

Facility ID: 1483040399 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

\*\*\*THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION\*\*\*

Facility ID: 1483040399 Emissions Unit ID: F003 Issuance type: Final State Permit To Operate

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**Part II - Special Terms and Conditions**

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
  - (a) None.

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
vacuum mold making and core dip/flow coat	OAC rule 3745-31-05(A)(3) (PTI 14-05111)	0.03 lb/hour of particulate emissions (PE) 0.14 ton per year (TPY) of PE  0.027 lb/hour of particulate matter emissions with a diameter of 10 microns or less (PM10) 0.13 TPY of PM10 emissions  0.093 lb/hour of organic compound (OC) emissions from the mold release material  10.5 lbs/hour of OC emissions from the core wash (includes mold spray, alcohol, and mold release material).  18.3 TPY of OC emissions, based on a rolling, 12-month summation*  Visible PE from any fugitive dust source shall not exceed 20% opacity, as a three-minute average.  See Sections A.2 and B.1 below.  * This emission limitation, established pursuant to OAC rule 3745-35-07(B)(1), is a synthetic minor restriction to avoid the Title V permitting requirements.
	OAC rule 3745-21-07(G)(2)	Exempt, see Section B.2 below.

**2. Additional Terms and Conditions**

- (a) The OC content of any mold spray material employed in this emissions unit shall not exceed 45%, by weight.  
The OC content of any mold release material employed in this emissions unit shall not exceed 93%, by weight.  
The hourly and annual PE/PM10 emission limitations specified above are based upon the emissions unit's potential to emit. Therefore, no additional monitoring, record keeping or reporting is required to demonstrate compliance with these emission limitations.  
The hourly OC emission limitations specified above are based upon the emissions unit's potential to emit. Therefore, no additional monitoring, record keeping or reporting is required to demonstrate compliance with these emission limitations.

**B. Operational Restrictions**

1. The maximum annual mold spray material usage shall not exceed 25,000 pounds per year and the maximum annual alcohol usage in the core washing process shall not exceed 25,000 pounds per year, based upon rolling, 12-month summation of the usage figures.

2. The use of any photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5), is prohibited in this emissions unit.
- C. Monitoring and/or Record Keeping Requirements**
1. The permittee shall collect and record the following information each month for this emissions unit:
- the company identification of each liquid organic material employed in this emissions unit; and
  - a record of each liquid organic material employed in this emissions unit indicating whether or not the liquid organic material is a photochemically reactive material as identified in OAC rule 3745-21-01(C)(5).
2. The permittee shall collect and record the following information each month for this emissions unit:
- the name and company identification of each mold spray and mold release material employed and the name and identification of each alcohol employed in the core wash;
  - the quantity of each mold spray material employed, in pounds;
  - the quantity of each alcohol employed in the core wash, in pounds;
  - the quantity of each mold release material employed, in pounds;
  - the OC content of each mold spray material employed, in percent by weight;
  - the OC content of each alcohol employed, in percent by weight;
  - the OC content of each mold release material employed, in percent by weight;
  - the total amount, in pounds, of all mold spray material employed (summation of (b) for all mold spray material employed during the calendar month);
  - the total amount, in pounds, of all alcohol employed (summation of (c) for all alcohol employed during the calendar month);
  - the updated rolling, 12-month summation of the mold spray material usage, in pounds;
  - the updated, rolling, 12-month summation of the alcohol usage, in pounds;
  - the total monthly OC emissions, in pounds, from usage of the mold spray material, mold release material and alcohol, in pounds [summation of (b x e) for all mold spray material employed + summation of (c x f) for all alcohol employed + summation of (d x g) for all mold release material employed]; and
  - the updated, rolling 12-month summation of OC emissions, in tons (the amount for the current month plus the amount from the preceding eleven calendar months, and divided by 2,000 lbs/ton).
3. The permit to install for this emissions unit was evaluated based on the actual materials employed (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. Ohio EPA's "Review of New Sources of Air Toxics Emissions" policy ("Air Toxics Policy") was applied for each toxic pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: n-hexane  
 TLV (ug/m3): 176,230  
 Maximum Hourly Emission Rate (lbs/hr): 10.5  
 Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 3,764  
 MAGLC (ug/m3): 4,196

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee shall not make the change. Changes that can affect the parameters used in the "Air Toxics Policy" include the following:

- changes in the composition of the materials used, or the use of new materials that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
  - changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
  - physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
- If the permittee determines that the "Air Toxics Policy" will be satisfied with the above changes, Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition [other than (VV)(1)(a)(ii)], then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will satisfy the "Air Toxics Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxics Policy"; and
- c. when computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxics Policy" for the change.

**D. Reporting Requirements**

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing, identifying each day during which any photochemically reactive material [as defined in OAC rule 3745-21-01(C)(5)] was employed in this emissions unit. This report shall identify the cause for the use of the photochemically reactive material(s) and the estimated total quantity of materials(s) emitted each such day. This report shall be submitted to the Hamilton County Department of Environmental Services within 45 days after the occurrence.
2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. An identification of all exceedances of the rolling, 12-month usage limitation for mold spray material;
  - b. An identification of all exceedances of the rolling, 12-month usage limitation for alcohol;
  - c. An identification of all exceedances of the rolling, 12-month OC emission limitation; and
  - d. An identification of all exceedances of the OC content limitations for mold spray material and mold release material.

The permittee shall state the probable cause of the deviations and any corrective actions or preventative measure(s) that have been or will be taken. If no deviations occurred, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

1. Compliance with the OC emission limitations, PE/PM10 emission limitations, visible PE limitation and the material usage restrictions specified in Sections A and B, respectively, shall be determined by the following methods:  
PE and PM10 Emission Limitations: 0.03 lb/hour and 0.14 TPY of PE; 0.027 lb/hour and 0.13 TPY of PM10 emissions

Applicable Compliance Method: The hourly and annual PE and PM10 emission limitations are based upon the emissions unit's potential to emit and were established by the following methodology:

a. Hourly PE: maximum production rate for vacuum mold making [(1.6 tons of metal/hour) x (1/2 x the RACM emission factor (0.04 lb/ton\*))] = 0.03 lb/hour of PE; and

b. Annual PE: hourly PE rate [(0.03 lb/hour of PE) x (8,760 hours/year) x (1 ton/2,000 lbs)] = 0.14 TPY of PE

\* Reference of using 1/2 the emission factor (0.04 lb/ton) established pursuant to the American Foundrymen's Society for vacuum mold making - aluminum castings, in RACM Chapter 2.8.

The PM10 emission limitations were calculated by multiplying the PE (as calculated using the above equations) by 90%, based on U.S. EPA reference document AP-42, Fifth Edition, Chapter 12.10, Table 12.10-9, dated January 1995:

OC Emission Limitations: 10.5 lbs/hour (from mold spray, alcohol and mold release material combined); 18.3 TPY of OC emissions, based upon a rolling, 12-month summation

Applicable Compliance Method: The hourly OC emission limitation is based upon the emissions unit's potential to emit and was established by the following methodology:

a. [maximum mold spray usage (7.2 lbs/hour) x maximum weight fraction of OC (0.45)] + [maximum alcohol usage (7.2 lbs/hour) x maximum weight fraction of OC (1.0)] = 10.5 lbs/hour of OC emissions

Compliance with the annual OC emission limitation shall be determined by the record keeping requirements specified in Section C.2.

OC Emission Limitation: 0.093 lb/hour of OC emissions from mold release material

Applicable Compliance Method: The hourly OC emission limitation is based upon the emissions unit's potential to emit and was established by multiplying the maximum mold material usage rate (0.1 lb/hour) by the maximum fractional OC content (0.93) of the mold release material.

Visible PE Limitation: Visible PE from any fugitive dust source shall not exceed 20% opacity, as a three-minute average.

Applicable Compliance Method: Compliance with the visible fugitive PE shall be determined by Test Method 9 of 40 CFR, Part 60, Appendix A.

OC Content Limitations: OC content of any mold spray employed shall not exceed 45%, by weight; OC content of any mold release material shall not exceed 93%, by weight

Applicable Compliance Method: Formulation data or U.S. EPA Method 24 or 24A shall be used to determine the OC contents of the mold spray and mold release materials.

Material Usage Restrictions: maximum mold spray material usage shall not exceed 25,000 lbs/year; maximum alcohol usage shall not exceed 25,000 lbs/year

Applicable Compliance Method: Compliance with the material usage restrictions shall be determined by the record keeping requirements specified in Section C.2.

**F. Miscellaneous Requirements**

1. None