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

October 21, 2022

**PERMIT TO INSTALL**
30-12B

**ISSUED TO**
Eagle Aluminum Permanent Mold Casting, Inc.

**LOCATED AT**
2134 Northwoods Drive
Muskegon, Michigan 49442

**IN THE COUNTY OF**
Muskegon

**STATE REGISTRATION NUMBER**
P0319

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:<br>**October 19, 2022** | |
| DATE PERMIT TO INSTALL APPROVED:<br>**October 21, 2022** | SIGNATURE: |
| DATE PERMIT VOIDED: | SIGNATURE: |
| DATE PERMIT REVOKED: | SIGNATURE: |

# PERMIT TO INSTALL

## Table of Contents

## 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 |
| $CO_2e$ | 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 |
| $H_2S$ | 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)) | Installation Date / Modification Date | Flexible Group ID |
|---|---|---|---|
| EU-Furn7 | One 600 lb capacity crucible furnace, natural gas-fired, 1.7 MMBtu/hr heat input Emissions are collected through a 12,000 cfm hood and vented through a 36 inch diameter stack. | March 29, 2012 | FG-FURNACES |
| EU-Furn3 | One 900 lb. capacity natural gas fired crucible furnace. 1.3 MMBTU/Hr heat input | December 2021 | FG-FURNACES |
| EU-Furn4 | One 900 lb. capacity natural gas fired crucible furnace. 1.3 MMBTU/Hr heat input | December 2021 | FG-FURNACES |
| EU-Furn1 | One 1000 lb. capacity crucible furnace, natural gas-fired, 1.7 MMBtu/hr heat input Emissions are collected through a 15,000 cfm hood and vented through a 36 inch diameter | March 29, 2012 | FG-FURNACES |
| EU-Furn2 | One 1000 lb. capacity crucible furnace, natural gas-fired, 1.7 MMBtu/hr heat input Emissions are collected through a 15,000 cfm hood and vented through a 36 inch diameter | March 29, 2012 | FG-FURNACES |
| EU-Furn5 | One 1000 lb. capacity crucible furnace, natural gas-fired, 1.7 MMBtu/hr heat input Emissions are collected through a 15,000 cfm hood and vented through a 36 inch diameter | March 29, 2012 | FG-FURNACES |
| EUFurn6 | One 1000 lb. capacity crucible furnace, natural gas-fired, 1.7 MMBtu/hr heat input Emissions are collected through a 15,000 cfm hood and vented through a 36 inch diameter | March 29, 2012 | FG-FURNACES |
| EU-PMSM1 | One Permanent Mold Machine – Self Mold with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |
| EU-PMSM2 | One Permanent Mold Machine – Self Mold with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |
| EU-PMSM3 | One Permanent Mold Machine – Self Mold with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |
| EU-PMTT1 | One Permanent Mold Machine – Tilt Type with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |

| Emission Unit ID | Emission Unit Description (Including Process Equipment & Control Device(s)) | Installation Date / Modification Date | Flexible Group ID |
|---|---|---|---|
| EU-PMTT2 | One Permanent Mold Machine – Tilt Type with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |
| EU-PMTT3 | One Permanent Mold Machine – Tilt Type with Natural Gas fired Process Heater rated @ 40,000 Btu/hr in-plant general ventilation | March 29, 2012 | FG-MOLD |
| EU-SB | Shotblast Equipment equipped with a 1200 cfm “standalone” dust collector that discharges inside the facility in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-DHG1 | One Dual Head Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-DHG2 | One Dual Head Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-BKG1 | One Burr King Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-BKG2 | One Burr King Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-BKG3 | One Burr King Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-BKG4 | One Burr King Grinder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-Torch | Acetylene Torch Equipment no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |
| EU-ArcWeld | 1 Lincoln Arc Welder no additional description provided in-plant general ventilation | March 29, 2012 | FG-FINISH |

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.

# 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-FURNACES | Aluminum crucible furnaces, natural gas-fired | EU-FURN1<br>EU-FURN2<br>EU-FURN3<br>EU-FURN4<br>EU-FURN5<br>EU-FURN6<br>EU-FURN7 |
| FG-MOLD | Permanent Mold Machines (Pouring and Cooling) | EU-PMSM1<br>EU-PMSM2<br>EU-PMSM3<br>EU-PMTT1<br>EU-PMTT2<br>EU-PMTT3 |
| FG-FINISH | Cleaning & Finishing Equipment<br>(shotblast, grinders, torch, welder) | EU-SB<br>EU-DHG1<br>EU-DHG2<br>EU-BKG1<br>EU-BKG2<br>EU-BKG3<br>EU-BKG4<br>EU-Torch<br>EU-ArcWeld |

# FGFURNACES
# FLEXIBLE GROUP CONDITIONS

## DESCRIPTION

Aluminum crucible furnaces, natural gas-fired

**Emission Unit:** FURN1, EU-FURN2, EU-FURN3, EU-FURN4, EU-FURN5, EU-FURN6, EU-FURN7

## POLLUTION CONTROL EQUIPMENT

NA

## I. EMISSION LIMIT(S)

| Pollutant | Limit | Time Period / Operating Scenario | Equipment | Monitoring / Testing Method | Underlying Applicable Requirements |
|---|---|---|---|---|---|
| 1. PM | 0.10 lb / 1000 lbs exhaust gases on a dry basis | Hourly | FG-FURNACES | SC V.1 | R 336.1331 |

## II. MATERIAL LIMIT(S)

1. The permittee shall melt only clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63 Subpart RRR, and shall not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns. This condition is necessary to avoid requirements of 40 CFR Part 63 Subpart RRR, National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production. **(R 336.1224, R 336.1225, R 336.1331, 40 CFR Part 63 Subpart RRR)**

2. The permittee shall not use more than 8 lbs of flux per hour in FG-FURNACES in hours when flux is added. **(R 336.1224, R 336.1225)**

3. The permittee shall not use more than 15900 lbs of flux per year on a 12-month rolling time-period as determined at the end of each calendar month. **(40 CFR 52.21(c) and (d))**

4. The permittee shall only burn pipeline quality natural gas in the burners within FGFURNACES. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

5. The permittee shall not melt more than 20,000 lbs. of aluminum every 10 hours in FGFURNACES. **(R 336.1205, R 336.1225, 40 CFR 52.21(c) and (d))**

## 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))**

1. Upon the request of the AQD District Supervisor, the permittee shall verify PM emission rates from FGFURNACES by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

| Pollutant | Test Method Reference |
|---|---|
| PM | 40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules |

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1331, R 336.2001, R 336.2003, R 336.2004)**

## 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 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225, R 336.1331)**

2. The permittee shall monitor and record, in a manner acceptable to the AQD District Supervisor, the flux usage in pounds for FGFURNACES each hour when flux is added. Such records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1331)**

3. The permittee shall record, in a manner acceptable to the AQD District Supervisor, the Aluminum melt rate in pounds for FGFURNACES on a 10 hour basis. **(R 336.1205, R 336.1225, 40 CFR 52.21(c) and (d))**

4. The permittee shall record, in a manner acceptable to the AQD District Supervisor, the flux usage in pounds for FGFURNACES on a monthly and 12 month rolling time-period basis. **(40 CFR 52.21(c) and (d))**

## VII. REPORTING

NA

## VIII. STACK/VENT RESTRICTION(S)

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

NA

## IX. OTHER REQUIREMENT(S)

NA