

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

April 8, 2003

**PERMIT TO INSTALL**

No. 68-03

**ISSUED TO**

Denso Manufacturing Michigan, Inc.

**LOCATED AT**

One Denso Road  
Battle Creek, Michigan 49015

**IN THE COUNTY OF**

Calhoun

**STATE REGISTRATION NUMBER**

N1192

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: <b>4/8/2003</b>	
DATE PERMIT TO INSTALL APPROVED: <b>4/8/2003</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant / Measurement Abbreviations</b>	
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 <sub>2</sub> 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 <sub>x</sub>	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 <sub>2</sub>	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**

**Flexible Group Identification**

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>
FGAL-RADTR-LINE	Production area consists of a radiator forming area followed by four lines each including a brazing furnace preceded by an oven degreaser with a gas-fired thermal oxidizer control system. Following the brazing furnaces parts are processed by powder coating (depending on the customer) followed by assembly.
FGAL-HTR-LINE	Production area consists of a heater forming area followed by one line that includes a brazing furnace preceded by an oven degreaser with a gas-fired thermal oxidizer control system. Following the brazing furnaces parts are processed by powder coating (depending on the customer) followed by assembly.
FGCONDENSER-LINE	Production area consists of a condenser forming area followed by three lines each including a brazing furnace preceded by an oven degreaser with a gas-fired thermal oxidizer control system. Following the brazing furnaces parts are processed by powder coating (depending on the customer) followed by assembly.
FGEVAPORATR	Production area consists of an evaporator forming area followed by three lines each including a brazing furnace. Two of the lines include an oven degreaser with a gas-fired thermal oxidizer control system preceding the brazing furnace. The third line includes an aqueous degreaser preceding the brazing furnace. Following the brazing furnaces parts are processed by powder coating (depending on the customer) followed by assembly.
FGFACILITY	All equipment at the stationary source including equipment covered by other permits, grand-fathered equipment and exempt equipment

**The following conditions apply to: FGFACILITY**

**Emission Limits**

	<b>Pollutant</b>	<b>Equipment</b>	<b>Limit</b>	<b>Time Period</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirements</b>
1.1	VOC	FGFACILITY	Less than 225 tpy	12-month rolling time period as determined at the end of each calendar month	SC 1.7	R336.1205(3)

**Process/Operational Limits**

1.2 The permittee shall apply the the uncaptured VOC emission percentages listed in the following table unless more recent estimates have been approved by the District Supervisor, Air Quality Division for determining VOC emission rates for each respective flexible group per the requirements of SC 1.7. **[R336.1205(3)]**

<b>Process Area</b>	<b>Uncaptured VOC Emission Percentage</b>
Radiators	59
Heaters	5
Condensers	85
Evaporators	40

**Equipment**

1.3 The permittee shall not operate any of the oven degreasers in the Radiator, Heater, Condenser, and Evaporator Areas unless the associated thermal oxidizer in each area is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer includes a minimum VOC capture efficiency of 100 percent (by weight) for each oven degreaser (not considering any oil emissions released by parts prior to entry of the oven degreaser), a minimum VOC destruction efficiency of 94 percent (by weight), and maintaining a minimum temperature of 1292 °F and a minimum retention time of 0.5 seconds. **[R336.1205(3), R336.1910]**

1.4 The permittee shall not operate the aqueous degreaser in the Evaporator Area unless this equipment is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the aqueous degreaser includes a minimum VOC removal efficiency of 100 percent (by weight) from the parts processed. **[R336.1205(3), R336.1910]**

**Testing**

1.5 The VOC content, water content and density of each material used, shall be determined using federal Reference Test Method 24. Upon prior written 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, the Method 24 results shall be used to determine compliance. **[R336.1205(3)]**

**Monitoring**

1.6 The permittee shall monitor, in a satisfactory manner, the temperature in each thermal oxidizer on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. **[R336.1205(3), R336.1910]**

### **Recordkeeping / Reporting / Notification**

1.7 The permittee shall keep the following information on a monthly basis for FGFACILITY:

- a) Gallons or pounds of each material used for each flexible group.
- b) Where applicable, gallons or pounds of each material reclaimed.
- c) VOC content, in pounds per gallon or pounds per pound, of each material used.
- d) Calendar day production levels and calendar day average surface area per part computations for each flexible group.
- e) Prorated calendar day VOC emission calculations based on calendar day production levels, calendar day average surface area per part computations, the applicable thermal oxidizer control efficiencies, the applicable aqueous degreaser oil removal efficiency, and the most recent uncaptured VOC emission percentages for each flexible group using a methodology that has received the approval of the District Supervisor, Air Quality Division.
- f) VOC emission calculations determining the monthly emission rate of each flexible group in tons per calendar month based on the applicable thermal oxidizer control efficiencies, the applicable aqueous degreaser oil removal efficiency, and the most recent uncaptured VOC emission percentages for each flexible group .
- g) VOC emission calculations determining the annual emission rate of each flexible group and FGFACILITY in tons per 12-month rolling time period as determined at the end of each calendar month based on the applicable thermal oxidizer control efficiencies, the applicable aqueous degreaser oil removal efficiency, and the most recent uncaptured VOC emission percentages for each flexible group.

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)]