

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

March 9, 2020

PERMIT TO INSTALL
101-19A

ISSUED TO
Ford Motor Company – Dearborn Truck Plant

LOCATED AT
3001 Miller Road
Dearborn, Michigan 48120

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
A8648

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. 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: October 22, 2019	
DATE PERMIT TO INSTALL APPROVED: March 5, 2020	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/EGLE	Michigan Department of Environment, Great Lakes, and Energy
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
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 Environment, Great Lakes, and Energy, 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 Environment, Great Lakes, and Energy. **(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
EU-ECOAT	Prime coating operations are performed in an electrodeposition tank followed by a curing oven and dry-filter scuff booth.	12-18-2001	FG-FACILITY*, FG-CONTROLS, FG-AUTOMACT-DTP*
EU-GUIDECOAT	Manual and automatic guidecoat application, flash-off, curing and scuffing.	12-18-2001 / PTI Date	FG-FACILITY*, FG-CONTROLS, FG-AUTOMACT-DTP*
EU-TOPCOAT	Manual and automatic basecoat and clearcoat application, flash-off and curing conducted in two parallel topcoat spray booths followed by two parallel topcoat ovens including a heated flash-off area. Scuffing operations are also included in this emission unit.	12-18-2001	FG-FACILITY*, FG-CONTROLS, FG-AUTOMACT-DTP*

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.

* Please see the ROP for this stationary source for FG-FACILITY and FG-AUTOMACT-DTP

EU-ECOAT EMISSION UNIT CONDITIONS

DESCRIPTION

Prime coating operations are performed in an electrodeposition tank followed by a curing oven and dry-filtered scuff booth.

Flexible Group IDs: FG-FACILITY, FG-CONTROLS, FG-AUTOMACT-DTP

POLLUTION CONTROL EQUIPMENT

Two concentrators followed by a regenerative thermal oxidizer (RTO) control of VOC emissions from the EU-ECOAT dip tank and an RTO control of VOC emissions from the curing oven.

Dry filter particulate controls on the scuff booth portion of EU-ECOAT.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-ECOAT unless FG-CONTROLS is installed, maintained and operated in a satisfactory manner. Satisfactory operation of FG-CONTROLS includes maintaining a minimum combustion chamber temperature of 1400 °F and a minimum retention time of 0.5 seconds. After performance testing demonstrates compliance with all applicable VOC emission limits, satisfactory operation will include maintaining a minimum combustion chamber temperature equal to the average temperature observed during the most recent such performance tests. In lieu of a minimum temperature, an average temperature based upon a three-hour rolling average may be used. **(R 336.1225, R 336.1702(a))**
2. The permittee shall not operate the scuff booth portion of EU-ECOAT unless the dry filter particulate controls are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the dry filter particulate controls includes conducting the required monitoring and recordkeeping pursuant to FG-FACILITY, SC VI.3. **(R 336.1205, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of the resin, pigment and additives, as added to the ECOAT tank, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the District Supervisor, the VOC content, water content and density of the resin, pigment and additives as added to the ECOAT tank shall be verified by testing using federal Reference Test Method 24. **(R 336.1702(a))**

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. 63ECSCUF (Scuff Booth)*	72	116	R 336.1225, 40 CFR 52.21(c) & (d)
2. 5ECZONE1 (Oven Zone 1 & 2)	18	109	R 336.1225, 40 CFR 52.21(c) & (d)
3. 6ECZONE34 (Oven Zone 3 & 4)	18	109	R 336.1225, 40 CFR 52.21(c) & (d)
4. 7ECZONE56 (Oven Zone 5 & 6)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
5. 8ECZONE78 (Oven Zone 7 & 8)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
6. 9ECZONE910 (Oven Zone 9 & 10)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
7. 4ECOAT (Oven Exhaust)	45	135	R 336.1225, 40 CFR 52.21(c) & (d)
8. 87CARBON (Carbon Adsorption System)	76	135	R 336.1225, 40 CFR 52.21(c) & (d)
9. 28RTOOVN (Oven/RTO Exhaust)	80	135	R 336.1225, 40 CFR 52.21(c) & (d)
* Alternatively, scuff booth exhaust may be used as intake air for EU-TOPCOAT and exhausted from EU-TOPCOAT stacks.			

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

EU-GUIDECOAT EMISSION UNIT CONDITIONS

DESCRIPTION

Manual and automatic guidecoat application, flash-off, curing and scuffing.

Flexible Group IDs: FG-FACILITY, FG-CONTROLS, FG-AUTOMACT-DTP

POLLUTION CONTROL EQUIPMENT

Two concentrators followed by a regenerative thermal oxidizer (RTO) for control of VOC emissions from the EU-GUIDECOAT booth automatic sections, and an RTO for control of VOC emissions from the EU-GUIDECOAT oven.

Dry filter particulate controls on the scuff booth and spray booth portions of EU-GUIDECOAT.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-GUIDECOAT unless FG-CONTROLS is installed, maintained and operated in a satisfactory manner. Satisfactory operation of FG-CONTROLS includes maintaining a minimum combustion chamber temperature of 1400 °F and a minimum retention time of 0.5 seconds. After performance testing demonstrates compliance with all applicable VOC emission limits, satisfactory operation will include maintaining a minimum combustion chamber temperature equal to the average temperature observed during the most recent such performance tests. In lieu of a minimum temperature, an average temperature based upon a three-hour rolling average may be used. **(R 336.1225, R 336.1702(a), R 336.1910)**
2. The permittee shall not operate the scuff booth or spray booth portions of EU-GUIDECOAT unless the associated dry filter particulate controls are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the dry filter particulate controls includes conducting the required monitoring and recordkeeping pursuant to FG-FACILITY, SC VI. 3. **(R 336.1205, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of any coating or material as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content, water content and density of any coating or material shall be verified using federal Reference Test Method 24. **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. 40PRIME (Manual Interior)	76	195	R 336.1225, 40 CFR 52.21(c) & (d)
2. 41PRIME (Manual Interior Flash)	72	195	R 336.1225, 40 CFR 52.21 (c) & (d)
3. 42PRIME (Automatic Zone)	72	195	R 336.1225, 40 CFR 52.21 (c) & (d)
4. 43PRIME (Automatic Zone)	82	195	R 336.1225, 40 CFR 52.21(c) & (d)
5. 64PRIME (Scuff Booth)	82	116	R 336.1225, 40 CFR 52.21(c) & (d)
6. 12PRIME (Oven Zone 1 & 2)	18	116	R 336.1225, 40 CFR 52.21(c) & (d)
7. 13PRIME (Oven Zone 3)	12	116	R 336.1225, 40 CFR 52.21(c) & (d)
8. 14PRIME (Oven Zone 4 & 5)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
9. 15PRIME (Oven Zone 6 & 7)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
10. 16PRIME (Oven Zone 8 & 9)	14	109	R 336.1225, 40 CFR 52.21(c) & (d)
11. 17PRIME (Fresh Air Heater)	14	116	R 336.1225, 40 CFR 52.21(c) & (d)
12. 87CARBON (Carbon Adsorption System)	76	135	R 336.1225, 40 CFR 52.21(c) & (d)
13. 28RTOOVN (Oven/RTO Exhaust)	80	135	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

- The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63 Subpart A and Subpart IIII, as they apply to EU-GUIDECOAT. (40 CFR Part 63, Subpart A and Subpart IIII)

Footnotes:

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

EU-TOPCOAT EMISSION UNIT CONDITIONS

DESCRIPTION

Manual and automatic basecoat and clearcoat application, flash-off and curing conducted in two parallel topcoat spray booths followed by two parallel topcoat ovens including a heated flash-off area. Scuffing operations are also included in this emission unit.

Flexible Group IDs: FG-FACILITY, FG-CONTROLS, FG-AUTOMACT-DTP

POLLUTION CONTROL EQUIPMENT

Two concentrators followed by a regenerative thermal oxidizer (RTO) control of VOC emissions from the EU-TOPCOAT clearcoat automatic sections, and an RTO for control of VOC emissions from the EU-TOPCOAT ovens.

Dry filter particulate controls on the scuff booth portion of EU-TOPCOAT.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-TOPCOAT unless FG-CONTROLS is installed, maintained and operated in a satisfactory manner. Satisfactory operation of FG-CONTROLS includes maintaining a minimum combustion chamber temperature of 1400 °F and a minimum retention time of 0.5 seconds. After performance testing demonstrates compliance with all applicable VOC emission limits, satisfactory operation will include maintaining a minimum combustion chamber temperature equal to the average temperature observed during the most recent such performance tests. In lieu of a minimum temperature, an average temperature based upon a three-hour rolling average may be used. **(R 336.1225, R 336.1702(a))**
2. The permittee shall not operate the scuff booth portion of EU-TOPCOAT unless the dry filter particulate controls are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the dry filter particulate controls includes conducting the required monitoring and recordkeeping pursuant to FG-FACILITY, SC VI. 3. **(R 336.1205, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of any coating or material as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content, water content and density of any coating or material shall be verified using federal Reference Test Method 24. **(R 336.1702(a))**

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. 46TOPCOT (Topcoat 1 Manual Basecoat)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
2. 49TOPCOT (Topcoat 1 Manual Basecoat)	90	195	R 336.1225, 40 CFR 52.21 (c) & (d)
3. 47TOPCOT (Topcoat 1 Manual Auto Zone)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
4. 48TOPCOT (Topcoat 1 Manual Auto Zone)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
5. 51TOPCOT (Topcoat 1 Manual Clearcoat)	90	195	R 336.1225, 40 CFR 52.21 (c) & (d)
6. 53TOPCOT (Topcoat 1 Manual Clearcoat)	60	195	R 336.1225, 40 CFR 52.21 (c) & (d)
7. 19TOPCOT (Topcoat 1 Oven Zones 1 & 2)	18	109	R 336.1225, 40 CFR 52.21 (c) & (d)
8. 20TOPCOT (Topcoat 1 Oven Zones 3 & 4)	10	109	R 336.1225, 40 CFR 52.21 (c) & (d)
9. 21TOPCOT (Topcoat 1 Oven Zones 5 & 6)	14	109	R 336.1225, 40 CFR 52.21 (c) & (d)
10. 22TOPCOT (Enamel Oven 1)	12	109	R 336.1225, 40 CFR 52.21 (c) & (d)
11. 55TOPCOT (Topcoat 2 Manual Basecoat)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
12. 58TOPCOT (Topcoat 2 Manual Basecoat)	90	195	R 336.1225, 40 CFR 52.21 (c) & (d)
13. 56TOPCOT (Topcoat 2 Basecoat Auto Zone)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
14. 57TOPCOT (Topcoat 2 Basecoat Auto Zone)	76	195	R 336.1225, 40 CFR 52.21 (c) & (d)
15. 60TOPCOT (Topcoat 2 Manual Clearcoat)	90	195	R 336.1225, 40 CFR 52.21 (c) & (d)
16. 62TOPCOT (Topcoat 2 Manual Clearcoat)	60	195	R 336.1225, 40 CFR 52.21 (c) & (d)
17. 24TOPCOT (Topcoat 2 Oven Zones 1 & 2)	18	109	R 336.1225, 40 CFR 52.21 (c) & (d)
18. 25TOPCOT (Topcoat 2 Oven Zones 3 & 4)	10	109	R 336.1225, 40 CFR 52.21 (c) & (d)
19. 26TOPCOT (Topcoat 2 Oven Zones 5 & 6)	14	109	R 336.1225, 40 CFR 52.21 (c) & (d)

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
20. 27TOPCOT (Enamel Oven 2)	12	109	R 336.1225, 40 CFR 52.21 (c) & (d)
21. 65TOPCOT (Scuff Booth)	57	116	R 336.1225, 40 CFR 52.21 (c) & (d)
22. 87CARBON (Carbon Adsorption System)	76	135	R 336.1225, 40 CFR 52.21 (c) & (d)
23. 28RTOOVN (Oven/RTO Exhaust)	80	135	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

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
FG-CONTROLS	Two concentrators followed by a thermal oxidizer for control of VOC emissions from the EU-ECOAT dip tank, EU-GUIDECOAT booth automatic sections, and EU-TOPCOAT clearcoat automatic sections; and a regenerative thermal oxidizer (RTO) for control of VOC emissions from the EU-ECOAT curing oven, EU-GUIDECOAT oven, and EU-TOPCOAT ovens.	EU-ECOAT, EU-GUIDECOAT, EU-TOPCOAT

FG-CONTROLS FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two concentrators followed by a regenerative thermal oxidizer (RTO) for control of VOC emissions from the EU-ECOAT dip tank, EU-GUIDECOAT booth automatic sections, and EU-TOPCOAT clearcoat automatic sections; and a RTO for control of VOC emissions from the EU-ECOAT curing oven, EU-GUIDECOAT oven, and EU-TOPCOAT ovens.

Emission Units: All emission units and flexible groups associated with automotive assembly and painting operations with VOC controls including the following: EU-ECOAT, EU-GUIDECOAT, EU-TOPCOAT

POLLUTION CONTROL EQUIPMENT

Two concentrators followed by an RTO for control of VOC emissions from the EU-ECOAT dip tank, EU-GUIDECOAT booth automatic sections, and EU-TOPCOAT clearcoat automatic sections. An RTO for control of VOC emissions from the EU-ECOAT curing oven, EU-GUIDECOAT oven, and EU-TOPCOAT ovens.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall develop, maintain, and implement an operation and maintenance plan (O & M Plan) for FG-CONTROLS. The plan shall contain the minimum desorption gas inlet temperature from the most recent acceptable performance test for the concentrators and the requirements as outlined in Appendix 3. The plan shall be updated as necessary to reflect changes in equipment, to implement corrective actions and to address malfunctions. All records and activities associated with the O&M plan shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1702(a), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-ECOAT, EU-GUIDECOAT, or EU-TOPCOAT unless FG-CONTROLS is installed, maintained and operated in a satisfactory manner. Satisfactory operation of FG-CONTROLS includes maintaining a minimum combustion chamber temperature of 1400 °F and a minimum retention time of 0.5 seconds. After performance testing demonstrates compliance with all applicable VOC emission limits, satisfactory operation will include maintaining a minimum combustion chamber temperature equal to the average temperature observed during the most recent such performance tests. In lieu of a minimum temperature, an average temperature based upon a three-hour rolling average may be used. **(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 conduct testing, at least once every five years from the last testing date, unless the permittee documents annually that the most recent acceptable test remains valid and representative, the permittee shall verify the removal efficiency of the concentrators and destruction efficiency of the RTOs in FG-Controls by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR 60 Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than

60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702, R 336.2001, R 336.2003, R 336.2004)**

2. At least once every five years from the last testing date, unless the permittee has submitted an annual demonstration that the most recent acceptable test remains valid and representative, the permittee shall verify the capture efficiency of a representative E-Coat tank, guidecoat, and topcoat spray booth, and representative ovens of FG-Controls to the respective VOC control device(s), by testing at owner's expense, in accordance with Department requirements, and the U.S. EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," September 2008, EPA 453/R-08-002, as amended. Testing shall be performed using an approved EPA Method listed in 40 CFR 60 Appendix A and 40 CFR 63 Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702, R 336.2001, R 336.2003, R 336.2004)**
3. At least once every five years from the last testing date, unless the permittee has submitted a demonstration that the most recent acceptable test remains valid and representative, the permittee shall verify the overall transfer efficiency and the oven exhaust control device VOC loading of EU-GUIDECOAT and EU-TOPCOAT, by testing at owner's expense, in accordance with Department requirements, 40 CFR 51 Appendix M, and the U.S. EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," September 2008, EPA 453/R-08-002, as amended. One basecoat booth and one clearcoat booth may be tested if the permittee provides a demonstration to the AQD that the tested booth(s) is identical to and/or the transfer efficiencies and VOC loading from the tested booth(s) are representative of the other booth(s). No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702, 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 install, maintain and operate in a satisfactory manner, combustion chamber temperature monitoring devices for the thermal oxidizers in FG-CONTROLS to monitor and record the temperature on a continuous basis during operation. Temperature data recording shall consist of measurements made at equally spaced intervals at least once every 15 minutes. All records shall be kept on file and made available to the Department upon request. **(R 336.1702(a), R 336.1910, 40 CFR 60 Subpart MM)**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, temperature monitoring devices for the concentrators in FG-CONTROLS to monitor and record the desorption gas inlet temperature for concentrators on a continuous basis during operation. Desorption gas inlet temperature data recording shall consist of measurements made at equally spaced intervals at least once every 15 minutes. All records shall be kept on file and made available to the Department upon request. **(R 336.1702(a), R 336.1910)**
3. The permittee shall maintain records of maintenance and repair activities. Records shall identify the equipment inspected and the date of the inspection. The permittee shall also record any maintenance activities or corrective actions taken as a result of equipment inspections or due to malfunction. All records shall be kept on file and made available to the Department upon request. **(R 336.1910)**

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. 87CARBON (Carbon Adsorption System)	76	135	R 336.1225, 40 CFR 52.21(c) & (d)
2. 28RTOOVN (Oven/RTO Exhaust)	80	135	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

APPENDICES

Appendix 3-1. Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in FG-CONTROLS to serve as the basis for Compliance Assurance Monitoring (CAM) requirements as specified in 40 CFR 64.

Elements of an O & M Plan

General – Keep records of maintenance inspections which include the dates, results of the inspections and the dates and reasons for repairs if made. The following items shall be inspected for each respective add-on control device used to demonstrate compliance with applicable VOC emissions limits.

Regenerative Thermal Oxidizers (RTOs)

1. Validation of thermocouple accuracy or recalibration of each thermocouple a minimum of once every 12 months. The thermocouple can be replaced in lieu of validation.
2. Perform a heat exchange/heat transfer media inspection a minimum of once every 18 months.*
3. Perform an inspection of the valve seals condition and verify valve timing/synchronization a minimum of once every 18 months.*

Carbon Concentrator

1. Validation of thermocouple accuracy or recalibration of each thermocouple a minimum of once every 12 months. The thermocouple can be replaced in lieu of validation.
2. Perform internal observation of adsorbent materials for contamination and erosion a minimum of once every 18 months.*
3. Observe and record the pressure drop across the concentrator a minimum of once every calendar quarter.

* The requirement to address this issue is satisfied if a performance test (i.e., stack test) has been performed on the control device within the prior 18 month period.