

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

June 28, 2018

**PERMIT TO INSTALL
50-15B**

**ISSUED TO
E-T-M Enterprises, Inc.**

**LOCATED AT
920 North Clinton Street
Grand Ledge, Michigan**

**IN THE COUNTY OF
Eaton**

**STATE REGISTRATION NUMBER
B6202**

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: May 11, 2018	
DATE PERMIT TO INSTALL APPROVED: June 28, 2018	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	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfuction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 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. **(R 336.1201(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 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(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 R 336.1210, 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. **(R 336.1201(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. **(R 336.1201(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 R 336.1219 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
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. **(R 336.1901)**
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). **(R 336.1912)**
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 R 336.1301, 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 R 336.1303. **(R 336.1301)**
 - 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 R 336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EURTM	Resin transfer molding (RTM) operation to manufacture reinforced plastic parts. The resin is applied and cured under vacuum in a closed mold.	4-6-2015	FGFIBERGLASS
EUGELCOAT	The application of gelcoats will be done in the open. However, the gel coat application for large parts may be done in a booth.	4-6-2015	FGFIBERGLASS
EUGELCOAT2	The application of gelcoats done in the positive pressure gelcoat booth.	PTI DATE	FGFIBERGLASS
EUADHESIVE	Adhesive products used in the manufacturing of parts.	4-6-2015	FGFIBERGLASS
EUCLEANUP	Miscellaneous cleanup activities.	4-6-2015	FGFIBERGLASS
EUMIXER	Mixer associate with the reinforced plastic parts manufacturing process.	4-6-2015	FGFIBERGLASS
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFIBERGLASS	Resin transfer molding (RTM) and the associated gelcoat application process to manufacture reinforced plastic parts.	EURTM, EUGELCOAT, EUGELCOAT2, EUADHESIVE, EUCLEANUP, EUMIXER
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.	

The following conditions apply to: FGFIBERGLASS

DESCRIPTION: Resin transfer molding (RTM) and gelcoat application process to manufacture reinforced plastic parts.

Emission Units: EURTM, EUGELCOAT, EUGELCOAT2, EUADHESIVE, EUCLEANUP, EUMIXER

POLLUTION CONTROL EQUIPMENT: Dry filters on spray booths.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	14.3 tpy	12-month rolling time period as determined at the end of each calendar month	All emission units within FGFIBERGLASS	SC VI.4	R 336.1225, R 336.1702(a)
2. Acetone (CAS# 67-64-1)	9.5 tpy	12-month rolling time period as determined at the end of each calendar month	All emission units within FGFIBERGLASS	SC VI.4	R 336.1224, R 336.1225

VOC emission limits are based upon the emission factors identified in "American National Standards Institute – Estimating Emission Factors from Open Molding and Other Composite Processes," ACMA UEF-1-2011a, EF Table 1: Unified Emission Factors of Open Molding of Composites for gel coat and Section 8 for the vacuum RTM operations (Revised and Approved: 10/5/2011).

II. MATERIAL LIMITS

1. The styrene content of any resin used in EURTM shall not exceed 50 percent by weight. **(R 336.1225, R 336.1702(a))**
2. The permittee shall not use more than 723,624 pounds of neat resin in EURTM per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**
3. The permittee shall not exceed the styrene monomer and methyl methacrylate (MMA) content limits listed in the following table for EUGELCOAT and EUGELCOAT2. **(R 336.1225, R 336.1702(a))**

Material ID	Maximum Styrene Content (% wt)	Maximum (MMA) (% wt)
a. White Gelcoat	26.1	5.0
b. Pigmented Gelcoat (non-white)	42.0	5.0
c. Clear Gelcoat	40.0	2.0

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall capture all waste cleanup solvent(s), promoter(s), resin(s), and gel coat(s) used in FGFIBERGLASS and store them in closed containers. The permittee shall dispose of all waste cleanup solvent(s), promoter(s), resin(s), and gelcoat(s) in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any gelcoat booth unless the respective exhaust filters are each installed, maintained and operated in a satisfactory manner. **(R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1224, R336.1225, R 336.1702(a))**
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material (i.e. resin, gelcoat, promoter, etc.), including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(a))**
3. The permittee shall keep a separate record of the styrene and MMA monomer contents, as applicable, for each shipment of resin and gelcoat received. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
4. The permittee shall keep the following information for each calendar month for FGFIBERGLASS:
 - a. The identity and amount (in pounds) of each resin (RTM), gelcoat, promoter, adhesive, and cleanup solvent used.
 - b. The styrene, MMA, and VOC content of each resin, gelcoat, adhesive, promoter, and cleanup solvent used.
 - c. The appropriate emission factors for each raw material used (The Unified Emission Factors (UEF-1-2011a) Table 1 for Open Molding of Composites from the American Composites Manufacturers Association (ACMA), October 2011 may be used for gel coat, Section 8 of UEF-1-2011a may be used for the vacuum RTM operations, or an alternate factor approved by the AQD District Supervisor may be used).
 - d. VOC mass 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.
 - e. Acetone mass 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 permittee shall keep the records in the format specified in Appendix A, or in a format acceptable to the AQD District Supervisor. The permittee shall keep all records and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUGELCOAT2. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOOTH-1	36	46	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVBOOTH-2	42	46	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart WWWW for Reinforced Plastic Composites Production. **(40 CFR Part 63, Subpart A and Subpart WWWW)**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply Source-Wide to: FGFACILITY

DESCRIPTION: All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.

Emission Unit ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing/ Monitoring Method	Underlying Applicable Requirements
1. VOC	99.0 tons/year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(1)
2. Styrene (CAS# 100-42-5)	40.6 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1225(2)

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall maintain monthly records of the FGFACILITY VOC emissions in tons per year based on a 12-month rolling time period. **(R 336.1205(1))**
2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period styrene emission calculation records for FGFACILITY, as required by SC I.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A

Calendar Month Summary -- Styrene and VOC Process Emissions

Month/Year: ____ / ____

<i>GELCOAT DESCRIPTION</i>	A Gelcoat Usage (LB/MONTH)	B Styrene Content ^{1,2} (% By Weight As Supplied)	C MMA Content ² (% By Weight As Supplied)	D Styrene Emission Factor Per UEF Table ⁴ (lb/lb)	E MMA Emission Factor per UEF Table (lb/lb GELCOAT)	F = (A x D) + (A x E) Calendar Month VOC Emissions (LB/MONTH)
Total Pounds VOC Emitted Per Calendar Month From Gelcoat, G = (sum of column F)						G

<i>RESIN DESCRIPTION (RTM)</i>	H Resin Usage (LB/MONTH)	I Resin Styrene Content (% By Weight)	J Emission Factor $0.0022 \times I + 0.0008$	S = H x J Calendar Month VOC Emissions (LB/MONTH)
Total Pounds Styrene/VOC Emitted Per Calendar Month From RTM Resin, S				S

PROMOTER DESCRIPTION³		

Monthly VOC Emissions, tons, X = (G + S) / 2000	X
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12-MONTH ROLLING PERIOD VOC EMITTED (TONS), Y = X + TOTAL OF 11 PREVIOUS MONTHS	Y
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1. Styrene content shall be determined as supplied, plus any extra styrene added by the molder, but before the addition of other additives such as fillers, glass, promoter, etc.
2. Input styrene content, MMA content, etc. as a decimal (i.e. 30% styrene content should be input as 0.30).
3. VOC emissions from the promoter are very low, estimated to be 0.29 lb/year based on a usage rate of 3,125 lb/year.
4. The "Gelcoat application" factor shall be used unless an alternate factor is approved in writing by the AQD District Supervisor.