

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

February 17, 2012

PERMIT TO INSTALL
186-11

ISSUED TO
Peerless Metal Powders & Abrasive

LOCATED AT
156 South Cavalry Avenue
Detroit, Michigan

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
B4847

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:

January 5, 2012

DATE PERMIT TO INSTALL APPROVED:

February 17, 2012

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than or equal to 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than or equal 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO ₂	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUCHIPDRYER	A metal chip dryer with a drying capacity of 10,000 pounds of metal turnings per hour and controlled by a smoke hood, afterburner, and baghouse #1.	FGNGCOMBUST
EUCOOLER	A cooling tube used to cool the material before it is processed into powders and abrasives. The cooling tube exhaust is controlled by baghouse #1.	FGNGCOMBUST
EUHEATERS	Heaters used for indirect heating of the dryer retort.	FGNGCOMBUST

The following conditions apply to: FGNGCOMBUST

DESCRIPTION: A steel chip dryer with a drying capacity of 10,000 pounds of steel turnings per hour and controlled by a smoke hood, afterburner, and baghouse #1. From the dryer the chips are dropped into a cooling tube before processing into metal powders and abrasives. The cooling tube exhausts through the same stack as the chip dryer and afterburner, controlled by baghouse #1. The drum heaters (for heating the dryer retort), smoke hood, and afterburner all use natural gas as fuel. Indirect combustion gases from the drum heaters are exhausted through an independent and uncontrolled stack.

Flexible Group ID: FGNGCOMBUST

POLLUTION CONTROL EQUIPMENT: Smoke hood, afterburner, and baghouse. EUCHIPDRYER and EUCOOLER share the same baghouse.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.010 lb/1000lbs of exhaust gas, on a dry gas basis	Test Protocol*	Baghouse #1 for EUCHIPDRYER and EUCOOLER	GC 13	R 336.1331

*Test protocol will determine time period.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Natural Gas	64.3 million cubic feet per year	12-month rolling, as determined at the end of each month	FGNGCOMBUST	SC VI.4	R 336.1225

III. PROCESS/OPERATIONAL RESTRICTIONS

1. No later than 60 days after issuance of this permit, the permittee shall submit to the AQD District Supervisor, for review and approval, a preventative maintenance / malfunction abatement plan (PM / MAP) for FGNGCOMBUST. After approval of the PM / MAP by the AQD District Supervisor, the permittee shall not operate FGNGCOMBUST unless the PM / MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
 - a) Identification of the equipment and, if applicable, air-cleaning device and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair
 - b) Description of the items or conditions to be inspected and frequency of the inspections or repairs
 - c) Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures
 - d) Identification of the major replacement parts that shall be maintained in inventory for quick replacement

- e) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits

If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM / MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.12803, R 336.2804, 40 CFR 52.21 (c) & (d))**

2. The permittee shall not operate EUCHIPDRYER of FGNGCOMBUST unless a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds in the afterburner for EUCHIPDRYER is maintained. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
3. The permittee shall burn only natural gas in FGNGCOMBUST. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUCHIPDRYER of FGNGCOMBUST unless the smoke hood is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining smoke hood as specified by the manufacturer. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
2. The permittee shall not operate EUCHIPDRYER of FGNGCOMBUST unless the afterburner is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the afterburner includes maintaining the minimum temperature and retention time, as required by SC III.2. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**
3. The permittee shall not operate EUCHIPDRYER of FGNGCOMBUST unless the baghouse is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the baghouse includes maintaining the pressure drop in the range as specified by the manufacturer or as determined during performance testing. **(R 336.1225, R 336.1331, R 336.1901, R 336.1910)**
4. The nameplate capacity of EUCHIPDRYER of FGNGCOMBUST shall not exceed 10,000 pounds per hour of metal chips, as certified by the equipment manufacturer. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a record of all maintenance activities conducted according to the PM / MAP (pursuant to SC III.1) for FGNGCOMBUST. The permittee shall keep this record on file at the facility and make it available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1911, R 336.2804, 40 CFR 52.21 (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to continuously monitor the temperature of the afterburner when EUCHIPDRYER of FGNGCOMBUST is operating. The permittee shall record the temperature at least once per shift. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to continuously monitor the pressure drop of the baghouse when EUCHIPDRYER or EUCOOLER of FGNGCOMBUST is operating. The permittee shall record the temperature at least once per shift. **(R 336.1225, R 336.1331, R 336.1901, R 336.1910)**
4. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage from FGNGCOMBUST at the facility on a monthly and 12-month rolling time period basis. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

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

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBAGHOUSE	60.0	18.0	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2. SVHEATERS	24.0	18.0	

IX. OTHER REQUIREMENTS

NA

Footnotes:

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