

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

April 3, 2020

**PERMIT TO INSTALL  
170-19**

**ISSUED TO  
AluTech, LLC**

**LOCATED AT  
1320 Paw Paw Avenue  
Benton Harbor, Michigan 49022**

**IN THE COUNTY OF  
Berrien**

**STATE REGISTRATION NUMBER  
P0340**

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: <b>March 24, 2020</b>	
DATE PERMIT TO INSTALL APPROVED: <b>April 3, 2020</b>	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 <sub>2</sub> 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 <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	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 <sub>2</sub>	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 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 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.

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUREVERB2	Natural Gas Fired Aluminum Melting Furnace Holding Capacity: 78,600 pounds Melt Rate: 8,000 pounds/hour Natural Gas Firing Rate: 18,735 cf/hour Maximum Flux Rate: 86 pounds/day, used for cleaning	December 2012	FGFURNACES
EUREVERB3	Natural Gas Fired Aluminum Melting Furnace Holding Capacity: 78,600 pounds Melt Rate: 8,000 pounds/hour Natural Gas Firing Rate: 18,735 cf/hour Maximum Flux Rate: 86 pounds/day, used for cleaning	December 2012	FGFURNACES
EUREVERB5	Natural Gas Fired Aluminum Melting Furnace Holding Capacity: 66,600 pounds Melt Rate: 5,000 pounds/hour Natural Gas Firing Rate: 10.6 MMBtu/hr for melting and 0.8 MMBtu/hr for the afterburner Maximum Flux Rate: 86 pounds/day, used for cleaning	Permit Issue Date	NA
EUCRUCIBLE1	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE2	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE3	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE4	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE5	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE6	Thirty-two Electrically Heated crucible furnaces Holding Capacity: 1,900 pounds each Flux Rate: 0.8 pound/crucible furnace treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUCRUCIBLE7	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE8	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE9	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE10	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE11	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE12	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE13	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE14	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE15	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE16	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE17	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE18	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE19	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUCRUCIBLE20	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE21	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE22	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE23	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE24	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE25	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE26	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	August 31, 2012	FGCRUCIBLE
EUCRUCIBLE27	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE
EUCRUCIBLE28	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE
EUCRUCIBLE29	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE
EUCRUCIBLE30	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE
EUCRUCIBLE31	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE
EUCRUCIBLE32	Electrically Heated crucible furnace Holding Capacity: 1,900 pounds Flux Rate: 0.8 pound/treatment with nitrogen degassing	December 15, 2012	FGCRUCIBLE

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUCASTING	Counter-pressure casting into permanent dies	August 2012	NA
EUHEATTREAT1	A 16.962 MMBtu/hr natural gas fired heat treat furnace with water quench. The emissions from the heat treat furnace are exhausted to ambient air through three stacks. There are three exhaust stacks which are SVHEATTREAT1, SVHEATTREAT2 and SVHEATTREAT3.	December 2012	FGHEATTREAT
EUHEATTREAT2	A 16.962 MMBtu/hr natural gas fired heat treat furnace with water quench. The emissions from the heat treat furnace are exhausted to ambient air through three stacks. There are three exhaust stacks which are SVHEATTREAT5, SVHEATTREAT6 and SVHEATTREAT7.	December 2012	FGHEATTREAT

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.

**EUREVERB5  
EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Natural Gas Fired Aluminum Melting Furnace  
Holding Capacity: 66,600 pounds  
Melt Rate: 5,000 pounds/hour  
Natural Gas Firing Rate: 10.6 MMBtu/hr for melting and 0.8 MMBtu/hr for the afterburner  
Maximum Flux Rate: 86 pounds/day, used for cleaning

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Low NOx burners for melting and the afterburner

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	3.78 pph	Hourly	EUREVERB5	SC V.1	R 336.1301, R 336.1331
2. PM10	2.51 pph	Hourly	EUREVERB5	SC V.1	40 CFR 52.21 (c) & (d)
3. PM2.5	2.19 pph	Hourly	EUREVERB5	SC V.1	40 CFR 52.21 (c) & (d)
4. Hydrogen fluoride	4.93 pph <sup>1</sup>	Hourly	EUREVERB5	SC V.2	R 336.1224, R 336.1225

5. The permittee shall allow no visible emissions from openings and vents of the building housing EUREVERB5. **(R 336.1301, R 336.1331, R 336.1224, R 336.1225, R 336.2810)**

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Fluxing materials added to furnace	86 lb/day <sup>1</sup>	Daily Basis	EUREVERB5	SC VI.2	R 336.1224, R 336.1225
2. Fluxing materials added to furnace	17,888 lb/year	12-month rolling time period as determined at the end of each calendar month	EUREVERB5	SC VI.2	R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d)

3. The permittee shall melt only clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63 Subpart RRR in EUREVERB5. This condition is necessary to avoid requirements of 40 CFR Part 63 Subpart RRR, National Emission Standards for Secondary Aluminum Production. **(R 336.1224, R 336.1225, 40 CFR Part 63 Subpart RRR)**

4. The permittee shall only burn pipeline quality natural gas in the burners of EUREVERB5. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall ensure only low NOx burners with total maximum burn rates of no more than 10.6 MMBtu/hr for melting and 0.8 MMBtu/hr for the afterburner are used in EUREVERB5. The permittee shall install, maintain, and operate these low NOx burners in a satisfactory manner. **(R 336.1205, R 336.1910, 40 CFR 52.21(c) and (d))**
2. The permittee shall not install or modify EUREVERB5 so that the maximum hourly melt rate exceeds 5,000 lb/hr. **(R 336.1205, R 336.1224, R 336.1225R 336.1910, 40 CFR 52.21(c) and (d))**

### **V. TESTING/SAMPLING**

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

1. Upon request from the AQD District Supervisor, the permittee shall verify PM, PM10 and PM2.5 emission rates from EUREVERB5 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an applicable approved EPA Method listed in 40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules, or 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 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 336.1205, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**
2. Upon request from the AQD District Supervisor, the permittee shall verify hydrogen fluoride emission rate from EUREVERB5 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an applicable approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 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 336.2001, R 336.2003, R 336.2004, R 336.1224, R 336.1225)**

### **VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall keep, in a satisfactory manner, records of the weight and description of all charge materials and fluxing materials or agents added to EUREVERB5 on a daily basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d))**
2. The permittee shall calculate the total weight of all fluxing materials and agents used in EUREVERB5 on a daily, monthly, and rolling 12-month time period basis. 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. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d))**

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used, 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 and make them available to the Department upon request.<sup>1</sup>  
**(R 336.1224, R 336.1225)**
4. The permittee shall keep a copy of the furnace manufacturer maintenance recommendations and a log of all maintenance and repairs performed on EUREVERB5. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1224 R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d))**

**VII. REPORTING**

1. Within 30 days after completion of the installation 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 is considered to occur not later than commencement of trial operation of EUREVERB5. **(R 336.1201(7)(a))**

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVREVERB5	48	45	R 336.1225, 40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> 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
FGFURNACES	Two natural gas fired reverberatory furnaces. Only clean charge is melted in the furnaces. Periodic fluxing is conducted to clean the furnaces.	EUREVERB2, EUREVERB3
FGCRUCIBLE	Thirty-two Electrically Heated crucible furnaces Holding Capacity: 1,900 pounds each Flux Rate: 0.8 pound/crucible furnace treatment with nitrogen degassing	EUCRUCIBLE1, EUCRUCIBLE2, EUCRUCIBLE3, EUCRUCIBLE4, EUCRUCIBLE5, EUCRUCIBLE6, EUCRUCIBLE7, EUCRUCIBLE8, EUCRUCIBLE9, EUCRUCIBLE10, EUCRUCIBLE11, EUCRUCIBLE12, EUCRUCIBLE13, EUCRUCIBLE14, EUCRUCIBLE15, EUCRUCIBLE16, EUCRUCIBLE17, EUCRUCIBLE18, EUCRUCIBLE19, EUCRUCIBLE20, EUCRUCIBLE21, EUCRUCIBLE22, EUCRUCIBLE23, EUCRUCIBLE24, EUCRUCIBLE25, EUCRUCIBLE26, EUCRUCIBLE27, EUCRUCIBLE28, EUCRUCIBLE29, EUCRUCIBLE30, EUCRUCIBLE31, EUCRUCIBLE32
FGHEATTREAT	Two heat treat furnace systems with combined heat input of 33.924 MMBTU/hr consisting of two solution furnaces, two heated water quench tanks, and two aging furnaces.. The emissions from the heat treat furnaces are exhausted to ambient air through six stacks.	EUHEATTREAT1, EUHEATTREAT2

**FGFURNACES  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Two natural gas fired reverberatory furnaces. Only clean charge is melted in the furnaces. Periodic fluxing is conducted to clean the furnaces

**Emission Unit:** EUREVERB2, EUREVERB3

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	0.80 pph	Hourly	Each Furnace in FGFURNACES	SC V.1	R 336.1301, R 336.1331
2. PM10	0.80 pph	Hourly	Each Furnace in FGFURNACES	SC V.1	40 CFR 52.21 (c) & (d)
3. PM2.5	0.50 pph	Hourly	Each Furnace in FGFURNACES	SC V.1	40 CFR 52.21 (c) & (d)

**II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. Aluminum charged to the furnace	96 tons/day	Daily basis	Each Furnace in FGFURNACES	SC VI.1	R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d)
2. Fluxing materials added to furnace	86 lb/day <sup>1</sup>	Daily basis	Each Furnace in FGFURNACES	SC VI.2	R 336.1224, R 336.1225
3. Fluxing materials added to furnace	17,888 lb/year	12-month rolling time period as determined at the end of each calendar month	Each Furnace in FGFURNACES	SC VI.2	R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d)

4. The permittee shall melt only clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63 Subpart RRR in FGFURNACES. This condition is necessary to avoid requirements of 40 CFR Part 63 Subpart RRR, National Emission Standards for Secondary Aluminum Production. **(R 336.1224, R 336.1225, 40 CFR Part 63 Subpart RRR)**

5. The permittee shall only burn pipeline quality natural gas in the burners of FGFURNACES. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (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 request from the AQD District Supervisor, the permittee shall verify PM, PM10, and PM2.5 emission rates from either furnace in FGFURNACES by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an applicable approved EPA Method listed in 40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules, or 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 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 336.1205, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

### **VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall keep, in a satisfactory manner, records of the weight and description of all charge materials and fluxing materials or agents added to each furnace in FGFURNACES on a daily basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d))**
2. The permittee shall calculate the total weight of all fluxing materials and agents used in each furnace in FGFURNACES on a daily, monthly, and 12-month rolling time period basis. 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. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21 (c) & (d))**
3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used, 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 and make them available to the Department upon request.<sup>1</sup> **(R 336.1224, R 336.1225)**

### **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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVREVERB2	48	45	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SVREVERB3	48	45	R 336.1225, 40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<b>FGCRUCIBLE FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

Thirty-two electrically heated crucible furnaces, with the holding capacity of 1,900 lbs each.

**Emission Unit:** EUCRUCIBLE1, EUCRUCIBLE2, EUCRUCIBLE3, EUCRUCIBLE4, EUCRUCIBLE5, EUCRUCIBLE6, EUCRUCIBLE7, EUCRUCIBLE8, EUCRUCIBLE9, EUCRUCIBLE10, EUCRUCIBLE11, EUCRUCIBLE12, EUCRUCIBLE13, EUCRUCIBLE14, EUCRUCIBLE15, EUCRUCIBLE16, EUCRUCIBLE17, EUCRUCIBLE18, EUCRUCIBLE19, EUCRUCIBLE20, EUCRUCIBLE21, EUCRUCIBLE22, EUCRUCIBLE23, EUCRUCIBLE24, EUCRUCIBLE25, EUCRUCIBLE26, EUCRUCIBLE27, EUCRUCIBLE28, EUCRUCIBLE29, EUCRUCIBLE30, EUCRUCIBLE31, EUCRUCIBLE32

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

1. The permittee shall not use more than a daily average of 15 lbs of flux per hour or 360 lbs of flux per day in FGCRUCIBLE. (R 336.1224, R 336.1225, 40 CFR 52.21 (c) & (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))

NA

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall monitor and record, in a satisfactory manner, the flux usage rate in pounds per day for FGCRUCIBLE on a daily basis. The permittee shall keep all records on file and make them available to the Department upon request <sup>1</sup> (R 336.1225)
2. The permittee shall monitor and record the hours of operation of FGCRUCIBLE on a daily basis. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> (R 336.1225)
3. The permittee shall calculate average daily flux usage in lbs/hr for FGCRUCIBLE on a daily basis. The permittee shall keep all records on file and make them available to the Department upon request<sup>1</sup> (R 336.1225)

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used, 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 and make them available to the Department upon request.<sup>1</sup>  
**(R 336.1224, R 336.1225)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<b>FGHEATTREAT FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

Two heat treat furnace systems with combined heat input of 33.924 MMBTU/hr consisting of two solution furnaces, two heated water quench tanks, and two aging furnaces. The emissions from the heat treat furnaces are exhausted to ambient air through six stacks.

**Emission Unit:** EUHEATTREAT1 and EUHEATTREAT2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

1. The permittee shall only burn pipeline quality natural gas in FGHEATTREAT. (R 336.1225, R 336.1331, 40 CFR 52.21 (c) & (d))
2. The permittee shall not use quench oil, die lubricants, or release agents in FGHEATTREAT. (R 336.1224, R 336.1225, R 336.1702, 40 CFR 52.21 (c) & (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))

NA

**VI. MONITORING/RECORDKEEPING**

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

NA

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVHEATTREAT1	21	45	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SVHEATTREAT2	21	45	R 336.1225, 40 CFR 52.21 (c) & (d)
3. SVHEATTREAT3	12	40	R 336.1225, 40 CFR 52.21 (c) & (d)
4. SVHEATTREAT5	21	45	R 336.1225, 40 CFR 52.21 (c) & (d)
5. SVHEATTREAT6	21	45	R 336.1225, 40 CFR 52.21 (c) & (d)
6. SVHEATTREAT7	12	40	R 336.1225, 40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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