



**Michigan Department of Environmental Quality  
Air Quality Division – Permit Section**

**Applicability Criteria for  
Coating Line(s) Emitting Up To 10 Tons per Year of VOCs**

A coating line is an operation, which is a single series in a coating process and which is comprised of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein one or more surface coatings are applied and subsequently dried or cured. Surface coating may include any paint, lacquer, varnish, adhesive, or other coating material applied on a surface. Surfaces include any substrate except cans, coils, large appliances, metal furniture, magnet wire, fabrics, paper, vinyl, flat wood paneling, or graphic arts lines.

This general permit to install is not intended to be a synthetic minor permit for Hazardous Air Pollutants (HAPs). A coating line that is subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) or section 112(g) of the federal clean air act is not eligible to use this general permit to install and must obtain a New Source Review permit to install pursuant to Rule 201. A coating line subject to a NESHAP or section 112(g) is one that has the potential to emit 10 tons per year of any one HAP or 25 tons per year of all HAPs combined. In addition, a coating line subject to any New Source Performance Standard (NSPS) for surface coating is not eligible to use this general permit.

The following state and federal requirements are applicable to a coating line emitting up to 10 TPY of VOCs and were considered in the development of the general permit to install. These requirements are addressed in the Special Conditions of the permit.

<u>Citation</u>	<u>Description</u>
R 336.1702(d)	State rule that outlines general provisions for new sources of Volatile Organic Compounds. This rule requires the application of Best Available Control Technology (BACT) to control VOC emissions from new sources. For a coating line emitting up to 10 TPY of VOCs proposed to be covered by this general permit to install, the use of High Volume Low Pressure (HVLP) spray applicators or equivalent technology with equal or better transfer efficiency is considered BACT for VOCs.
R 336.1224	State rule that applies to sources of air toxics. This rule requires the application of Best Available Control Technology for toxics (T-BACT) to sources emitting air toxics. In the case of a coating line emitting up to 10 TPY of VOCs proposed to be covered by this general permit to install, meeting BACT for VOCs satisfies T-BACT for VOC based toxics. T-BACT for particulate-based toxics is the use of dry filters or a water curtain to control particulates.
R 336.1225	State rule that prohibits the emissions of a Toxic Air Contaminant (TAC) in excess of a rate that results in a maximum ambient impact which is more than a health-based screening level. Based on MDEQ experience, a coating line emitting up to 10 TPY with minimum stack heights of one and one half times the building height (from ground level to point of discharge) meets the requirements of this rule. However, in the event that evidence indicates a failure to meet the requirements of Rule 225, the MDEQ maintains the authority to require corrective action.

**APPLICABILITY CRITERIA**

To qualify for the general permit to install, each coating line must meet the following criteria:

- The general permit to install shall apply to a coating line where one or more surface coatings are applied to any substrate except cans, coils, large appliances, metal furniture, magnet wire, fabrics, paper, vinyl, flat wood paneling, or graphic arts lines.
- The general permit to install may be used for multiple coating lines at a stationary source. A separate Process Information form (EQP5759) must be completed for each coating line to be covered by the general permit. Each coating line must meet the criteria set forth in this general permit to install and must comply with all terms and conditions of this general permit.
- A properly operated thermal oxidizer or catalytic oxidizer may be used to meet the requirements of this general permit. Proper operation of a thermal or catalytic oxidizer requires an overall minimum of 76% reduction of VOC emissions to the atmosphere.
- All coating applicators shall be High Volume-Low Pressure (HVLP) spray or equivalent technology with equal or better transfer efficiency (e.g., electrostatic spray, dip, flowcoat, roller, dip-spin).
- For a coating line using spray applicators, the coating line must include dry filters or a water curtain to control particulates.
- The exhaust gases from the coating line shall be discharged unobstructed vertically upwards to the ambient air at exit points not less than one and one half times the building height (from ground level to point of discharge).
- The emissions of VOCs from each coating line **and** purge and clean-up operations associated with the line covered by this general permit shall not exceed 2000 pounds per month nor 10.0 tons per year. The 10 TPY limit is based on a 12-month rolling time period as determined at the end of each calendar month.
- For any source using the general permit, the combined actual emissions of VOCs from all coating lines **and** all associated purge and clean-up operations at the stationary source shall not exceed 30.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. This includes the combined emissions from any coating line covered by this or any other general permit, any permit to install issued pursuant to Rule 201, and any coating line exempt from the requirement to obtain a permit pursuant to Rule 287 and/or Rule 290.
- The facility shall have no outstanding unresolved violations of any of the MDEQ Air Pollution Control rules, orders, or permits; or Federal air quality regulations.
- The general permit shall not apply to a source, process or process equipment that is included in an existing permit to install pursuant to Rule 201 and is further referenced in an outstanding consent order or consent judgment.

### **PERMIT CONDITIONS**

Attachment A lists the terms and special conditions of the general permit to install and includes a list of definitions for this general permit. These terms and conditions prescribe the applicable emission limits; process/operational limits; equipment restrictions; testing, monitoring, and recordkeeping requirements; and stack restrictions which are necessary to ensure that a coating line subject to a general permit to install will comply with all state and federal applicable requirements.

**ATTACHMENT A  
GENERAL CONDITIONS**

1. The process or process equipment covered by this general permit to install shall not be reconstructed, relocated, or modified unless a Permit to Install pursuant to Rule 201 authorizing such action is issued by the Department, or an application for coverage under a General Permit to Install pursuant to Rule 201a, is submitted to and approved by the Department. For the purpose of a general permit to install, the permittee is defined as any person who owns or operates a process or process equipment at the source for which coverage under the general permit has been granted.
2. Operation of any process or process 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)**
3. Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant. **(R 336.1207(1)(b))**
4. 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 conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5).
5. Coverage under this general permit to install does not exempt the permittee from complying with any future regulation, which may be promulgated under Part 55 of 1994 PA 451.
6. Coverage under this general permit to install does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
7. The permittee shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled laws and comply with each of the requirements of that Act.
8. The restrictions and conditions of this general permit to install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which coverage under this general permit to install is issued. A written request to the Department for a change in ownership or operational control of the process or process equipment shall be made pursuant to Rule 219.
9. If the installation of the equipment for which coverage under this general permit to install has been issued, has not commenced within, or has been interrupted for, 18 months, then the general permit to install shall become void unless otherwise authorized by the Department as a condition of the permit. Furthermore, the permittee shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation or construction of the equipment allowed by this general permit to install. **(R 336.1201(4))**

10. Except as provided in subrules (2) and (3) or unless the special conditions of the general 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 a 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(1))**
  - 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 general permit to install.
11. 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)**
12. 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)**
13. Any required testing protocol shall conform to a format acceptable to the AQD. **(R 336.2003(1))**
14. Any required test results, which must be submitted to the AQD, shall conform to a format acceptable to the AQD. **(R 336.2001(4))**
15. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**
16. For a stationary source that becomes a major source, as defined by R 336.1211(1)(a), upon receipt of approval for coverage under this general permit to install, an administratively complete application for a renewable operating permit shall be submitted not more than 12 months after the stationary source commences operation as a major source. Commencing operation as a major source occurs upon commencement of trial operation of the new or modified process or process equipment that increased the potential to emit of the stationary source to more than or equal to the applicable major source definition specified in R 336.1211(1)(a).
17. For a stationary source that is already a major source with an existing renewable operating permit, the source shall notify the Department of the installation of the process or process equipment covered by this general permit, pursuant to R 336.1215(3) or apply for a modification pursuant to R 336.1216(2) prior to commencing operation. The notification or application to modify the renewable operating permit shall be made using a form approved by the Department.

**ATTACHMENT A  
SPECIAL CONDITIONS**

**FLEXIBLE GROUP SUMMARY TABLE**

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

<b>Flexible Group ID</b>	<b>Description - Emission Unit(s) Included in Group</b>
FG-COATING	One or more coating lines and all associated purge and clean-up operations, where each coating line is a single series in a coating process and is comprised of one or more coating applicators, any associated flash-off areas, drying areas, and ovens where one or more surface coatings are applied and subsequently dried or cured. Coating lines may be used to coat any substrate except cans, coils, large appliances, metal furniture, magnet wire, fabrics, paper, vinyl, flat wood paneling, or graphic arts lines.
FG-SOURCE	All coating lines and all associated purge and clean-up operations at the stationary source. This includes any coating line covered by this or any other general permit or any permit to install issued pursuant to Rule 201, and any coating line exempt from the requirement to obtain a permit to install pursuant to Rule 287 and/or Rule 290.
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.	

**The following conditions apply to FG-COATING**

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period</b>	<b>Equipment</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirement</b>
1. VOC	2000 lb/month	Calendar month	Each coating line plus all associated purge and clean-up operations.	SC VI.3	R 336.1225, R 336.1702(d)
2. VOC	10 tpy	12-month rolling time period as determined at the end of each calendar month	Each coating line plus all associated purge and clean-up operations.	SC VI.3	R 336.1225, R 336.1702(d)

**II. MATERIAL LIMITS** Not Applicable (N/A)

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall capture all purge/clean-up solvents and waste coatings from all coating applicators used in FG-COATING. The permittee shall store these materials in closed containers and shall dispose of them in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1702(d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall equip and maintain FG-COATING with high volume-low pressure (HVLP) spray applicators or comparable technology with equivalent transfer efficiency (e.g., electrostatic spray, dip,

flowcoat, roller, dip-spin). For HVLP applicators, the permittee shall keep test caps available for pressure testing. **(R 336.1702(d))**

2. The permittee shall not operate any spray application unless particulate control (dry filters or a water curtain) is installed, maintained and operated in a satisfactory manner. **(R 336.1331)**
3. A thermal oxidizer or catalytic oxidizer may be installed, maintained and operated in a satisfactory manner to meet the requirements of this general permit. If a thermal oxidizer or catalytic oxidizer is used for FG-COATING, satisfactory operation requires an overall minimum of 76 percent reduction of VOC emissions to the atmosphere. **(R 336.1224, R 336.1702(d))**
  - a) Satisfactory operation of a thermal oxidizer includes maintaining a minimum combustion chamber temperature of 1400°F and a minimum retention time of 0.5 seconds. In lieu of a minimum temperature, an average temperature of 1400°F based upon a three-hour rolling average may be used.
  - b) Satisfactory operation of the catalytic oxidizer includes maintaining a minimum catalyst bed inlet temperature of 600°F. In lieu of a minimum temperature, an average temperature of 600°F based upon a three-hour rolling average may be used.
4. For a coating line using a thermal oxidizer: The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of the thermal oxidizer to monitor and record the temperature on a continuous basis, during operation of FG-COATING. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1201a(1))**
5. For a coating line using a catalytic oxidizer: The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device to continuously monitor the inlet and outlet temperatures of the catalytic oxidizer catalyst bed during operation of FG-COATING. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1201a(1))**

## **V. TESTING/SAMPLING**

1. Within 60 days of notification by the AQD, verification of VOC emissions and VOC content (in pounds per gallon) of any coating, reducer or purge/clean-up solvent, as applied or as received, using federal Reference Test Method 25A, Method 24 or other EPA approved reference method, may be required for continued operation. Verification of the emission rates includes the submittal of a complete report of the test results to the AQD with 60 days following the last date of the test. Upon prior written approval by the AQD District Supervisor, VOC content may alternatively be determined from manufacturer's formulation data. If the Method 25A or Method 24 should differ from the formulation values, the permittee shall use the Method 25A or Method 24 results to determine compliance. **(R 336.2001, R 336.2003, R 336.2004, R 336.1702(d))**

## **VI. MONITORING/RECORDKEEPING**

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

1. For a coating line using a thermal oxidizer: The permittee shall monitor the temperature in the combustion chamber of the thermal oxidizer and record the temperature on a continuous basis, during operation of FG-COATING. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1201a(1))**
2. For a coating line using a catalytic oxidizer: The permittee shall continuously monitor the inlet and outlet temperatures of the catalytic oxidizer catalyst bed during operation of FG-COATING. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1201a(1))**
3. The permittee shall keep the following information on a monthly basis for FG-COATING:
  - a) Purchase orders and invoices for all coatings, reducers, and purge/clean-up solvents.

- b) VOC content, in pounds per gallon, of each coating, reducer and purge/clean-up solvent used.
- c) Gallons of each coating, reducer and purge/clean-up solvent used and reclaimed.
- d) VOC mass emission calculations determining the monthly emission rate for each coating line, in tons per calendar month, using the method specified in Appendix B.
- e) VOC mass emission calculations determining the annual emission rate for each coating line, in tons per 12-month rolling time period as determined at the end of each calendar month, using the method specified in Appendix B.

The permit shall keep all records in the format specified in Appendix B. The permittee shall keep all records and make them available to the Department upon request. **(R 336.1201a(1), R 336.1225, R 336.1702(d))**

- 4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each coating, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(d))**
- 5. For a coating line using a thermal or catalytic oxidizer: The permittee shall keep records of the date, duration and description of any malfunction of the control equipment, any maintenance performed, any replacement of catalyst and any testing results. **(R 336.1201a(1))**
- 6. For a coating line using a thermal oxidizer: The permittee shall keep, in a satisfactory manner, operating temperature records for the thermal oxidizer as required by SC VI.1. If the measured operating temperature of the thermal oxidizer falls below 1400°F during operation of FG-COATING, the permittee may demonstrate compliance based upon a three-hour average temperature, by calculating the average operating temperature for each three hour period which includes one or more temperature readings below 1400°F. The permittee shall keep all records and make them available to the Department upon request. **(R 336.1201a(1))**
- 7. For a coating line using a catalytic oxidizer: The permittee shall keep, in a satisfactory manner, operating temperature records for the catalytic oxidizer as required by SC VI.2. If the measured operating temperature of the catalytic oxidizer falls below 600°F during operation of FG-COATING, the permittee may demonstrate compliance based upon a three-hour average temperature, by calculating the average operating temperature for each three hour period which includes one or more temperature readings below 600°F. The permittee shall keep all records and make them available to the Department upon request. **(R 336.1201a(1))**

**VII. REPORTING** N/A

**VIII. STACK/VENT RESTRICTIONS**

- 1. The exhaust gases from FG-COATING shall be discharged unobstructed vertically upwards to the ambient air at exit points not less than one and one half times the building height (from ground level to point of discharge). **(R 336.1225)**

**IX. OTHER REQUIREMENTS**

- 1. The permittee shall not replace or modify any portion of FG-COATING, including control equipment or coatings, nor install additional coating lines (or any portion of, including control equipment or coatings) unless all of the following conditions are met: **(R 336.1201)**
  - a) The permittee shall update the general permit by submitting a new Process Information form (EQP5759) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the replacement, modification or installation of new equipment.

- b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement, modification or installation of new equipment is complete.
- c) The permittee shall keep records of the date and description of the replacement or modification, installation of new equipment, or any coating change. All records shall be kept on file for a period of at least five years and made available to the Department upon request.

**The following conditions apply to FG-SOURCE**

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period</b>	<b>Equipment</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirement</b>
1. VOC	30 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month	FG-SOURCE	SC VI.1	R 336.1225, R 336.1702(d)

**II. MATERIAL LIMITS** N/A

**III. PROCESS/OPERATIONAL RESTRICTIONS** N/A

**IV. DESIGN/EQUIPMENT PARAMETERS** N/A

**V. TESTING/SAMPLING** N/A

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall keep VOC mass emission calculations, on a monthly basis for FG-SOURCE determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month, for all coating lines and associated purge and clean-up operation at the source. The permittee shall keep all records in the format specified in Appendix B and make them available to the Department upon request. **(R 336.1201a(1), R 336.1225, R 336.1702(d))**

**VII. REPORTING** N/A

**VIII. STACK/VENT RESTRICTIONS** N/A

**IX. OTHER REQUIREMENTS** N/A



## APPENDIX A

### DEFINITIONS

**Coating line** - an operation which is a single series in a coating process and which is comprised of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein one or more surface coatings are applied and subsequently dried or cured.

**Hazardous Air Pollutants (HAPs)** - air pollutants that are not covered by ambient air quality standards but which, as defined in the Clean Air Act Amendments of 1990, may reasonably be expected to cause or contribute to irreversible illness or death. The list of HAPs currently contains 188 pollutants.

**Organic Solvent** - any volatile organic compound that is used as a diluent, thinner, dissolver, viscosity reducer, or cleaning agent or for other similar uses.

**Solvent** - A substance (usually a liquid) capable of dissolving or dispersing one or more substances.

**Surface Coating** - any paint, lacquer, varnish, ink, adhesive, or other coating material applied on a surface.

**Toxic air contaminant (TAC)** - any air contaminant for which there is no national ambient air quality standard and which is or may become harmful to public health or the environment when present in the outdoor atmosphere in sufficient quantities and duration. R 336.1120(f) lists the substances, which shall not be considered toxic air contaminants.

**Transfer Efficiency** - the percentage of coating solids material that leaves the coating applicator and remains on the surface of the product.

**Volatile organic compound (VOC)** - any compound of carbon or mixture of compounds of carbon that participates in photochemical reactions, excluding specific materials listed in R 336.1122(f), which do not contribute appreciably to the formation of ozone.

