

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

February 4, 2003



PERMIT TO INSTALL
No. 303-02

ISSUED TO
Kal-Marble & Granite Inc.

LOCATED AT
2820 Hager Drive
Schoolcraft, Michigan 49087

IN THE COUNTY OF
Kalamazoo



STATE REGISTRATION NUMBER
N7211

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: 1/21/2003 | |
| DATE PERMIT TO INSTALL APPROVED: 2/4/2003 | SIGNATURE: |
| DATE PERMIT VOIDED: | SIGNATURE: |
| DATE PERMIT REVOKED: | SIGNATURE: |

PERMIT TO INSTALL

Table of Contents

| Section | Page |
|---|-------------|
| Alphabetical Listing of Common Abbreviations / Acronyms | 2 |
| General Conditions | 3 |
| Emission Unit Identification..... | 5 |
| Flexible Group Identification | 5 |
| Emission Unit Special Conditions..... | 6 |
| Flexible Group Special Conditions | 10 |

Common Abbreviations / Acronyms

| Common Acronyms | | Pollutant / Measurement Abbreviations | |
|------------------------|---|--|--|
| AQD | Air Quality Division | Btu | British Thermal Unit |
| BACT | Best Available Control Technology | °C | Degrees Celsius |
| CAA | Clean Air Act | CO | Carbon Monoxide |
| CEM | Continuous Emission Monitoring | dscf | Dry standard cubic foot |
| CFR | Code of Federal Regulations | dscm | Dry standard cubic meter |
| COM | Continuous Opacity Monitoring | °F | Degrees Fahrenheit |
| EPA | Environmental Protection Agency | gr | Grains |
| EU | Emission Unit | Hg | Mercury |
| FG | Flexible Group | hr | Hour |
| GACS | Gallon of Applied Coating Solids | H ₂ S | Hydrogen Sulfide |
| GC | General Condition | hp | Horsepower |
| HAP | Hazardous Air Pollutant | lb | Pound |
| HVLP | High Volume Low Pressure * | m | Meter |
| ID | Identification | mg | Milligram |
| LAER | Lowest Achievable Emission Rate | mm | Millimeter |
| MACT | Maximum Achievable Control Technology | MM | Million |
| MAERS | Michigan Air Emissions Reporting System | MW | Megawatts |
| MAP | Malfunction Abatement Plan | NO _x | Oxides of Nitrogen |
| MDEQ | Michigan Department of Environmental Quality | PM | Particulate Matter |
| MSDS | Material Safety Data Sheet | PM-10 | Particulate Matter less than 10 microns diameter |
| NESHAP | National Emission Standard for Hazardous Air Pollutants | pph | Pound per hour |
| NSPS | New Source Performance Standards | ppm | Parts per million |
| NSR | New Source Review | ppmv | Parts per million by volume |
| PS | Performance Specification | ppmw | Parts per million by weight |
| PSD | Prevention of Significant Deterioration | psia | Pounds per square inch absolute |
| PTE | Permanent Total Enclosure | psig | Pounds per square inch gauge |
| PTI | Permit to Install | scf | Standard cubic feet |
| RACT | Reasonable Available Control Technology | sec | Seconds |
| SC | Special Condition Number | SO ₂ | Sulfur Dioxide |
| SCR | Selective Catalytic Reduction | THC | Total Hydrocarbons |
| SRN | State Registration Number | tpy | Tons per year |
| TAC | Toxic Air Contaminant | µg | Microgram |
| VE | Visible Emissions | VOC | Volatile Organic Compounds |
| | | yr | Year |

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(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, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **[R336.1201(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 R336.1210, 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. **[R336.1201(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. **[R336.1201(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 R336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
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. **[R336.1901]**
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). **[R336.1912]**
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 R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
 - 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 R336.1370(2). **[R336.1370]**
13. Except as allowed by Rule 285 (a), (b), and (c), the permittee shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application without prior notification to and approval by the Air Quality Division. **[R336.1201(1)]**
14. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

SPECIAL CONDITIONS

Emission Unit Identification

| Emission Unit ID | Emission Unit Description | Stack Identification |
|---|--|-----------------------------|
| EU-MOLDING | One dry filter spray booth for gelcoat application using a spray applicator. Mixing of resin with marble and/or granite materials to form a slurry which is ladled into molds followed by air curing of the molds. Also included in the emission unit is mold preparation, repair, and some cleanup. | SV-GELCOAT |
| EU-CLEANUP | Miscellaneous cleanup activities using acetone. | N.A. |
| EU-SANDER | Belt sander with baghouse dust collection system. | SV-SANDER |
| Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290. | | |

Flexible Group Identification

| Flexible Group ID | Emission Units Included in Flexible Group | Stack Identification |
|--------------------------|--|-----------------------------|
| FG-MOLDING | EU-MOLDING, EU-CLEANUP | N.A. |

The following conditions apply to: EU-MOLDING

Emission Limits

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirements |
|---|------------------|------------------|----------------------|--|---|------------------------------------|
| 1.1a | VOC | EU-MOLDING | 3.9 tpy | 12-month rolling time period as determined at the end of each calendar month | SC 1.8 | R336.1225, R336.1702(a) |
| 1.1b | Styrene | EU-MOLDING | 4.98 pounds per hour | Calendar day average | SC 1.8 | R336.1901 |
| The emission limits are based upon the emission factors in Special Condition Nos. 1.2a, 1.2b, and 1.2c. | | | | | | |

| | Material | Application Method | Styrene Content (wt %) | Methyl Methacrylate (MMA) Content (wt %) | Styrene Emission Factor (lb emitted per lb material applied) | MMA Emission Factor (lb emitted per lb material applied) |
|---|-----------------|---------------------------|-------------------------------|---|---|---|
| 1.2a | White Gelcoat | Atomized | 31 | 4 | 0.138 | 0.030 |
| 1.2b | Clear Gelcoat | Atomized | 41 | N.A. | 0.230 | N.A. |
| 1.2c | Resin | Manual | 29 | N.A. | 0.037 | N.A. |
| The emission factors listed are for worst-case styrene and MMA content gelcoats and resin. The emission factors will vary depending on the styrene and MMA contents of the gelcoats and resin. Refer to the Unified Emission Factor (UEF) Table for further information. [R336.1225, R336.1702(a)] | | | | | | |

Material Usage Limits

- 1.3 The styrene and methyl methacrylate (MMA) content of all gelcoats used in EU-MOLDING shall not exceed 41 percent by weight nor 4 percent by weight, respectively. **[R336.1225, R336.1702(a)]**
- 1.4 The styrene content of all resins used in EU-MOLDING shall not exceed 29 percent by weight. **[R336.1225, R336.1702(a)]**

Equipment

- 1.5 The permittee shall not operate the spray booth associated with EU-MOLDING unless its respective exhaust filter is installed, maintained and operated in a satisfactory manner. **[R336.1301, R336.1331, R336.1901]**
- 1.6 The permittee shall equip and maintain the spray booth in EU-MOLDING with atomized applicators or technology with equivalent or lower styrene emission rates. **[R336.1225, R336.1702(a)]**

Recordkeeping/Reporting/Notification

- 1.7 The permittee shall keep a separate record of the styrene and MMA monomer contents for each shipment of gelcoat and resin received. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1225, R336.1702(a)]
- 1.8 The permittee shall keep the following information for each calendar day for EU-MOLDING:
- a) The identity and amount (in pounds) of each gelcoat, resin, catalyst, mold cleaner, and mold release used.
 - b) Hours of operation.
 - c) The styrene content of each gelcoat and resin used.
 - d) The MMA content of each gelcoat used.
 - e) The VOC content of each catalyst, mold cleaner, and mold release used.
 - f) The appropriate emission factor for each raw material used.
 - g) Styrene emission calculations determining the average pounds per hour emission rate per calendar day.
 - h) VOC emission calculations determining the monthly emission rate in tons per calendar month, and the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

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. [R336.1225, R336.1702(a), R336.1901]

Stack/Vent Restrictions

| | Stack & Vent ID | Maximum Diameter (inches) | Minimum Height Above Ground Level (feet) | Applicable Requirements |
|---|----------------------------|----------------------------------|---|---|
| 1.9 | SV-GELCOAT | 34 | 26 | R336.1225, R336.1901, 40 CFR 52.21(c) and (d) |
| The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air. | | | | |

The following conditions apply to: EU-CLEANUP

Emission Limits

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirements |
|-----|------------------|------------------|--------------|---|---|------------------------------------|
| 2.1 | ACETONE | EU- CLEANUP | 1.0 tpy | 12-month rolling time period as determined at the end of each calendar month | SC 2.2 | R336.1224, R336.1225 |

Recordkeeping/Reporting/Notification

2.2 The permittee shall keep the following information on a monthly basis for EU-CLEANUP:

- a) The identity of each clean-up solvent used.
- b) The amount (in gallons or pounds) of each clean-up solvent used.
- c) Where applicable, gallons or pounds of each clean-up solvent reclaimed.
- d) Acetone emission calculations determining the monthly emission rate in tons per calendar month, and the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

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. [R336.1224, R336.1225]

The following conditions apply to: EU-SANDER

Equipment

- 3.1 The permittee shall not operate EU-SANDER unless the baghouse dust collector is installed, maintained, and operated in a satisfactory manner. [R336.1224, R336.1301, R336.1331, R336.1901, R336.1910]
- 3.2 The permittee shall not operate EU-SANDER unless a gauge, which measures the pressure drop across the baghouse dust collector, is installed, maintained and operated in a satisfactory manner. [R336.1224, R336.1301, R336.1331, R336.1901, R336.1910]

Stack/Vent Restrictions

| | Stack & Vent ID | Maximum Diameter (inches) | Minimum Height Above Ground Level (feet) | Applicable Requirements |
|--|----------------------------|----------------------------------|---|---|
| 3.3 | SV- SANDER | 12 x 12 | 12 | R336.1225, R336.1901, 40 CFR 52.21(c) and (d) |
| The exhaust gases shall be discharged unobstructed to the ambient air. | | | | |

The following conditions apply to: FG-MOLDING

Process/Operational Limits

- 4.1 All waste cleanup solvent(s), catalyst(s), resin(s), and gelcoat(s) used in FG-MOLDING shall be captured and stored in closed containers and disposed of in an acceptable manner in compliance with all applicable state rules and federal regulations. [R336.1224, R336.1702(a)]

Recordkeeping/Reporting/Notification

- 4.2 The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material (i.e resin, gelcoat, catalyst, etc.), including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1224, R336.1225, R336.1702(a)]

