

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0698-AR-10 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, Incorporated
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:

3/15/2010

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 use solvents containing no HAPs at SN-315, and begin a new procedure, Quick Prime Plus (SN-316), which entails rolling out EPDM membrane and subsequently manually rolling with a primer. The total permitted emissions increases include 6.8 tpy of VOC, 0.1 tpy of PM₁₀, and 1.41 tpy of Toluene. The Primer Machine HAP emissions have been removed with this permitting action. Additionally, Firestone has added 4 cooling towers to the Insignificant Activities list.

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7. COMPLIANCE STATUS:

There are no current or pending enforcement actions.

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 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:

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?
1, 3- Butadiene	4.42	0.4862	0.18	Yes

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
MEK	589.77	64.8747	0.30	Yes
Benzene	1.59	0.1749	1.38	No
Cumene	245.78	27.0358	0.30	Yes
POC	52.42	5.7662	0.12	Yes
Epichlorohydrin	1.89	0.2079	0.12	Yes
Ethylbenzene	434.19	47.7609	0.36	Yes
Hexane	176.23	19.3853	6.24	Yes
m- and p-Xylene	434.19	47.7609	1.08	Yes
o-Xylene	434.19	47.7609	0.42	Yes
Dichloromethane	173.68	19.1048	0.36	Yes
Nickel Compounds	0.1	0.011	0.00378 (actual)	Yes
Phenol	19.24	2.1164	0.24	Yes
Toluene	188.40	20.724	4.17	Yes

2nd Tier Screening (PAIL)

ISCST3 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?
Benzene	15.9	13.92	Yes

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Other Modeling:

Odor: N/A

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Styrene	1361 $\mu\text{g}/\text{m}^3$	N/A	N/A

H₂S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards N/A

If exempt, explain: _____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)	N/A	N/A
	80 parts per billion (8-hour average) residential area	N/A	N/A
	100 parts per billion (8-hour average) nonresidential area	N/A	N/A

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

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12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
All PM Sources	Testing		None		PM/PM ₁₀ emissions from all particulate sources are based on testing data from the facility. submitted on March 2, 1995
120, 109, 08-15, 204,205, 114-116, 323	Rubber Manufacturer Association (RMA) Emission Factors				HAP and VOC emissions calculated based on RMA emission factors for the 4 rubber processes (Calendaring, Curing, Mixing, & Extruding) Annual emissions calculated based on annual thruput limit from permit. Hourly emissions based on maximum hourly capacity of the plant.
315	Mass Balance	lb/gal 6.62 VOC No HAPs	Thermal Oxidizer	95% Capture 95% Destruction	Emissions based on a mass balance calculated, and the capture / destruction efficiency of the TO
15, 500, 501	Mass Balance		None		Mass Balance assuming 100% of VOC in raw materials is emitted to atmosphere
03, 103, 104	Source testing and RMA Factors		Baghouse	95%	VOC and PM/PM ₁₀ emissions based on Feb. 1995 stack test data. HAP emissions based on RMA emission factors for mixing operations.
316	Mass Balance	lb/gal 8.96 VOC 1.87 Toluene			Manual rolling operation

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

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)
315	Temperature	Continuous Temperature Sensor	Continuous	Y

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)
15	Mineral Oil Usage	30 tons/month 350 tons/year	Monthly	N
15	Mineral Oil VOC Content	5% by weight	Monthly	N
500	Cold Cleaning Solvent Usage	11.0 gal/month 130 gal/year	Monthly	N
500	Cold Cleaning Solvent VOC Content	8.9 lb/gal	Monthly	N
501	Inks and Cleaners Usage	370 gal/year	Monthly	N
501	Inks and Cleaners VOC Content	6.66 lb/gal	Monthly	N
315	Primer Machine Primer Formulation Limits	6.62 lb/gal VOC No HAPs	Monthly	N
315	Primer Usage	60.0 gal/day	Daily	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
03, 103	Total Rubber Production Limit	432 MM lb/year	Monthly	N
03, 103	Further Processed Rubber Limit	316 MM lb/year	Monthly	N
203	Rubber Production	70 MM lb/year	Monthly	N
316	Quick Prime Plus Formulation Limit	8.95 lb/gal VOC 1.87 lb/gal Toluene	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
09-15, 115, 323A & B, 206, 207, 330, 313	20	Department Guidance	Observation
All other Sources	5	Department Guidance	Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
16, 18, & 19	These conditions are no longer necessary, as the facility will no longer use any solvents that contain HAPs at SN-315.

18. GROUP A INSIGNIFICANT ACTIVITIES

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

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Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Effluent Cooling Tower	13	0.02						

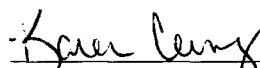
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0698-AR-9

20. 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 03-01-10

Facility Name: Firestone Building
 Products, Incorporated
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			Old Permit	New Permit
\$/ton factor	22.07	Permit Predominant Air Contaminant	68.5	75.3
Minimum Fee \$	400	Net Chargeable Emission Increase	6.8	
Minimum Initial Fee \$	500	Permit Modification Fee \$	400	
Check if Administrative Amendment	<input type="checkbox"/>	Initial Permit Fee \$	0	
		Annual Chargeable Emissions (tpy)	75.3	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	48.2	48.3	0.1
PM ₁₀	48.3	48.3	0
SO ₂	0.4	0.4	0
VOC	68.5	75.3	6.8
CO	15.1	15.1	0
NO _x	60.9	60.9	0
1,3-Butadiene	0.05	0.05	0
MEK	0.41	0.41	0
Benzene	3.27	3.27	0
Cumene	0.29	0.29	0
POC	0.24	0.24	0
Epichlorohydrin	0.3	0.3	0
Ethylbenzene	0.46	0.46	0
Hexane	8.77	8.77	0
m- and p-Xylene	2.3	2.3	0
o-Xylene	0.63	0.63	0
Dichloromethane	0.53	0.53	0
Nickel Compounds	0.04	0.04	0
Phenol	0.04	0.04	0
Toluene	3.04	4.45	1.41
Primer Machine HAPs	4.72	0	-4.72