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

June 13, 2024

PERMIT TO INSTALL
67-24

ISSUED TO
Huron Casting, Inc.

LOCATED AT
7050 Hartley Street & 125 Sturm Road
Pigeon, Michigan 48755

IN THE COUNTY OF
Huron

STATE REGISTRATION NUMBER
B7013

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: **June 12, 2024**	
DATE PERMIT TO INSTALL APPROVED: **June 13, 2024**	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 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.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU-01	A-line east pouring line, Mag drum and shot air wash controlled by Baghouse #774 (35,000 dry standard cubic feet per minute (dscfm) reverse air type). Stack SV-01	01/28/1977	NA
EU-POURINGA	Three (3) electric induction furnaces, Pouring line A and ancillary equipment controlled by Baghouse #790 (45,000 dscfm reverse air type). Exhausts to the in-plant environment.	01/28/1977	FG-POUR
EU-07	Sand coating/handling and reclaim operations, Vibramill, controlled by Baghouse #484 and Baghouse #1001 (total air flow 30,000 dscfm reverse air type). Stack SV-07.	Sandcoater installation: 08/23/2012 Reclaim operations/Calciner installation: 12/01/1995	NA
EU-POURINGB	Three electric induction furnaces, Pouring line B and ancillary equipment controlled by Baghouse #554 (50,000 dscfm pulse jet type and Baghouse #553 (50,000 dscfm pulse jet type). Exhausts to the in-plant environment 6 months of the year.	05/12/1997	FG-POUR
EU-SHELLCALCINER	This emission unit includes the sand coater and the calciner. The sand coater blends the sand and binder. The calciner destroys the binder material in the mold facing and core sand from the shell line by heating it to 1,200˚ F (minimum) before the sand is returned to the shell sand system for recycling. The calciner is heated by a 4.5 MMBTU/hr natural gas burner. The calciner is controlled by a 30,000 cfm baghouse (BH-09). Stack ID: SV-02	12/08/2009	FG-BDSV02
EU-SHELLMOLD	This emission unit prepares and cures the molds, and sets the molds out on the casting lines. The emissions from this process are captured with a hood with a flow rate of 71,000 cfm exhausted through stack SV-02. Includes 22 core machines which emit to the in-plant environment. Each heat treat furnace is rated at 9.9 MMBTU/hr. Stack ID: SV-02	12/08/2009 03/2018	FG-BDSV02

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU-SHELLCALCINER2	This emission unit includes a sand coater and a calciner. The sand coater blends the sand and binder. The calciner destroys the binder material in the mold facing and core sand from the shell line by heating it to 1,200˚ F (minimum) before the sand is returned to the shell sand system for recycling. The calciner is heated by a 4.5 MMBTU/hr natural gas burner. The calciner is controlled by a 30,000 cfm baghouse (BH-09a). Stack ID: SV-02	TBD	FG-BDSV02

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-01
EMISSION UNIT CONDITIONS

DESCRIPTION

A-line east pouring line, Mag drum and shot air wash.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse #774 (350,000 dry standard cubic feet per minute (dscfm) reverse air type)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.005 lb/1000 lbs of exhaust gases on a dry basis	Hourly	EU-01	SC V.1 SC VI.1	**R 336.1205(3), R 336.1331, R 336.2810**
2. PM10	0.020 pph	Hourly	EU-01	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**
3. PM2.5	0.004 pph	Hourly	EU-01	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**

4. Visible emissions from EU-01 shall not exceed a six-minute average of five percent opacity. **(R 336.1301, R 336.1331)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-01 unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810,)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain Baghouse #774 with a bag leak detection system. The permittee shall not operate Baghouse #774 unless the bag leak detection system is installed and operating properly. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

V. TESTING/SAMPLING

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

Within 180 days after completion of the installation and modification authorized by this permit to install, the permittee shall verify PM, PM10 and PM2.5 emission rates from EU-01 by testing at the 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
PM10 / PM2.5	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 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 336.1205, R 336.1902, 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 continuously monitor the pressure drop across the baghouse and record on a daily basis. **(R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall perform and record the results of a non-certified visible emissions check on EU-01 at least once monthly, during operation, when EU-01 is venting to the atmosphere. The visible emissions check shall verify the presence of any visible emissions and need not follow the procedures specified in USEPA Method 9; therefore, multiple stacks may be observed simultaneously. The date, time, name of visible emissions observer, and whether any visible emissions were observed shall be recorded. If any visible emissions are observed, the permittee shall immediately implement one of the following procedures: **(R 336.1213(3), R 336.1301)**
   a) If any visible emissions have been observed during the non-certified visible emissions check, the permittee shall perform and record the results of a 6-minute USEPA Method 9 visible emissions observation. If the results of the Method 9 visible emissions observation indicate a violation of the opacity standard, the permittee shall immediately initiate corrective actions and document the corrective actions taken.
   b) The permittee shall immediately initiate corrective actions and document the corrective actions taken based upon the initial non-certified visible emissions check that indicated the presence of any visible emissions.

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 each baghouse at the new air flow rate. **(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:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-01	40	52	**R 336.1225, R 336.2803, R 336.2804**

IX. OTHER REQUIREMENT(S)

NA

EU-07
EMISSION UNIT CONDITIONS

DESCRIPTION

Sand coating/handling and reclaim operations, Vibramill

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse #484 and Baghouse #1001 (total air flow 30,000 dscfm reverse air type)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.005 lb/1000 lbs of exhaust gases on a dry basis	Hourly	EU-07	SC V.1 SC VI.1	**R 336.1205(3), R 336.1331, R 336.2810**
2. PM10	0.540 pph	Hourly	EU-07	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**
3. PM2.5	0.012 pph	Hourly	EU-07	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**

4. Visible emissions from EU-07 shall not exceed a six-minute average of five percent opacity. **(R 336.1301, R 336.1331,)**

II. MATERIAL LIMIT(S)

1. The permittee shall not exceed a loss of one percent resin based on total weight for the resin coated sand in the mold/core making process from pouring through shakeout.[1] **(R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-07 unless the associated baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall not operate the EU-07 unless a minimum temperature of 1,200ºF of the calcining furnace is maintained. **(R 336.1225, R 336.2810)**

3. The permittee shall not operate the calcining furnace in EU-07 unless a written operation and maintenance (O&M) plan for the furnace has been submitted to the AQD District Supervisor and is implemented and maintained. If at any time the O&M plan fails to address or inadequately addresses an event that meets the characteristics of abnormal conditions or a malfunction as described in Rule 912, the permittee shall amend the O&M plan within 45 days after such an event occurs. The permittee shall also amend the O&M plan within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the O&M plan and any amendments to the O&M plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the O&M plan or amended O&M plan shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective

procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1912, R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain both Baghouse #484 and Baghouse #1001 with a bag leak detection system. The permittee shall not operate either Baghouse #484 or Baghouse #1001 unless their respective bag leak detection systems are installed and operating properly. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

V. TESTING/SAMPLING

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

1. Within 180 days after completion of the installation and modification authorized by this permit to install , the permittee shall verify PM, PM10 and PM2.5 emission rates from EU-07 by testing at the 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
PM10 / PM2.5	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 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 336.1205, R 336.1902, 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 continuously monitor the pressure drop across the baghouse and record on a daily basis. **(R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall continuously monitor the temperature of the calcining furnace utilizing temperature charts on a daily basis.[1] **(R 336.1225)**

3. The permittee shall, on an annual basis during the month of May, independently verify by analysis the phenol content of each of the binders which were used in the previous month of April and that the loss of binder is no more than one percent in spent mold/core sand. The results of this testing shall be submitted to the AQD District Supervisor prior to June 30 **(R 336.1205 (3))**

4. The permittee shall perform and record the results of a non-certified visible emissions check on EU-07 at least once monthly, during operation, when EU-07 is venting to the atmosphere. The visible emissions check shall verify the presence of any visible emissions and need not follow the procedures specified in USEPA Method 9; therefore, multiple stacks may be observed simultaneously. The date, time, name of visible emissions observer, and whether any visible emissions were observed shall be recorded. If any visible emissions are observed, the permittee shall immediately implement one of the following procedures: **(R 336.1213(3), R 336.1301)**
   a) If any visible emissions have been observed during the non-certified visible emissions check, the permittee shall perform and record the results of a 6-minute USEPA Method 9 visible emissions observation. If the results of the Method 9 visible emissions observation indicate a violation of the opacity standard, the permittee shall immediately initiate corrective actions and document the corrective actions taken.

b) The permittee shall immediately initiate corrective actions and document the corrective actions taken based upon the initial non-certified visible emissions check that indicated the presence of any visible emissions.

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 each baghouse at the new air flow rate. **(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:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1.SV-07	36	46	**R 336.1225, R 336.2803, R 336.2804**

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-POUR	EU-POURINGA: Three (3) electric induction furnaces, Pouring line A and ancillary equipment controlled by Baghouse #790 (45,000 dscfm reverse air type). EU-POURINGB: Three (3) electric induction furnaces, Pouring line B and ancillary equipment controlled by Baghouse #554 (50,000 dscfm pulse jet type and Baghouse #553 (50,000 dscfm pulse jet type).	EU-POURINGA, EU-POURINGB
FG-BDSV02	Emission units exhausted through stack SV-02. EU-SHELLCALCINER and EU-SHELLCALCINER2: each of these emission units include a sand coater and a calciner. EU-SHELLMOLD which prepares and cures the molds, and sets the molds out on the casting lines.	EU-SHELLCALCINER, EU-SHELLMOLD EU-SHELLCALCINER2

FG-POUR
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

EU-POURINGA:
Three (3) electric induction furnaces, Pouring line A and ancillary equipment controlled by Baghouse #790 (45,000 dscfm reverse air type) exhausts to the in-plant environment.

EU-POURINGB:
Three electric induction furnaces, Pouring line B and ancillary equipment controlled by Baghouse #554 (50,000 dscfm pulse jet type and Baghouse #553 (50,000 dscfm pulse jet type) exhausts to the in-plant environment or can exhaust to atmosphere through stacks SV-11 and SV-12 for a maximum of 183 calendar days.

Emission Units: EU-POURINGA and EU-POURINGB

POLLUTION CONTROL EQUIPMENT

Baghouse #790 for EU-POURINGA that exhausts to the in-plant environment. Baghouse #554 and #553 for EU-POURINGB that can exhaust to in-plant environment or can exhaust to the atmosphere for a maximum of 183 calendar days.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.007 lb/1000 lbs of exhaust gases on a dry basis	Hourly	EU-POURINGA	SC V.1 SC VI.1	**R 336.1205(3), R 336.1331, R 336.2810**
2. PM	0.008 lb/1000 lbs of exhaust gases on a dry basis	Hourly	EU-POURINGB from Baghouse 554	SC V.1 SC VI.1	**R 336.1205(3), R 336.1331, R 336.2810**
3. PM	0.006 lb/1000 lbs of exhaust gases on a dry basis	Hourly	EU-POURINGB from Baghouse 553	SC V.1 SC VI.1	**R 336.1205(3), R 336.1331, R 336.2810**
4. PM10	0.5 pph	Hourly	FG-POUR	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**
5. PM2.5	0.5 pph	Hourly	FG-POUR	SC V.1 SC VI.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG-POUR unless the associated baghouses are installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall not discharge the emissions from EU-POURINGA directly into the atmosphere. **(R 336.1205(3), R 336.1225, R 336.2803, R 336.2804,)**

3. The permittee shall not discharge the emissions from EU-POURINGB directly into the atmosphere for more than 183 calendar days. **(R 336.1205(3), R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain Baghouse #790, Baghouse #554, and Baghouse #553 with a bag leak detection system. The permittee shall not operate Baghouse #790, Baghouse #554, or Baghouse #553 unless their respective bag leak detection systems are installed and operating properly. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

V. TESTING/SAMPLING

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

Within 180 days after completion of the installation and modification authorized by this permit to install , the permittee shall verify PM, PM10 and PM2.5 emission rates from EU-POURINGA, the portion of EU-POURINGB controlled by Baghouse #553 and the portion of EU-POURINGB controlled by Baghouse #554 by testing at the 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
PM10 / PM2.5	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 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 336.1205, R 336.1902, 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 continuously monitor the pressure drop across each baghouse and record on a daily basis. **(R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall keep in a format acceptable to the AQD District Supervisor a record of if EUPOURINGB is emitted to ambient air on a calendar day basis. **(R 336.1205(3), R 336.1225)**

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 each stack of FGPOUR. **(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:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1.SV-11[A]	44	65	R 336.1225
2.SV-12[B]	44	65	R 336.1225
[A]Stack for emissions from baghouse #553 [B]Stack for emissions from baghouse #554			

IX. OTHER REQUIREMENT(S)

NA

FG-BDSV02
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Emission units exhausted through stack SV-02. EU-SHELLCALCINER and EU-SHELLCALCINER2: each of these emission units include a sand coater and a calciner. EU-SHELLMOLD which prepares and cures the molds, and sets the molds out on the casting lines.
Emission Unit: EU-SHELLCALCINER, EU-SHELLMOLD, EU-SHELLCALCINER2

POLLUTION CONTROL EQUIPMENT

Baghouse BH-09

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.003 grains/dscf	Hourly	FG-BDSV02	SC V.1	**R 336.1205(3), R 336.1331, R 336.2810**
2. PM10	1.650 pph	Hourly	FG-BDSV02	SC V.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**
3. PM2.5	0.330 pph	Hourly	FG-BDSV02	SC V.1	**R 336.1205(3), R 336.2803, R 336.2804, R 336.2810**

4. Visible emissions from FG-BDSV02 shall not exceed a six-minute average of five percent opacity. **(R 336.1301, R 336.1331)**

II. MATERIAL LIMIT(S)

1. The permittee shall not process more than 840 tons of binder per year in EU-SHELLMOLD portion of FG-BDSV02 based on a 12-month rolling time period calculated at the end of each calendar month. **(R 336.1205(3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not process sand through EU-SHELLCALCINER or EU-SHELLCALCINER2 portion of FG-BDSV02 unless a minimum temperature of 1,200˚F is met and maintained when the calcining furnace is processing sand . **(R 336.1225, R 336.2810)**

2. The permittee shall not operate the EU-SHELLCALCINER or EU-SHELLCALCINER2 portion of FG-BDSV02 unless a written operation and maintenance (O&M) plan for the furnace has been submitted to the AQD District Supervisor within 180 days of permit issuance and is implemented and maintained. If at any time the O&M plan fails to address or inadequately addresses an event that meets the characteristics of abnormal conditions or a malfunction as described in Rule 912, the permittee shall amend the O&M plan within 45 days after such an event occurs. The permittee shall also amend the O&M plan within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the O&M plan and any amendments to the O&M plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the O&M plan or amended O&M plan shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational

changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1912, R 336.2803, R 336.2804)**

3. The permittee shall not combust any fuel, other than natural gas, in the heat treat furnaces in EUSHELLMOLD. **(R 336.1205(3))**

4. The permittee shall not process sand through EU-SHELLCALCINER and EU-SHELLCALCINER2 at the same time. **(R 336.1205(3), R 336.1225)**

5. The natural gas burner for EUSHELLCALCINER and EUSHELLCALCINER2 shall not exceed 4.5 MMBTU/hr each, as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-SHELLCALCINER or EU-SHELLCALCINER2 portion of FG-BDSV02 unless enclosure and BH-09 are installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205, R 336.1224, R 336.1225, R 336.1331, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall equip and maintain Baghouse BH-09 with a bag leak detection system. The permittee shall not operate Baghouse BH-09 unless the bag leak detection system is installed and operating properly. **(R 336.1225, R 336.1910, R 336.2803, R 336.2804, R 336.2810)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the temperature of EU-SHELLCALCINER and EU-SHELLCALCINER2 portion of FG-BDSV02 on a continuous basis when either unit is processing sand. **(R 336.1301, R 336.1331, R 336.2803, R 336.2804, R 336.2810)**

V. TESTING/SAMPLING

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

Within 180 days after completion of the installation and modification authorized by this permit to install , the permittee shall verify PM, PM10 and PM2.5 emission rates from FG-BDSV02 by testing at the 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
PM10 / PM2.5	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 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 336.1205, R 336.1902, 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 complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1910)**

2. The permittee shall keep, in a satisfactory manner, temperature records for EU-SHELLCALCINER and EU-SHELLCALCINER2 portion of FG-BDSV02, as required by SC IV.3. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1301, R 336.1331, R 336.2803, R 336.2804, R 336.2810)**

3. The permittee shall keep, in a satisfactory manner, records of monthly and yearly binder usage rate for EU-SHELLMOLD portion of FG-BDSV02, as required by SC II.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205 (3))**

4. The permittee shall perform and record the results of a non-certified visible emissions check on FG-BDSV02 at least once monthly, during operation, when FG-BDSV02 is venting to the atmosphere. The visible emissions check shall verify the presence of any visible emissions and need not follow the procedures specified in USEPA Method 9; therefore, multiple stacks may be observed simultaneously. The date, time, name of visible emissions observer, and whether any visible emissions were observed shall be recorded. If any visible emissions are observed, the permittee shall immediately implement one of the following procedures: **(R 336.1213(3), R 336.1301)**
   a) If any visible emissions have been observed during the non-certified visible emissions check, the permittee shall perform and record the results of a 6-minute USEPA Method 9 visible emissions observation. If the results of the Method 9 visible emissions observation indicate a violation of the opacity standard, the permittee shall immediately initiate corrective actions and document the corrective actions taken.
   b) The permittee shall immediately initiate corrective actions and document the corrective actions taken based upon the initial non-certified visible emissions check that indicated the presence of any visible emissions.

5. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, records of the time (duration of process of sand), and which shell calciner was processing sand, as required by SC III.4. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225)**

VII. REPORTING

1. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.2001(5))**

2. 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 EU-SHELLCALCINER2 and of each baghouse at the new air flow rate. **(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:

Stack & Vent ID	Maximum Exhaust Diameter (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-02	47	55	**R 336.1225, R 336.2803, R 336.2804**

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FGFACILITY CONDITIONS

DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

POLLUTION CONTROL EQUIPMENT

Some emission units controlled with baghouses

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM10	59.6 tpy	12-month rolling time period as determined at the end of each calendar month.	All emission units located at the facility	SC VI.3 and VI.4	R 336.1205(3)
2. PM2.5	11.9 tpy	12-month rolling time period as determined at the end of each calendar month.	All emission units located at the facility	SC VI.3 and VI.4	R 336.1205(3)
3. VOC	50 lb/ton binder	monthly average	All emission units located at the facility	SC VI.3 and VI.4	R 336.2810
4. VOC	98.0 tpy	12-month rolling time period as determined at the end of each calendar month.	All emission units located at the facility	SC VI.3 and VI.4	R 336.1205(3)
5. Individual HAPs	8.9 tpy	12-month rolling time period, as determined at the end of each calendar month.	All emission units located at the facility	SC VI.3 and VI.4	R 336.1205(3)
6. Aggregate HAPs	22.4 tpy	12-month rolling time period, as determined at the end of each calendar month.	All emission units located at the facility	SC VI.3 and VI.4	R 336.1205(3)
7. CO	4.8 lb/ton melt	monthly average	All emission limits located at the facility	SC VI.3 and VI.4	R 336.2810

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
8. CO	345.6 tpy	12-month rolling time period, as determined at the end of each calendar month.	All emission limits located at the facility	SC VI.3 and VI.4	R 336.1205(3)

II. MATERIAL LIMIT(S)

1. The permittee shall not melt more than 144,000 tons of metal per year based on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3)**

2. The permittee shall not melt more than 72,000 tons per year of steel at Huron Casting, Inc. based on a 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205(3)**

3. The permittee shall not melt more than 72,000 tons per year of steel at Blue Diamond Steel Casting based on a 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205(3))**

4. The permittee shall not use more than 1,026 MMcf per year of natural gas, based on a 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205(3)**

5. The permittee shall not process a combined total of more than 3,870 tons of binder per year in FG-MOLDLINE, FG-BDSV03, FG-BDSV04, and FG-BDSV05 based on a 12-month rolling time period calculated at the end of each calendar month. **(R 336.1205(3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each emission unit that is subject to an emission limit more than 7,000 hours per year based on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

2. The permittee shall not operate any of the 29 baghouses at the facility unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted to the AQD District Supervisor within 180 days of permit issuance, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

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 complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**

2. The permittee shall keep, in a satisfactory manner, records of metal melted in tons per month, as required by SC II.1, II.2, and II.3. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1220, R 336.1225)**

3. The permittee shall have an approved spreadsheet by the AQD District Supervisor to calculate all emissions as specified in SC I.1 through I.8, based on material usage rates and emission factors. **(R 336.1205(3))**

4. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period PM10, PM2.5, VOCs, individual and aggregate HAPs, and CO emission calculation records, as required by SC I.1, I.2, I.3, I.4, I.5, I.6, I.7, and I.8. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period operating hour records for each emission unit, that is subject to an emission limit, as required by SC III.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

6. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling records of natural gas usage rates, as required by SC II.4. The permittee shall keep all records on file at for a period of at least five years and make them available to the Department upon request. **(R 336.1205(3))**

7. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling records of binder usage rates, as required by SC II.5. The permittee shall keep all records on file at for a period of at least five years and make them available to the Department upon request. **(R 336.1205(3))**

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).