

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

July 1, 2003

PERMIT TO INSTALL

60-00B

ISSUED TO

Temperform Corporation

LOCATED AT

25425 Trans-X Road
Novi, Michigan

IN THE COUNTY OF

Oakland

STATE REGISTRATION NUMBER

B7357

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:

February 6, 2003

DATE PERMIT TO INSTALL APPROVED:

July 1, 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.....	5
Emission Unit Special Conditions.....	6
Emission Unit Special Conditions.....	7
Flexible Group Special Conditions	7
Flexible Group Special Conditions	8

Common Abbreviations / Acronyms

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

* 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
EUSCRUBBER1	Melting, pouring and cooling operations equipped with 4 electric induction furnaces, pour station, ladle drying station, heaters, and mold spray. This emission unit is controlled by a 40,000 CFM wet scrubber	SV001
EUSCRUBBER2	Mold/core preparation, melting, pouring and cooling operations equipped with 4 core machines, 4 shell molding machines, pour station, casting cooling tunnel, heaters, mold spray. This emission unit is controlled by a 40,000 CFM wet scrubber	SV002
EUBAGHOUSE1	Sand silo, sand return hopper and handling system controlled by a 8,000 CFM baghouse	SV004
EUBAGHOUSE2	Cleaning and finishing system with two blast booths controlled by cyclones and a 8,000 CFM baghouse	SV003
EUBAGHOUSE3	Sand reclamation system controlled by a 13,000 CFM baghouse	SV005
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
FGSCRUBBERS1/2	EUSCRUBBER1 EUSCRUBBER2	SV001 SV002
FGFACILITY	All equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

The following conditions apply to: EUBAGHOUSE1

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
1.1a	PM	EUBAGHOUSE1	0.01 #/1000 # of exhaust gases on a dry basis	Test Protocol	GC 14	R336.1331
1.1b	PM	EUBAGHOUSE1	0.7 pph	Test Protocol	GC 14	R336.1331

Equipment

1.2 The permittee shall not operate EUBAGHOUSE1 unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. [R336.1205, R336.1910]

- 1.3 The baghouse that serves EUBAGHOUSE1 shall be equipped with static pressure drop monitoring device and be operated to comply with permit allowable particulate emission. The magnitude of the static pressure drop across each of the baghouses shall be maintained according to its manufacturer's specifications. [R 336.1224 and 1225]

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.4	SV004	10	22	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: EUBAGHOUSE2

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
2.1a	PM	EUBAGHOUSE2	0.01 #/1000 # of exhaust gases on a dry basis	Test Protocol	GC 14	R336.1331
2.1b	PM	EUBAGHOUSE2	0.7 pph	Test Protocol	GC 14	R336.1331

Equipment

- 2.2 The permittee shall not operate EUBAGHOUSE2 unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. [R336.1205, R336.1910]
- 2.3 The baghouse that serves EUBAGHOUSE2 shall be equipped with static pressure drop monitoring device and be operated to comply with permit allowable particulate emission. The magnitude of the static pressure drop across each of the baghouses shall be maintained according to its manufacturer's specifications. [R 336.1224 and 1225]

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
2.4	SV003	24	34	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: EUBAGHOUSE3

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
3.1a	PM	EUBAGHOUSE3	0.01 #/1000 # of exhaust gases on a dry basis	Test Protocol	GC 14	R336.1331
3.1b	PM	EUBAGHOUSE3	0.7 pph	Test Protocol	GC 14	R336.1331
3.1c	VOC	EUBAGHOUSE3	0.3 pph	Test Protocol	GC 14	R336.1702

Equipment

3.2 The permittee shall not operate EUBAGHOUSE3 unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. **[R336.1205, R336.1910]**

3.3 The baghouse that serves EUBAGHOUSE3 shall be equipped with static pressure drop monitoring device and be operated to comply with permit allowable particulate emission. The magnitude of the static pressure drop across each of the baghouses shall be maintained according to its manufacturer's specifications. **[R 336.1224 and 1225]**

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
3.4	SV005	26	36.5	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: FGSCRUBBERS1/2

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
4.1a	VOC	FGSCRUBBERS1/2	25.0 pph	Test Protocol	GC 14	R336.1205 (3)
4.1b	VOC	FGSCRUBBERS1/2	0.28 lb/ton of metal poured	Test Protocol	GC 14	R336.1205 (3)
4.1c	VOC	FGSCRUBBERS1/2	36.14 tpy	12-month rolling time period	SC 5.2	R336.1205 (3)

Material Usage Limits

4.2 The permittee shall not process through FGSCRUBBERS1/2 more than 18,913 tons of mold and core per year, based on a 12-month rolling time period, as determined that the end of each calendar month. **[R336.1205 (3), R 336.224, R336.1225]**

Equipment

- 4.3 The scrubbers that serve FGSCRUBBERS1/2 shall be equipped with liquid flow monitoring devices to maintain the flow rates of effluent, make-up, and recirculation according to its manufacturer's specifications. [R 336.1224 and 1225]

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
4.4a	SV001	48 by 48	45	40 CFR 52.21 (c) and (d)
4.4b	SV002	48 by 48	45	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: FGFACILITY

Recordkeeping/Reporting/Notification

- 5.1 The permittee shall record the amount of mold and core processed per month. Such records shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request. [R336.1205 (3), R 336.224, R336.1225]
- 5.2 The permittee shall record the amount of iron poured per month. The permittee shall calculate the monthly VOC emission rate from FGSCRUBBERS1/2 and the preceding 11-month total VOC rate, using an emission factor of 0.28 lb of VOC per ton of iron poured and the monthly tonnage of poured iron. From this data, the permittee shall determine the 12-month rolling average emission rates of VOC in tons per year. 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)]
- 5.3 The permittee shall develop and submit a malfunction abatement plan according to Rule 911 to the Air Quality Division District within 120 days after permit issuance. The plan must be approved by the AQD District Supervisor and must be maintained. [R 336.1911]