and SN-145 is operating.	0	60.472(c)
SN-144	0	40 CFR Part 60.472(c)

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SN	Limit (%)	Regulatory Citation
SN-908, 909, 910, 911, 913, and 916.	1	40 CFR Part 60.472(d)
SN-918	0	40 CFR Part 60.472(c)

18. DELETED CONDITIONS: no change

Former SC	Justification for removal
	N/A

19. GROUP A INSIGNIFICANT ACTIVITIES – no change

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Roofing Line Shrink Wrap	A-13	No new insignificant activities were added with this modification.						
Coating Asphalt Heater, 3.5 MM Btu/hr	A-1							
Roofing Line SBS Modified Asphalt Storage Tank Heater, 0.8 MM Btu/hr	A-1							
Roofing Line SBS Storage Tank and Heater, 2.5 MM Btu/hr	A-1							
Modified Line Backing Film Applicator	A-13							
Modified Line Sheet Edge Flame Shrinking, 0.03 MM Btu/hr	A-1							
Modified Line Shrink Wrap	A-13							
Modified Line Pre-Coater Storage Tank Heater, 0.8 MM Btu/hr	A-1							
Modified Line APP Polymer Storage Tank	A-3							
Modified Line SBS Flux Storage Tank Electric Heater	A-13							
Modified Line Hot Oil Heater, 6.0 MM Btu/hr	A-1							
Modified Line APP Flux Storage Tank Heater, 0.8 MM Btu/hr	A-1							
Modified Line Tectifier Resin Storage Tank	B-21							

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
1,500 gallon Diesel Tank	A-3							
Kerosene Storage Tank	A-3							
Modified Line Sheet Splicing, 0.06 MM Btu/hr	A-1							

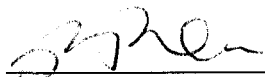
20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

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21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



 Paula Parker, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 08-30-11

Facility Name: GS Roofing Products
 Company, Inc - Certain Teed
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\$/ton factor 22.65
 Minimum Fee \$ 400
 Minimum Initial Fee \$ 500

Permit Predominant Air Contaminant
 Net Predominant Air Contaminant Increase

	Old Permit	New Permit
Permit Predominant Air Contaminant	95.5	95.5
Net Predominant Air Contaminant Increase	0	
Permit Fee \$	<u>400</u>	
Annual Chargeable Emissions (tpy)	<u>95.5</u>	

Check if Administrative Amendment

Permit Fee \$ 400
 Annual Chargeable Emissions (tpy) 95.5

Pollutant (tpy)	Old Permit	New Permit	Change
PM	84.7	84.6	-0.1
PM ₁₀	84.7	84.6	-0.1
SO ₂	1.3	1.3	0
VOC	95.5	95.5	0
CO	27	27	0
NO _x	11.4	11.4	0
Ammonia	1.4	1.4	0
Formaldehyde	3.48	3.48	0
Carbonyl Sulfide	1.84	1.84	0
Polycyclic Organic Matter	0.01	0.02	0.01
HAPs	3	3	0
Toluene	0.56	0.56	0
Fluorine	0.01	0.01	0