

STATEMENT OF BASIS

for the issuance of Draft Air Permit #: **0698-AR-8**

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Firestone Building Products, Incorporated
1406 Highway 371 North
Prescott, AR 71857

3. PERMIT WRITER: Patty Campbell

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Rubber Products Manufacture for Mechanical Use
NAICS Code: 326291

5. SUBMITTALS: 09/29/2005

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 has requested a modification to delay compliance testing of the K-1 and K-2 Banbury Mixers' baghouses until, but no later than, June 15, 2006. By that date, the existing K-1 Mixer baghouses (SN-03, SN-04 and SN-20) will be removed and replaced with a single new baghouse (SN-03). All K-1 Mixer emissions will be routed through the new baghouse; therefore, SN 04 and SN-20 will be voided. The existing K-2 Mixer baghouses (SN-103 and SN-104) will also be removed and replaced with new baghouses. Additionally, Firestone received a Consent Administrative Order to use a raw rubber product, recently modified by a third party. The modified raw rubber product will be studied and testing completed during this delayed time period. Emissions associated with the existing baghouses are: 5.5 tpy of PM, 5.5 tpy PM₁₀, and 19.7 tpy VOC. All production rates associated with the mixers will remain as currently permitted.

7. COMPLIANCE STATUS:

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

A CAO is in process which allows Firestone until June 15, 2005 to complete compliance testing for VOCs from K1 and K2 baghouse emissions. Previously testing resulted in unexpected spikes in VOC emissions associated with the use of a raw material rubber product supplied by a third party. The supplier is presently reviewing its production process to determine whether VOCs can be reduced.

8. APPLICABLE REGULATIONS:

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera)? Y/N No

Has this facility undergone PSD review in the past? Y/N Permit# No

Is this facility categorized as a major source for PSD?
 ≥ 100 tpy and on the list of 28 (100 tpy)? Y/N No

≥ 250 tpy all other Y/N No

PSD Netting

Was netting performed to avoid PSD review in this permit? Y/N No

If so, indicate increases and decreases used in netting for PSD purposes only.

Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u>]
n/a		

9. EMISSION CHANGES:

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit # 0698-AR-7	Air Permit # 0698-AR-8	Change
PM/PM ₁₀	48.4	48.4	0
SO ₂	0.4	0.4	0
VOC	86.3	64.5	-21.8
CO	15.7	15.7	0
NO _x	60.9	60.9	0

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit # 0698-AR-7	Air Permit # 0698-AR-8	Change
1,3-Butadiene	0.04	0.04	0
MEK	0.39	0.39	0
Benzene	3.27	3.27	0
Cumene	0.28	0.28	0
POC	0.18	0.18	0
Epichlorohydrin	0.30	0.30	0
Ethylbenzene	0.45	0.45	0
Hexane	0.95	0.95	0
m- and p-Xylene	2.27	2.27	0
o-Xylene	0.62	0.62	0
Dichloromethane	0.53	0.53	0
Nickel Compounds	0.04	0.04	0
Phenol	0.04	0.04	0
Toluene	2.95	2.95	0
Primer Machine HAPs	3.30	3.30	0

10. 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.

11. MODELING: 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 deemed 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	0.02	Yes
MEK	589.77	64.8747	0.13	Yes
Benzene	1.59	0.1749	1.12	No
Cumene	245.78	27.0358	0.09	Yes
POC	52.42	5.7662	0.06	Yes
Epichlorohydrin	1.89	0.2079	0.10	Yes
Ethylbenzene	434.19	47.7609	0.16	Yes
Hexane	176.23	19.3853	0.32	Yes
m- and p-Xylene	434.19	47.7609	0.78	Yes
o-Xylene	434.19	47.7609	0.22	Yes
Dichloromethane	173.68	19.1048	0.17	Yes
Nickel Compounds	0.1	0.011	0.01	Yes
Phenol	19.24	2.1164	0.01	Yes
Toluene	188.40	20.724	2.43	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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

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Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Benzene	15.9	13.92	Yes

12. CALCULATIONS:

SN	Emission Factor Source (Testing, etc)	Emission Factor and units	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled / uncontrolled, etc)
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		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

SN	Emission Factor Source (Testing, etc)	Emission Factor and units	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled / uncontrolled, etc)
					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.

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
03, 103, 104	PM PM ₁₀ VOC	5 201A and 202 25A	One Time	Department Guidance

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMs or other monitoring equipment, frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
315	Temperature	Continuous Temperature Sensor	Continuous	Y

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

** Indicates whether the parameter needs to be included in reports.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

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SN	Recorded Item	Limit (in Permit)	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 Solvent Formulation Limits	6.62 lb/gal VOC 6.62 lb/gal HAP	Monthly	N
315	Primer Usage	28.0 gal/day	Daily	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

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

** Indicates whether the item needs to be included in reports

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily / weekly observation, control eq operation, etc)
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SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily / weekly observation, control eq operation, etc)
09-15, 115, 323A & B, 206, 207, 330, 313	20	Department Guidance	Observation
All other Sources	5	Department Guidance	Observation

17. DELETED CONDITIONS:

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
26	Compliance testing date was changed to June 15, 2006, re., CAO.

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

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

Permit #
0698-AR-7

19. CONCURRENCE BY:

The following Supervisor concurs with the permitting decision:

David Triplett, P.E
 Engineer Supervisor