

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

June 1, 2017

**PERMIT TO INSTALL**  
207-16

**ISSUED TO**  
Avon Automotive Cadillac Division

**LOCATED AT**  
603 West Seventh Street  
Cadillac, Michigan

**IN THE COUNTY OF**  
Wexford

**STATE REGISTRATION NUMBER**  
A9365

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:

**February 15, 2017**

DATE PERMIT TO INSTALL APPROVED:

**June 1, 2017**

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant / Measurement Abbreviations</b>	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO <sub>2e</sub>	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H <sub>2</sub> S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO <sub>x</sub>	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM <sub>10</sub>	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM <sub>2.5</sub>	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
  
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
  
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

<b>Emission Unit ID</b>	<b>Emission Unit Description (Process Equipment &amp; Control Devices)</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUMIXER1	Rubber mixer with associated rubber mill and cooling conveyor. Baghouse control.	7/13/98	FGMIXERS
EUMIXER2	Rubber mixer with associated rubber mill and cooling conveyor. Baghouse control.	7/13/98	FGMIXERS
EU-LINE138	Rubber parts process center including two rubber/plastic extruders and one surface preparation adhesion promoter/solvent applicator controlled by a catalytic oxidizer.	6/30/03	NA
EU-CADBAR148	Low perm CADbar process center including three rubber/plastic extruders and one surface preparation adhesion promoter/solvent controlled by a catalytic oxidizer.	5/29/98	FG-AOS FGCADBAR
EU-CADBAR152	Low perm CADbar process center including five rubber/plastic extruders and two surface preparation adhesion promoter/solvent applicators controlled by a catalytic oxidizer.	1/20/11	FG-AOS FGCADBAR
EU-CADBAR153	Low perm CADbar process center including three rubber/plastic extruders and one surface preparation adhesion promoter/solvent applicator controlled by a catalytic oxidizer.	5/29/98	FG-AOS FGCADBAR
EU-CADBAR154	Low perm CADbar process center including five rubber/plastic extruders and two surface preparation adhesion promoter/solvent applicators controlled by a catalytic oxidizer.	5/29/98- 3/9/11	FG-AOS FGCADBAR
EU-CADBAR156	Low perm CADbar process center including five rubber/plastic extruders and two surface preparation adhesion promoter/solvent applicators controlled by a catalytic oxidizer.	5/29/98	FG-AOS FGCADBAR
EU-CADBAR161	Low perm CADbar process center including five rubber/plastic extruders, one shared pre-cure autoclave, one shared post cure autoclave and two surface preparation adhesion promoter/solvent applicators controlled by a catalytic oxidizer.	10/2/02	FG-AOS FGCADBAR
EU-CTRPknitline	CTRP process center with three rubber/plastic extruders and one surface preparation adhesion promoter/solvent applicator controlled by a catalytic oxidizer.	5/29/98	FG-AOS
EUAUTOCLAVE1	Autoclave ID 200 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	5/19/1997	FGAUTOCLAVE
EUAUTOCLAVE2	Autoclave ID 217 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Cadbar lines.	5/19/1997	FGAUTOCLAVE

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUAUTOCLAVE3	Autoclave ID 203 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	to be determined	FGAUTOCLAVE
EUAUTOCLAVE4	Autoclave ID 204 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	to be determined	FGAUTOCLAVE
EUAUTOCLAVE5	Autoclave ID 205 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Cadbar lines.	to be determined	FGAUTOCLAVE
EUAUTOCLAVE6	Autoclave ID 206 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Cadbar lines.	to be determined	FGAUTOCLAVE
EUAUTOCLAVE7	Autoclave ID 207 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	5/19/1997	FGAUTOCLAVE
EUAUTOCLAVE8	Autoclave ID 208 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	10/10/2016	FGAUTOCLAVE
EUAUTOCLAVE9	Autoclave ID 209 - steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Conventional lines.	5/19/1997	FGAUTOCLAVE
EUAUTOCLAVE10	Autoclave ID 4020- steam pressure vessel used for the curing of unvulcanized rubber. Associated with the Cadbar lines.	8/30/2003	FGAUTOCLAVE
EUMW1	Microwave and hot air oven rubber curing operations.	5/19/97	NA
EU-CUREOVEN01	A natural gas fired post cure oven used for vulcanizing molded and extruded rubber products.	8/14/07	FGCUREOVENS
EU-CUREOVEN02	An electric post cure oven used for vulcanizing molded and extruded rubber products.	01/30/2012	FGCUREOVENS
EULCM106	Liquid Cure Media (LCM) rubber curing operations	7/14/03	FG-LCM
EULCM108	Liquid Cure Media (LCM) rubber curing operations	7/14/03	FG-LCM
EULCM128	Liquid Cure Media (LCM) rubber curing operations	7/14/03	FG-LCM
EU-RULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	NA	FGRULE290
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

**FLEXIBLE GROUP SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGMIXERS	Two rubber mixers at Plant 1 each with an associated rubber mill and cooling conveyor and baghouse control.	EUMIXER1, EUMIXER2
FGCADBAR	Six low perm CADbar process centers at Plant 1.	EU-CADBAR148 EU-CADBAR152 EU-CADBAR153 EU-CADBAR154 EU-CADBAR156 EU-CADBAR161
FG-AOS	Alternative Operating Scenario for the facility in the event that the catalytic oxidizer malfunctions.	EU-CADBAR148 EU-CADBAR152 EU-CADBAR153 EU-CADBAR154 EU-CADBAR156 EU-CADBAR161 EU-CTRPknitline EU-Line 138
FGAUTOCLAVE	Ten autoclave steam pressure vessels for the curing of unvulcanized rubber.	EUAUTOCLAVE1 EUAUTOCLAVE2 EUAUTOCLAVE3 EUAUTOCLAVE4 EUAUTOCLAVE5 EUAUTOCLAVE6 EUAUTOCLAVE7 EUAUTOCLAVE8 EUAUTOCLAVE9 EUAUTOCLAVE10
FG-LCM	Three Liquid Cure Media rubber-curing operations at Plant 1.	EULCM106 EULCM108 EULCM128
FGCUREOVENS	One natural gas fired and one electric post cure ovens used for vulcanizing molded and extruded rubber products.	EU-CUREOVEN01 EU-CUREOVEN02
FGRULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290. Includes the print pan cleaner and the CTRP assembly.	



**The following conditions apply to: FGCADBAR**

**DESCRIPTION:** Six low perm CADbar process centers at Plant 1

**Emission Units:** EU-CADBAR148, EU-CADBAR152, EU-CADBAR153, EU-CADBAR154, EU-CADBAR156, EU-CADBAR161

**POLLUTION CONTROL EQUIPMENT:** Catalytic Oxidizer controlling emissions from the surface preparation/adhesion promoter applicators.

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	35.4 tpy	12-month rolling time period as determined at the end of each calendar month	Surface preparation adhesion promoter/solvent applicator processes	SC VI.2	R 336.1702(a)
2. Toluene	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	EU-CADBAR161	SC VI.3	R 336.1205(3)

**II. MATERIAL LIMITS**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. ECO	5,150,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702
2. Hypalon	2,150,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702
3. Nitrile	3,650,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702
4. FKM	1,500,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
5. THV	1,000,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702
6. CPE	3,000,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702
7. EPDM	1,500,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCADBAR	SC VI.2 SC VI.3	R 336.1205(3), R 336.1225, R 336.1702

### **III. PROCESS/OPERATIONAL RESTRICTIONS**

1. All waste adhesion promoters/solvents shall be captured and stored in closed containers and disposed of in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall not operate the surface preparation adhesion promoter/solvent applicator portions of FGCADBAR unless the catalytic oxidizer is installed, maintained and operated in a satisfactory manner (except as specified under FG-AOS). **(R 336.1205(3), R 336.1225, R 336.1702(a))**
3. Satisfactory operation of the catalytic oxidizer includes a minimum VOC destruction efficiency of 95 percent (by weight), and a minimum catalyst bed inlet temperature of 650°F **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910)**
4. Permittee shall not operate the catalytic oxidizer unless the continuous temperature monitoring and recording system is installed and operating properly. **(R 336.1205(3), R 336.1225, R 336.1702, R 336.1910)**
5. The permittee shall calibrate, maintain and operate, in a satisfactory manner, a temperature monitoring device to monitor and record the catalytic converter inlet temperature on a continuous basis. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
6. The Permittee shall maintain the catalyst in the catalytic oxidizer in accordance with the procedures in the manufacturer's operation and maintenance manual including high temperature de-carbonization, dust removal and testing and repair/replacement of the catalyst. **(R 336.1911)**

### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The catalytic oxidizer shall be designed with a maximum space velocity of 15,000 inverse hours. **(R 336.1205(3), R 336.1225, R 336.1702(a))**

### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the capture efficiency of the pollution control system and destruction efficiency of the catalytic oxidizer by testing at owner's expense, in accordance with Department requirements once every five years. **(R 336.2001, R 336.2003, R 336.2004)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each adhesion promoter/solvent, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. All records shall be made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(a))**
2. The permittee shall maintain a monthly record, acceptable to the District Supervisor, of the following information for the surface preparation processes of FGCADBAR: **(R 336.1225, R 336.1702(a))**
  - a. Description of each adhesive used.
  - b. Pounds or gallons of each adhesive used.
  - c. VOC content, in weight percent or pounds per gallon, of each adhesive used.
  - d. VOC mass emission calculations from determining the monthly emission rate in pounds per calendar month.
  - e. VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
3. The permittee shall maintain a monthly record, acceptable to the District Supervisor, of the following information for EU-CADBAR161: **(R 336.1205(3), R 336.1225)**
  - a. Pounds or gallons of toluene adhesive used.
  - b. Toluene content, in weight percent or pounds per gallon, of each adhesive used.
  - c. Description and quantity (pounds) of each rubber/plastic type produced.
  - d. Total (adhesive and rubber/plastic) toluene mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

<b>Rubber/plastic Type</b>	<b>Extrusion Emission Factor (lb Toluene/lb Rubber)</b>
ECO	1.24e-05
Hypalon	1.69e-07
Nitrile	3.69e-07
FKM	9.37e-08
THV	9.37e-08
CPE	3.4e-06
EPDM	3.52e-06

4. Emission calculations shall be performed as specified in Appendix 7 of the ROP or an alternative method approved by the AQD District Supervisor. For calculating emissions, permittee shall use the most recent capture efficiency as demonstrated through testing and approved by AQD. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
5. The permittee shall maintain a monthly record, acceptable to the District Supervisor, of the following information for the catalytic oxidizer: **(R 336.1205(3), R 336.1225, R 336.1702(a))**
  - a. Hours of operation of the catalytic oxidizer.
  - b. Continuously monitored inlet temperature to the catalytic oxidizer.
  - c. Excursions as described in VI.6 and the corrective actions taken.
6. All records shall be made available to the Department upon request. **(R 336.1213(1)(d)(ii))**

## **VII. REPORTING**

NA

### **VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-Oxidizer	20	24	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21

### **IX. OTHER REQUIREMENTS**

1. The permittee shall notify the Department if a change in land use occurs for property classified as industrial or as a public roadway, where this classification was relied upon to demonstrate compliance with Rule 225(1). The notification shall be submitted to the AQD District Supervisor, within 30 days of the actual land use change. Within 60 days of the land use change, the permittee shall submit to the AQD District Supervisor a plan for complying with the requirements of Rule 225(1). The plan shall require compliance with Rule 225(1) no later than one year after the due date of the plan submittal.<sup>1</sup> **(R336.1225(4))**
2. The permittee shall implement and maintain a preventative maintenance/malfunction abatement plan for FGCADBAR. The plan shall include, at a minimum, procedures for maintaining and operating in a satisfactory manner the catalytic oxidizer and monitoring equipment, identification and descriptions of operating variables, and a program for corrective action for malfunction events. If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the preventative maintenance/malfunction abatement plan within 45 days after such an event occurs. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.1911)**

#### **Footnotes:**

<sup>1</sup>This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**The following conditions apply to: FGAUTOCLAVE**

**DESCRIPTION:** Ten autoclave steam pressure vessels for the curing of unvulcanized rubber.

**Emission Units:** EUAUTOCLAVE1, EUAUTOCLAVE2, EUAUTOCLAVE3, EUAUTOCLAVE4,  
EUAUTOCLAVE5, EUAUTOCLAVE6, EUAUTOCLAVE7, EUAUTOCLAVE8, EUAUTOCLAVE9,  
EUAUTOCLAVE10

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	2.6 pph	Monthly average	FGAUTOCLAVE	SC VI.1	R 336.1702(a)
2. VOC	8.6 tpy	12-month rolling time period as determined at the end of each calendar month	FGAUTOCLAVE	SC VI.1	R 336.1702(a)

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall maintain a monthly record, acceptable to the District Supervisor, of the following information: **(R 336.1702(a)) (R 336.1201(3))**
  - a. Hours of operation of FG-AUTOCLAVE.
  - b. The total pounds of rubber material processed.
  - c. The amount of each type of rubber material processed.
  - d. Calculations for each individual type of rubber material processed in FG-AUTOCLAVE.
  - e. Calculations for the total VOC mass emission rate in pounds per hour and tons per 12-month rolling time period for FG-AUTOCLAVE using the following emission factors or others as approved by the District Supervisor.

<b>Rubber Material</b>	<b>Emission Factor (lb VOC per lb of rubber material processed)</b>
EPDM (#8)	0.00604
Neoprene (#11)	0.000318
NBR (#14)	0.000716
Fluoroelastomer (#16)	0.0000796
Hypalon (#15)	0.000720
CPE (#21)	0.000338
ECO (#23)	0.000502

2. All records shall be made available to the Department upon request. **(R 336.1201(3))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVAUTOCLAVE1-200	2 <sup>1</sup>	24 <sup>1</sup>	R 336.1225
2. SVAUTOCLAVE2-217	2 <sup>1</sup>	24 <sup>1</sup>	R 336.1225
3. SVAUTOCLAVE3-203	8 <sup>1</sup>	27 <sup>1</sup>	R 336.1225
4. SVAUTOCLAVE4-204	12 <sup>1</sup>	34 <sup>1</sup>	R 336.1225
5. SVAUTOCLAVE5-205	12 <sup>1</sup>	27 <sup>1</sup>	R 336.1225
6. SVAUTOCLAVE6-206	12 <sup>1</sup>	27 <sup>1</sup>	R 336.1225
7. SVAUTOCLAVE7-207	12 <sup>1</sup>	27 <sup>1</sup>	R 336.1225
8. SVAUTOCLAVE8-208	12 <sup>1</sup>	34 <sup>1</sup>	R 336.1225
9. SVAUTOCLAVE9-209	10 <sup>1</sup>	27 <sup>1</sup>	R 336.1225
10. SVAUTOCLAVE10-4020	4 <sup>1</sup>	27 <sup>1</sup>	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

<sup>1</sup>This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**The following conditions apply to: FGCUREOVENS**

**DESCRIPTION:** One natural gas fired and one electric post cure ovens used for vulcanizing molded and extruded rubber products.

**Emission Units:** EU-CUREOVEN01 EU-CUREOVEN02

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	5.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGCUREOVENS	SC VI.1	R 336.1702(a)
2. Aggregate HAPs	2.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGCUREOVENS	SC VI.1	R 336.1205(3)

**II. MATERIAL LIMITS**

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Total Uncured Rubber	2,475,000 pounds per year	12-month rolling time period as determined at the end of each calendar month	FGCUREOVENS	SC VI.1	R 336.1205(3), R 336.1225, R 336.1702

2. The permittee shall process only the following uncured rubber materials in FGCUREOVENS:  
 Epichlorohydrin (ECO)  
 Chlorinated Polyethylene (CPE)  
 Acrylonitrile Butadiene Rubber (NBR)  
 Vamac/ Ethylene Acrylic Elastomer (AEM)  
 Fluoroelastomer (FKM)  
**(R 336.1205)**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall maintain a monthly record, acceptable to the District Supervisor, of the following information<sup>2</sup>: (R 336.1205(3), R 336.1225, R 336.1702(a))
  - a. Hours of operation of each post curing oven.
  - b. The total pounds of each rubber compound processed (per month and 12-month rolling time period).
  - c. VOC emission calculations determining the mass emission rate from the process. Annual emission rates to be calculated on a 12-month rolling time period as determined at the end of each calendar month. The following emission factors shall be used to do the calculations:

Rubber Type	Emission Factor (lb VOC/lb Rubber)
Epichlorohydrin (ECO)	1.72e-03
Chlorinated Polyethylene (CPE)	8.78e-03
Acrylonitrile Butadiene Rubber (NBR)	1.29e-02
Ethylene Acrylic Elastomer (AEM)	4.58e-03
Fluoroelastomer (FKM)	4.58e-03
Vamac/ Ethylene Acrylic Elastomer (AEM)	4.58e-03

- d. Aggregate HAPs emission calculations determining the mass emission rate from the process. Annual emission rates to be calculated on a 12-month rolling time period as determined at the end of each calendar month. The following emission factors shall be used to do the calculations:

Rubber Type	Emission Factor (lb HAPs/lb Rubber)
Epichlorohydrin (ECO)	7.31e-04
Chlorinated Polyethylene (CPE)	2.77e-04
Acrylonitrile Butadiene Rubber (NBR)	1.04e-03
Ethylene Acrylic Elastomer (AEM)	1.16e-04
Fluoroelastomer (FKM)	1.16e-04
Vamac/ Ethylene Acrylic Elastomer (AEM)	1.16e-04

2. All records shall be made available to the Department upon request. (R 336.1205(3), R 336.1702(a))

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-CUREOVEN01	8 <sup>1</sup>	25 <sup>1</sup>	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2. SV-CUREOVEN02	8 <sup>1</sup>	20 <sup>1</sup>	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

<sup>1</sup>This condition is state only enforceable and was established pursuant to Rule 201(1)(b).