

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0698-AR-18 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. NAICS DESCRIPTION AND CODE:

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

5. SUBMITTALS:

9/30/2013

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 to revise the emissions from the devulcanization process. Testing was conducted in July of 2013 to better characterize emissions from this new technology. The results from the testing show higher emission rates than were initially estimated. This source no longer qualifies as an insignificant activity and is now being permitted as a source (SN-700). The permitted emission increases include 0.1 tpy of PM/PM<sub>10</sub> and 11.7 tpy of VOC.

Specific Conditions 36 and 37 of the previous permit were removed. These conditions are not necessary. Specific Conditions 40 through 54 of the previous permit already contained the necessary compliance mechanisms for these emergency engines.

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 May 2, 2013 indicated that the facility was complying with all conditions of the permit. The facility underestimated the VOC emissions from the devulcanization process, and should have been permitted as a source rather than an insignificant activity. This issue has been referred to Enforcement.

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  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list, or
  - CO<sub>2</sub>e potential to emit  $\geq 100,000$  tpy and  $\geq 100$  tpy/ $\geq 250$  tpy of combined GHGs?

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

9. GHG MAJOR SOURCE (TITLE V):

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)
SN-503 & SN-504	There are no specific emission limits or pollutants identified, but the rules generally regulate HAPs	40 CFR Part 63, Subpart ZZZZ
SN-505 & SN-506	There are no specific emission limits or pollutants identified, but the rules generally regulate Criteria pollutants	40 CFR Part 60, Subpart IIII

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. NAAQS EVALUATIONS AND NON-CRITERIA POLLUTANTS:

a) NAAQS

The facility did voluntarily propose and agree to the Department considering air dispersion modeling to assess the impact of the emissions against the current NAAQS. However, the facility did not submit any modeling, nor will the Department conduct any air dispersion modeling on behalf of the facility. Criteria pollutants were not evaluated for impacts on the NAAQS.

b) 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	2.31	Yes
Methanol	262	28.8	0.36	Yes
Methylene Chloride	173	19.1	1.13	Yes
Toluene	75.3	8.28	2.30	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

13. 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 2.1 VOC No HAPs	--	--	
316	Mass Balance	lb/gal 1.87 VOC 1.87 Toluene			Automated and Manual rolling operations
317, 318	Source Specific Emission Factors	Varies	--	--	VOC and HAP emission factors are based on stack testing conducted for SN-203 in October 2011.
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
503 - 506	AP-42, Table 3.3-1	lb/hp-hr: 2.2E-03 PM 2.05E-03 SO <sub>2</sub> 2.47E-03 VOC 6.68E-03 CO 0.031 NO <sub>x</sub>	--	--	Emergency diesel fire pump, emergency generator, and two (2) diesel operated air compressors

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
700	Source Specific Emission Factors	lb/lb rubber: 6.5E-05 PM 0.0015 VOC	--	--	A single test was conducted on September 26, 2013. Maximum throughput is 2,000 pounds of EPDM per hour and 15,600,000 pounds per year

14. 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.	
700	VOC	25A	No later than September 2014, and once every 60 months thereafter. The last test was conducted on September 26, 2013.	

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

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)
500	Cold Cleaning Solvent Usage	11.0 gal/month 130 gal/year	Monthly	No
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	2.1 lb/gal (VOC content) No HAPs	Monthly	No
315	Primer Usage	26,280 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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	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	No
	Quick Prime Plus usage	4,630 gallons per consecutive 12-month	Monthly	No
317 & 318	White tape compound	17,520,000 pounds per consecutive 12-month period	Monthly	No
503 & 504	Hours of operation (each)	100 hours per consecutive 12-month period	Monthly	No
505	Hours of operation	300 hours per calendar year	Monthly	No
506	Hours of operation	300 hours per calendar year	Monthly	No
505 & 506	Hours of operation	Anything in excess of 100 hours per calendar year must demonstrate that the engine still qualifies as an emergency engine as outlined in §60.4211(f)	Monthly	No
700	EPDM processed	15,600,000 pounds per consecutive 12-month period	Monthly	No

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
13, 206, 207, 323A, 323B, 700	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, 317, 318, 502	5 %	Department Guidance	Observation

SN	Opacity	Justification for limit	Compliance Mechanism
503 - 506	20 %	Department Guidance	Annual VE & Daily VE when either source is in operation for more than 24 hours

18. DELETED CONDITIONS:

Former SC	Justification for removal
SC 36 & 37	These conditions are not necessary. Specific Conditions 40 through 54 of the previous permit already contained the necessary compliance mechanisms for these emergency engines.

19. 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
Seam Tape Testing Labe Vent	5			0.19			0.095	0.19
Laboratory Oven Vent	5	0.0005		0.14			0.07	0.07
Curing Cooling Tower	13	0.71						
Chiller Cooling Tower	13	0.75						
Process Cooling Tower	13	0.44						
Effluent Cooling Tower	13	0.02						
Cooling Tower for Mixtruder	13	0.44						
Day Tanks for SN-317	13			1.09E-4			1.09E-4	1.09E-4
Comerio Line Shredder	13	0.1		0.1			0.06	0.11
Slab Dip/Soap Tanks	13	1.05						

Permit #: 0698-AR-18

AFIN: 50-00006

Page 10 of 10

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0698-AR-17

21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

\_\_\_\_\_  
Karen Cerney, P.E.

APPENDIX A -- EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 08-20-12

Facility Name: Firestone Building  
 Products Company, LLC  
 Permit Number: 0698-AR-18  
 AFIN: 50-00006

			<b>Old Permit</b>	<b>New Permit</b>
\$/ton factor	23.42	Permit Predominant Air Contaminant	69.2	72.2
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	3	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	400	
		Annual Chargeable Emissions (tpy)	72.2	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	48.1	48.2	0.1
PM <sub>10</sub>	48.1	48.2	0.1
SO <sub>2</sub>	0.8	0.8	0
VOC	60.5	72.2	11.7
CO	56	56	0
NO <sub>x</sub>	69.2	69.2	0
Allyl Chloride	0.03	0.03	0
Hexane	9.62	9.62	0
Methanol	1.33	1.33	0
Methylene Chloride	4.41	4.41	0
Toluene	4.95	4.95	0
Beryllium	0.02	0.02	0
Chromium	0.02	0.02	0