

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

December 14, 2018

**PERMIT TO INSTALL
187-18**

ISSUED TO
The Crown Group Shelby Plant

LOCATED AT
12020 Shelby Technical Drive
Shelby Township, Michigan

IN THE COUNTY OF
Macomb

STATE REGISTRATION NUMBER
N7426

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: December 14, 2018	
DATE PERMIT TO INSTALL APPROVED: December 14, 2018	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department	Michigan Department of Environmental Quality
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MDEQ	Michigan Department of Environmental Quality
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

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 Rule 210 (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 Rule 219 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 Rule 219 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 Rule 301, 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 Rule 303 (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 Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBURNOFF	A batch-style, natural gas-fired burnoff oven used to remove e-coat and powder coatings from metal racks and parts. The primary chamber is rated at 1,000,000 BTU/hr and the secondary chamber (afterburner) is rated at 1,000,000 BTU/hr.	2001 / Date of PTI	NA

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 336.1291.

EUBURNOFF EMISSION UNIT CONDITIONS

DESCRIPTION

A batch-style, natural gas-fired burnoff oven used to remove e-coat and powder coatings from metal racks and parts. The primary chamber is rated at 1,000,000 BTU/hr and the secondary chamber (afterburner) is rated at 1,000,000 BTU/hr.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Secondary chamber (afterburner)

I. EMISSION LIMIT(S)

1. There shall be no visible emissions from EUBURNOFF. **(R 336.1301, R 1910)**

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas in EUBURNOFF. **(R 336.1224, R 336.1225)**
2. The permittee shall not process any material in EUBURNOFF other than cured coatings on metal parts, racks and/or hangers.¹ **(R 336.1224, R 336.1225)**
3. The individual halogen content (i.e. fluorine, chlorine, bromine, etc.) of any material removed from racks or parts in EUBURNOFF shall not exceed 0.1 percent by weight.¹ **(R 336.1224, R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not use EUBURNOFF for the thermal destruction or removal of uncured paints or any other materials containing halogens (fluorine, chlorine, bromine, etc.), except as allowed in SC II.3.¹ **(R 336.1224, R 336.1225)**
2. The permittee shall not load any transformer cores, which may be contaminated with PCB-containing dielectric fluid, wire or parts coated with lead or rubber, or any waste materials such as paint sludge or waste powder coatings into EUBURNOFF.¹ **(R 336.1224, R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUBURNOFF unless a secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the secondary chamber or afterburner includes maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds. **(R 336.1224, R 336.1225, R 336.1301, R 336.1910)**
2. The permittee shall not operate EUBURNOFF unless an automatic temperature control system for the primary chamber and secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1910)**

3. The permittee shall not operate EUBURNOFF unless an interlock system is installed, maintained, and operated in a satisfactory manner. The interlock system shuts down the primary chamber burner when the secondary chamber or afterburner is not operating properly, such as in the following scenarios: **(R 336.1224, R 336.1225, R 336.1301, R 336.1910)**
 - a. Loss of afterburner flame,
 - b. Low air flow, and
 - c. Upon startup, preventing the primary chamber burner from firing until after the afterburner is greater than 1400°F. This portion of the interlock system must be installed by the date specified in SC IX.1,

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. Prior to the date specified in SC IX.1, the permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to continuously monitor the temperature in the secondary chamber or afterburner portion of EUBURNOFF and record the temperature at least once every 15 minutes. The records shall be kept in a format acceptable to the AQD District Supervisor. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1910)**
2. The permittee shall calibrate the thermocouples associated with the primary and secondary chamber portions of EUBURNOFF at least once per year. **(R 336.1224, R 336.1225, R 336.1910)**
3. Upon installation of the temperature recording device as required by SC VI.1, the permittee shall keep, in a satisfactory manner, temperature data records for the secondary chamber or afterburner portion of EUBURNOFF. The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1910)**
4. The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed and any testing results for EUBURNOFF. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1910, R 336.1912)**
5. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material (cured coatings) processed in EUBURNOFF, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both. All records shall be kept on file for a period of at least five years and made available to the Department upon request.¹ **(R 336.1224, R 336.1225)**
6. The permittee shall maintain current information from the manufacturer that EUBURNOFF is equipped with a secondary chamber or afterburner, an automatic temperature control system for the primary chamber and secondary chamber or afterburner, and an interlock system that shuts down the primary chamber burner when the secondary chamber or afterburner is not operating properly. All records shall be kept on file for a period of at least five years and made available to the Department upon request.¹ **(R 336.1224, R 336.1225)**

VII. REPORTING

1. The permittee shall send written notification to the AQD District Supervisor within 7 days of the installation date for each of the following: **(R 336.1224, R 336.1225, R 336.1910)**
 - a. Stack height raised from 39 feet to 47.25 feet as required by SC VIII.1.
 - b. The temperature recording equipment as required by SC VI.1.
 - c. The interlock addition preventing the primary chamber burner from firing until after the afterburner is greater than 1400°F upon startup as required by SC IV.3(c).

VIII. STACK/VENT RESTRICTION(S)

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 / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBURNOFF ^a	20	47.25	R 336.1225, 40 CFR 52.21 (c) & (d)

^aSVBURNOFF shall be raised to 47.25 feet by the date specified in SC IX.1.

IX. OTHER REQUIREMENT(S)

1. The permittee shall perform the following activities on EUBURNOFF by February 1, 2019:
 - a. Raise the stack height from 39 feet to 47.25 feet as required by SC VIII.1,
 - b. Install a temperature recording device as required by SC VI.1, and
 - c. Install the interlock addition preventing the primary chamber burner from firing until after the afterburner is greater than 1400°F upon startup as required by SC IV.3(c).

The permittee may request an alternate date by submitting a written request to, and receiving agreement from, the AQD District Supervisor. **(R 336.1224, R 336.1225, R 336.1910, 40 CFR 52.21 (c) & (d))**

Footnotes:

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