

## STATEMENT OF BASIS

For the issuance of Air Permit # 0698-AR-13 AFIN: 50-00006

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Firestone Building Products Company, LLC  
1406 Highway 371 North  
Prescott, Arkansas 71857

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Rubber Product Manufacturing for Mechanical Use  
NAICS Code: 326291

5. SUBMITTALS:

12/5/2011

6. REVIEWER'S NOTES:

Firestone Building Products Company owns and operates a rubber roofing manufacturing facility located in Prescott, Arkansas. With this permitting action Firestone Building Products requested the following:

1. Modify SN-202, the dust collector for the White Line Pigment Blender No. 11, to install a new fan (32,000 cfm) and to re-route SN-203 (White Line Banbury Mixer No. 11 inlet) and SN-204 (White Line Banbury Mixer No. 11 outlet) to this dust collector and remove the dust collectors at SN-203 and SN-204;
2. Install a new autoclave (SN-08G);
3. Install a shredder at the Comerio Calender line to process quality rejects from the calender to be blended back in with the extruder;
4. Install a Mandrel Grinding Dust Collector system (SN-502);
5. Correct information about the new Troesters (SN-13) on the Comerio Calender line that were approved with the De Minimis change approved on September 28,

2011. The new Troesters will have a maximum capacity of 17,000 lb/hr per Troester, with a total maximum capacity of 34,000 lb/hr;
6. Increase the amount of rubber that can be mixed at the K1 and K2 Banbury Mixers from 432 MM lb/yr of rubber to 613 MM lb/yr of rubber;
  7. Increase production through the Calender lines and the Autoclaves;
  8. Remove source SN-15, which is the slab dip mix tank. Firestone no longer mixes slab dip at the facility;
  9. Change SN-160 from a fuel oil storage tank to a pigment oil storage tank;
  10. Rename SN-316 from "Quick Prime Plus" to "Pre-Tape Line";
  11. Remove fuel oil as a fuel source for the boilers (SN-16A and SN-16B) and maximize emissions based on burning natural gas at each boiler for 8,760 hr/yr;
  12. Revise the emission limits for various sources;
  13. Remove the Breakdown Mill (SN-11), Strainer Mills No. 1 and No. 2 (SN-10 and SN-12), and the Heater (SN-403) from the permit; and
  14. Remove various conditions that no longer apply to the facility with regards to compliance mechanisms, testing, etc.

The total permitted emission increases include 40.1 tpy of CO, 4.9 tpy of NO<sub>x</sub>, 0.03 tpy of Allyl Chloride, 0.77 tpy of Hexane, 1.33 tpy of Methanol, 4.40 tpy of Methylene Chloride, 0.02 tpy of Beryllium, and 0.02 tpy of Chromium. The total permitted emission decreases include 1.0 tpy of PM/PM<sub>10</sub>, 42.9 tpy of VOC, 0.05 tpy of 1,3-Butadiene, 3.27 tpy of Benzene, 0.29 tpy of Cumene, 0.24 tpy of POC, 0.30 tpy of Epichlorohydrin, 0.46 tpy of Ethylbenzene, 2.30 tpy of m- and p-Xylene, 0.63 tpy of o-Xylene, 0.53 tpy of Dichloromethane, 0.04 tpy of Nickel Compounds, 0.04 tpy of Phenol, and 2.50 tpy of Toluene.

7. COMPLIANCE STATUS:

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

The last inspection on February 8, 2011 indicated that the facility was complying with all conditions of the permit. There are no current or pending enforcement issues.

8. PSD APPLICABILITY:

- 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?*

If yes, explain why this permit modification is not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
N/A		

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

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:

1<sup>st</sup> 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/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Allyl Chloride	3.12	0.344	0.08	Yes
Hexane	176	19.3	2.29	Yes
Methanol	262	28.8	0.36	Yes
Methylene Chloride	173	19.1	1.12	Yes
Toluene	75.3	8.28	2.25	Yes
Beryllium	0.00005	5.50E-06	2.00E-06	Yes
Chromium	0.01	1.10E-03	4.00E-04	Yes

2<sup>nd</sup> 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 ( $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
N/A	N/A	N/A	N/A

12. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
All PM Sources	Testing		None		PM/PM <sub>10</sub> emissions from all particulate sources are based on testing data from the facility submitted on March 2, 1995 or based on process knowledge.
03, 13, 14, 103, 104, 114, 202, 206, 207, 312, 313, 323A, 323B, 330	Source Specific Emission Factors	Varies			VOC and HAP emission factors are based on stack testing conducted in October 2011.
08A – 08G	Source Specific Emission Factors	lb/hr: 0.2 VOC 0.01 Toluene 0.01 Allyl Chloride 0.01 Methylene Chloride	--	--	VOC and HAP emission factors are based on stack testing conducted in October 2011.

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
16A & 16B	AP-42: 1.4	lb/MMSCF: 7.6 PM/PM <sub>10</sub> 0.6 SO <sub>2</sub> 5.5 VOC 84 CO 100 NO <sub>x</sub>	--	--	
315	Mass Balance	lb/gal 6.62 VOC No HAPs	--	--	60 gal/day limit
316	Mass Balance	lb/gal 1.87 VOC 1.87 Toluene			Automated and Manual rolling operations
319	RMA	Varies	--	--	Compound 9 assumed for emission estimates. Emissions based on 50% of RMA emission factors.
500, 501	Mass Balance		None		Mass Balance assuming 100% of VOC in raw materials is emitted to atmosphere
502	Manufacturer's guarantee	0.1 lb/hr PM/PM <sub>10</sub>	Cartridge Filter	99.99%	Control efficiency based on net inlet loading of 5 grains/scf

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
16A & 16B	PM <sub>10</sub> NO <sub>x</sub> CO	5 or 201A 7E 10	Within 180 days of issuance of Permit 0689-AR-13, and annually thereafter. After 2 successful tests, the permittee may test once every 5 years.	Verify emissions
16A or 16B	Hexane	18	Within 180 days of issuance of Permit 0689-AR-13.	Verify Hexane emissions
03	VOC	25A	Once every 5 years. The last testing was conducted in October 2011.	To verify site specific values.
	HAPs	SW-846 Method 0031 (modified), and/or EPA TO-15 (modified)		
08A – 08G	VOC HAPs	25A EPA TO-15	Once every 5 years. The last testing was conducted in October 2011.	

14. 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 (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
N/A				

15. 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)
500	Cold Cleaning Solvent Usage	11.0 gal/month 130 gal/year	Monthly	No

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
500	Cold Cleaning Solvent VOC Content	8.9 lb/gal	Monthly	No
501	Inks and Cleaners Usage	370 gal/year	Monthly	No
501	Inks and Cleaners VOC Content	7.0 lb/gal	Monthly	No
315	Primer Machine Primer Formulation Limits	6.60 lb/gal (max density) No HAPs	Monthly	No
315	Primer Usage	60.0 gal/day	Daily	No
		21,900 gal per 12-month period	Monthly	No
03, 103	Total Rubber Production Limit	613 MM pounds per consecutive 12-month period	Monthly	No
203	Rubber Production	70 MM lb/year	Monthly	No
16A & 16B	Boiler fuel	Natural gas only	Continuously	No
Plantwide	Carbon Black usage	As specified in the confidential application dated December 2, 2011	Monthly	No
	Pigment usage		Monthly	No
	Clay usage		Monthly	No
	EPDM usage		Monthly	No
	Pigment Oil usage		Monthly	No
	Mineral Oil usage		Monthly	No
	MSDS	Kept on site and updated annually	Continuously	No
316	Quick Prime Plus Formulation Limit	1.87 lb/gal VOC 1.87 lb/gal Toluene	Monthly	Yes
	Quick Prime Plus usage	4,630 gallons per consecutive 12-month	Monthly	Yes

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
13, 206, 207, 323A, 323B	20	Department Guidance	Observation
01A, 01B, 02A, 02B, 03, 07, 15, 16A, 16B, 17A, 17B, 18A, 18B, 101A, 101B, 102 - 104, 107, 116, 118, 120, 201, 202, 205, 301A, 302 - 308, 309A, 309B, 310 - 312, 502	5	Department Guidance	Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
6 - 8	These conditions are no longer valid compliance mechanisms.
22	The further processing of material is accounted for in the emission calculations.
25 & 27	The boilers only burn natural gas now and are permitted for maximum capacity.
31	The facility submitted the application required by this condition.
32 & 33	The emission testing is not required. The emissions from these sources are conservatively estimated using the same emission factors developed for the mixers.
36 & 37	Formulation tracking is not required. The facility does not make any of the products listed in AP-42

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Curing Cooling Tower	13	0.71						
Chiller Cooling Tower	13	0.75						
Process Cooling Tower	13	0.44						
Effluent Cooling Tower	13	0.02						



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Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Devulcanization Process	13	0.01		0.202			0.30	0.30
Comerio Line Shredder	13	0.1		0.1			0.06	0.11
Slab Dip/Soap Tanks	13	1.05						

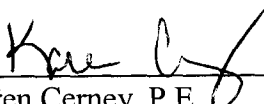
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0698-AR-12

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

  
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Karen Cerney, P.E.

**APPENDIX A – EMISSION CHANGES AND FEE CALCULATION**

## Fee Calculation for Minor Source

Revised 08-30-11

Facility Name: Firestone Building  
 Products Company, LLC  
 Permit Number: 0689-AR-13  
 AFIN: 50-00006

			Old Permit	New Permit
\$/ton factor	22.65	Permit Predominant Air Contaminant	75.3	65.8
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	-9.5	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	400	
		Annual Chargeable Emissions (tpy)	65.8	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	47.1	46.1	-1
PM <sub>10</sub>	47.1	46.1	-1
SO <sub>2</sub>	0.4	0.4	0
VOC	75.3	32.4	-42.9
CO	15.1	55.2	40.1
NO <sub>x</sub>	60.9	65.8	4.9
1,3-Butadiene	0.05	0	-0.05
Allyl Chloride	0	0.03	0.03
Benzene	3.27	0	-3.27
Cumene	0.29	0	-0.29
POC	0.24	0	-0.24
Epichlorohydrin	0.3	0	-0.3
Ethylbenzene	0.46	0	-0.46
Hexane	8.77	9.54	0.77
Methanol	0	1.33	1.33
Methylene Chloride	0	4.4	4.4
m- and p-Xylene	2.3	0	-2.3
o-Xylene	0.63	0	-0.63
Dichloromethane	0.53	0	-0.53
Nickel Compounds	0.04	0	-0.04
Phenol	0.04	0	-0.04
Toluene	7.37	4.87	-2.5
Beryllium	0	0.02	0.02
Chromium	0	0.02	0.02