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

January 29, 2003

**PERMIT TO INSTALL**
No. 243-02

**ISSUED TO**
Adept Plastic Finishing, Inc.

**LOCATED AT**
29895 Beck Road
Wixom, Michigan 48393

**IN THE COUNTY OF**
Oakland

**STATE REGISTRATION NUMBER**
N7202

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:<br>**11/25/2002** | |
| DATE PERMIT TO INSTALL APPROVED:<br>**1/29/2003** | SIGNATURE: |
| DATE PERMIT VOIDED: | SIGNATURE: |
| DATE PERMIT REVOKED: | SIGNATURE: |

# PERMIT TO INSTALL

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**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 | $H_2S$ | 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 | NOx | 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-COATINGLINE | A plastic parts (automobile and non-automobile parts) coating line equipped with a non-fugitive enclosure and controlled by a zeolite concentrator and a catalytic oxidizer. The coating line consists of a prime booth, two topcoat (basecoat/clearcoat) booths, two flash off tunnels, and a natural gas fired bake oven. Also included in the emission unit are purge and cleanup activities. | SVCONC – Zeolite Concentrator Stack<br><br>SVCATOX – Catalytic Oxidizer Stack |
| 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 | Emission Units Included in Flexible Group | Stack Identification |
|---|---|---|
| FG-FACILITY | All equipment at the stationary source including equipment covered by other permits, grand-fathered equipment and exempt equipment. | **N/A** |

### The following conditions apply to: EU-COATINGLINE

**Emission Limits**

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirements |
|---|---|---|---|---|---|---|
| 1.1 | VOCs | EU-COATINGLINE | 19.4 tpy | 12-month rolling time period as determined at the end of each calendar month | SC 1.14 & SC 1.15 | R336.1702(a) |

**Process / Operational Limits**

1.2 All waste coatings, thinners, catalysts, cleanup solvents, and purge solvents shall be captured and stored in closed containers and shall be disposed of in an acceptable manner in compliance with all applicable rules and regulations. **[R336.1224, R336.1702(a)]**

1.3 Within 90 days after completion of the stack testing requirred by special condition No. 1.9, the permittee shall submit to the AQD District Supervisor, for review and approval, a preventative maintenance plan for the catalytic oxidizer. The permittee shall not operate EU-COATINGLINE unless the approved preventative maintenance plan, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. **[R336.1224, R336.1225, R336.1702, R336.1910]**

**Equipment**

1.4 The permittee shall not operate any spray booth portion of EU-COATINGLINE unless its respective waterwash particulate control system is installed and operating in a satisfactory manner. **[R336.1224, R336.1301, R336.1331, R336.1910]**

1.5 The permittee shall equip and maintain each spray booth portion of EU-COATINGLINE with high volume low pressure (HVLP) applicators or equivalent technology with comparable transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. **[R336.1702(a)]**

1.6 The permittee shall not operate any portion of EU-COATINGLINE unless the non-fugitive enclosure is installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the non-fugitive enclosure is operating at a pressure lower than all adjacent areas, so that air flows into the non-fugitive enclosure through all natural draft openings (NDOs). NDO is defined as any opening that is not connected to a duct in which a fan or blower is installed. **[R336.1224, R336.1225, R336.1702]**

1.7 The permittee shall not operate any portion of EU-COATINGLINE unless the zeolite concentrator and the catalytic oxidizer are both installed, maintained and operated in a satisfactory manner. Satisfactory operation of the zeolite concentrator and the catalytic oxidizer includes a minimum overall VOC control efficiency (combined adsorption and destruction efficiency) of 90.25 percent (by weight), a minimum catalyst bed inlet temperature of 550°F or the temperature documented during the most recent acceptable compliance test (which ever is greater), and a maximum space velocity in the catalytic oxidizer of 40,125 inverse hours. **[R336.1224, R336.1225, R336.1702, R336.1910]**

**Testing**

1.8 The VOC content, water content, and density of any coatings, thinners, catalysts, cleanup solvents, and purge solvents as applied and as received shall be determined using federal Reference Test Method 24. Upon prior approval by the AQD District Supervisor, the VOC content may be determined from manufacturer's formulation data. If the Method 24 and the formulation values should differ, then the Method 24 results shall be used to determine compliance. **[R336.1224, R336.1225, R336.1702]**

1.9 Within 180 days after commencement of trial operation, verification of the capture efficiency of the non-fugitive enclosure and the overall VOC control efficiency (combined adsorption and destruction efficiency) of the zeolite concentrator and the catalytic oxidizer, by testing at owner's expense, in accordance with Department requirements is required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of adsorption efficiency and destruction efficiency includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **[R336.1224, R336.1225, R336.1702(a), R336.2001, R336.2003, R336.2004]**

**Monitoring**

1.10 The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device at the inlet to and the outlet from the catalyst bed of the catalytic oxidizer to monitor and record the temperature on a continuous basis. **[R336.1224, R336.1225, R336.1702, R336.1910]**

1.11 The permittee shall develop a periodic monitoring plan for the carbon adsorption unit or Zeolite concentrator consisting of appropriate monitoring data determined during the initial compliance testing. The plan must be submitted to the AQD for approval within 90 days of completion of the testing. **[R336.1224, R336.1225, R336.1702, R336.1910]**

1.12 During the initial performance test and semi-annualy thereafter, the permittee shall verify that the direction of air flow at each natural draft opening (NDO) of the non-fugitive enclosure for EU-

COATINGLINE is into the non-fugitive enclosure. The verification of the direction of air flow at the NDOs shall be conducted using the smoke tube test method, or an alternate method. The permitte shall submit a notice of the anticiapted test date to the District Office no later than two weeks prior to the test date, and a complete stack test report shall be submitted to the District Supervisor within 30 days after the completeion of the testing. All test methods, plans, and procedures shall be approved by the AQD prior to testing. After two consecutive tests demonstrate that the direction of air flow at all NDOs is into the non-fugitive enclosure, the permittee may request that the monitoring schedule be revised to a less frequent time period as approved by the District Supervisor. **[R336.1205, R336.1220, R336.1224, R336.1225, R336.1602, R336.1702, R336.1901, 40 CFR 52.21]**

**Recordkeeping / Reporting / Notification**

1.13 The permittee shall maintain a current listing from the manufacturer of the chemical composition of each coatings, thinners, catalysts, cleanup solvents, and purge solvents, 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, R336.1901]**

1.14 The permittee shall keep the following information on a monthly basis for EU-COATINGLINE:

a) Gallons (with water) of each coating, thinner, and catalyst used.

b) VOC content (with water) of each coating, thinner, and catalyst used.

c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.

d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

e) Hours of operation.

The records shall be kept in a format acceptable to the AQD 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, R336.1702]**

1.15 The permittee shall keep the following information on a monthly basis for the use of purge and clean-up solvents associated with EU-COATINGLINE:

a) Gallons of each solvent used and reclaimed.

b) VOC content, in pounds per gallon, of each solvent used.

c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.

d) VOC mass emission calculations determining 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 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, R336.1702]**

1.16 The permittee shall keep records of the inlet temperature to and the outlet temperature from the catalyst bed the catalytic oxidizer. On a monthly basis, the permittee shall review these temperature records and prepare a list showing the date, time, and duration of all temperature deviations. If the temperature falls below 550°F or the temperature documentated during the most recent acceptable compliance test (which ever is greater), a devation is deemed to have occurred. 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]**

1.17 The permittee shall keep records of all verifications of the direction of air flow at the non-fugitive enclosure natural draft openings. 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]**

**Stack/Vent Restrictions**

| | Stack & Vent ID | Maximum Diameter (inches) | Minimum Height Above Ground Level (feet) | Applicable Requirement |
|---|---|---|---|---|
| 1.18a | SVCONC | 36 | 60 | R336.1225, R336.1901, 40 CFR 52.21(c) & (d) |
| 1.18b | SVCATOX | 30 | 60 | R336.1225, R336.1901, 40 CFR 52.21(c) & (d) |
| | The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air. | | | |

**The following conditions apply to: FG-FACILITY**

**Emission Limits**

| | Pollutant | Equipment | Limit | Time Period | Testing/ Monitoring Method | Applicable Requirements |
|---|---|---|---|---|---|---|
| 2.1a | Each Individual HAP | FG-FACILITY | Less than 9.0 tpy | 12-month rolling time period as determined at the end of each calendar month | SC 2.5 | R336.1205(3) |
| 2.1b | Aggregate HAPs | FG-FACILITY | Less than 22.5 tpy | 12-month rolling time period as determined at the end of each calendar month | SC 2.5 | R336.1205(3) |

**Testing**

2.2 The HAP content of any material as applied and as received shall be determined using manufacturer's formulation data. Upon request of the AQD District Supervisor, the manufacturer's HAP formulation data shall be verified using EPA Test Method 311. **[R336.1205(3)]**

**Recordkeeping / Reporting / Notification**

2.3 The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, 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. **[R336.1205(3)]**

2.4 The permittee shall keep the following information on a monthly basis for FG-FACILITY:

a) Gallons or pounds of each material used.

b) Where applicable, gallons or pounds of each material reclaimed.

c) HAP content, in pounds per gallon or pounds per pound, of each material used.

d) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.

e) Individual and aggregate HAP emission calculations determining the annual emission rate of each 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 Supervisor. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1205(3)]**