

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

November 15, 2023

PERMIT TO INSTALL
294-08D

ISSUED TO
Omega Castings

LOCATED AT
301 Fritz Keiper Boulevard
Battle Creek, Michigan 49037

IN THE COUNTY OF
Calhoun

STATE REGISTRATION NUMBER
N7968

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. 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: October 27, 2023	
DATE PERMIT TO INSTALL APPROVED: November 15, 2023	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

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 Environment, Great Lakes, and Energy, 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 Rule 210 (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 Rule 219 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 Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(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 condition 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 Rule 301, 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 Rule 303 (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 Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT 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 (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-001 (Shell Core)	Shell Core machine for resin sand molding, with a maximum molding rate of 150 lbs/hr.	FG-ZZZZZ
EU-002 (No Bake Molding)	No Bake Molding – Palmer Screw Type Inline Mixer using phenolic urethane binders. Maximum rating of 1,000 lbs sand /hour, but is bottlenecked to 500 lbs sand/hr due to current melting/pouring capacity and operational space.	FG-ZZZZZ
EU-003 (Shell Molding)	Shell sand mold machine with approximately 600 lbs/hr molding capacity.	FG-ZZZZZ
EU-004 (Sand Silo)	Sand Storage - Sand Silo with approximately 40,000 pound sand capacity - Dust during filling controlled by Cyclone collector CFM: 800 CFM.	FG-ZZZZZ
EU-005 (Metal melting)	Electric induction furnace. Emissions are to the general plant environment. Approximately 1500 lbs/hr metal capacity.	FG-ZZZZZ
EU-006 (Metal Pouring)	Pour line with approximately 1500 lbs/hour metal capacity.	FG-ZZZZZ
EU-007 (Casting Cooling)	Cooling tunnel with approximately 1500 lbs/hour metal capacity.	FG-ZZZZZ
EU-008 (Shakeout)	Shakeout station. The cooled molds are simply broken out on the floor, the casting is removed, and the sand is shoveled off the floor for proper disposal.	FG-ZZZZZ
EU-009 (Cutoff)	Two cut off saws. 375 lbs/hr maximum throughput each with particulate controlled by a cyclone and fabric filter dust collector, DFO 2-12 (CFM: 9,580 CFM with discharge inside the plant).	FG-BAGHOUSE FG-ZZZZZ
EU-010 (Grinders)	Two finishing grinders - maximum total 600 pounds of metal throughput per hour. It is controlled by a fabric filter dust collector, DFO 2-12 (CFM: 9,580 CFM with discharge inside the plant).	FG-BAGHOUSE FG-ZZZZZ
EU-011	Viking Tumble blast - and associated fabric filter dust collector, DFO 2-12 (CFM: 9,580 CFM with discharge inside the plant).	FG-BAGHOUSE FG-ZZZZZ
EU-013 (Stick Welding)	Stick welding and filling (SMAW) 2-lb Welding rods used per hour max. Fume extractor CFM: 835 – Exhaust to GV-02 (28 inch diameter vertical stack at 18,000 CFM) to the outside.	FG-ZZZZZ
EU-014 (Wire Welding)	Pin welding mig (GMAW) and conveyor assembly area. Fume extractor CFM: 835 exhausting to GV-02 (28 inch diameter vertical stack at 18,000 CFM) to the outside.	FG-ZZZZZ

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 336.1291.

**EU-002 (No Bake Molding)
EMISSION UNIT CONDITIONS**

DESCRIPTION

No Bake Molding – Palmer Screw Type Inline Mixer using phenolic urethane binders. Maximum rating of 1,000 lbs sand /hour but is bottlenecked to 500 lbs sand/hr due to current melting/pouring capacity and operational space.

Flexible Group ID: FG-ZZZZZ

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. phenolic urethane binder sand processed	300,000 pounds per month	Calendar month	EU-002	SC VI.1	R 336.1227 R 336.1702(a)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 keep a record of the pounds of phenolic urethane binder sand used in EU-002 for each calendar month. The permittee shall keep the records on file at the facility, for at least five years, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1227, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

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
FG-BAGHOUSE	All equipment with emissions controlled by the 9,580-fabric filter dust collector (DFO 2-12) and vented to the general in-plant environment.	EU-009, EU-010, EU-011
FG-ZZZZZ	All equipment subject to the requirements of 40 CFR Part 63 Subpart ZZZZZ – National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources	EU-001, EU-002, EU-003, EU-004, EU-005, EU-006, EU-007, EU-007, EU-008, EU-009, EU-010, EU-011, EU-013, EU-014

**FG-BAGHOUSE
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

All equipment with emissions controlled by the 9,580-fabric filter dust collector (DFO 2-12) and vented to the general in-plant environment.

Emission Unit: EU-009, EU-010, EU-011

POLLUTION CONTROL EQUIPMENT

Donaldson Torit Downflow 2-12 baghouse

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate FG-BAGHOUSE unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the control device in accordance with manufacturers specifications. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d))

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))

NA

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 FG-BAGHOUSE. (R 336.1201(7)(a))

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from FG-BAGHOUSE shall be vented to the general in-plant environment, and not directly discharged through a dedicated stack to the outside ambient air at any time. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FG-ZZZZZ FLEXIBLE GROUP CONDITIONS

DESCRIPTION

All equipment subject to the requirements of 40 CFR Part 63 Subpart ZZZZZ – National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources

Emission Unit: EU-001, EU-002, EU-003, EU-004, EU-005, EU-006, EU-007, EU-007, EU-008, EU-009, EU-010, EU-011, EU-013, EU-014

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. If applicable, the permittee shall not utilize a binder chemical formulation that uses methanol as a specific ingredient of the catalyst formulation for a warm box mold or core making line. This requirement does not apply to the resin portion of the binder system. **(40 CFR 63.10886)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall implement and maintain an approved plan to address the pollution prevention management practices for metallic scrap and mercury switches by the applicable compliance date specified in 40 CFR 63.10881. The plan shall include a metallic scrap management program. The permittee shall revise the plan within 30 days after a change occurs. **(40 CFR 63.10885, 40 CFR 63.10881(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 records documenting the binder chemical formulation, including Material Safety Data Sheets. **(40 CFR 63.10890(e)(5))**
2. The permittee shall maintain records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. **(40 CFR 63.10890(e)(6))**
3. The permittee shall maintain records of metal melt production for each calendar year. **(40 CFR 63.10890(e)(7))**

VII. REPORTING

1. The permittee shall submit an initial notification of applicability according to 40 CFR 63.9(b)(2) and 40 CFR 63.10885(b)(4). **(40 CFR 63.10890(b), 40 CFR 63.10885(b)(2))**
2. Within 30 days after the applicable compliance date specified in 40 CFR 63.10881, the permittee shall submit a notification of compliance status according to 40 CFR 63.9(h)(1)(i). The notification shall include all applicable compliance certifications as specified in 40 CFR 63.10890(c)(1) & (2). **(40 CFR 63.10890(c))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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