

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

September 22, 2017

PERMIT TO INSTALL
18-07A

ISSUED TO
Anchor Coupling

LOCATED AT
5520 13th Street
Menominee, Michigan

IN THE COUNTY OF
Menominee

STATE REGISTRATION NUMBER
N0668

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:

July 30, 2017

DATE PERMIT TO INSTALL APPROVED:

September 22, 2017

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	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM ₁₀	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM _{2.5}	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

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

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 (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EURACKDIPLINE	Rack zinc electroplating process with a hot water heater, a horizontal cross flow wet packed bed fume scrubber and exhaust system, 17 tanks: 970-gallon soak clean, 1380-gallon electro clean, 640-gallon cold water rinse, 640-gallon acid, 640-gallon acid pickle, 640-gallon cold water rinse, two 3600-gallon acid zinc, 640-gallon cold water rinse, 640-gallon hot water rinse, 640-gallon cold water rinse, 640-gallon pre-dip, 640-gallon cold water rinse, 730-gallon trivalent chromate, 640-gallon cold water rinse, 730-gallon topcoat, and 730-gallon rust prevention.	TBD	FGSCRUBBERLINES
EUBARRELLINE	Automatic barrel zinc electroplating process with a horizontal cross flow wet packed bed fume scrubber and exhaust system, 15 tanks: 290-gallon soak clean tank, 310-gallon electro clean, two 250-gallon cold water rinse, 230-gallon acid pickle, two 250-gallon cold water rinse, 1370-gallon zinc plating, 260-gallon cold water rinse, 230-gallon pre-dip, 260-gallon cold water rinse, 255-gallon trivalent chromate, two 250-gallon cold water rinse, and 255-gallon topcoat.	2007	FGSCRUBBERLINES
EUAIRMAKE1	Two 15,000 cfm, 3,078,000 Btu/hr, natural gas-fired air make-up units to balance pressure drops created by the scrubber.	TBD	FGSCRUBBERLINES
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 336.1290.			

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
FGSCRUBBERLINES	A rack zinc electroplating process with 17 tanks, an automatic barrel zinc electroplating line with 15 tanks, and two natural gas-fired air make-up units.	EUDIPRACKLINE, EUBARRELLINE, EUAIRMAKE1

The following conditions apply to: FGSCRUBBERLINES

DESCRIPTION: A rack zinc electroplating process with 17 tanks, an automatic barrel zinc electroplating line with 15 tanks, and two natural gas-fired air make-up units.

Emission Units: EURACKDIPLINE, EUBARRELLINE, EUAIRMAKE1

POLLUTION CONTROL EQUIPMENT: 2 horizontal cross-flow wet scrubbers from ScrubAir Systems, using dumped packing and a Kimre B-Gon® mist eliminators, receives exhaust from these tanks:

- Barrel Line: top coat, trivalent chromate, soak clean, electro clean, acid pickle, and zinc plating.
- Rack and Dip Line: acid pickle, electro clean, soak clean, topcoat, trivalent chromate, acid pickle, and rust protection.

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

1. The permittee shall only burn natural gas in the water heater and air make-up unit portions of FGSCRUBBERLINES. (R 336.1225, R 336.1702)

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any portion of FGSCRUBBERLINES unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the packed bed scrubber systems, has been submitted within 60 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) 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 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 336.1702(a), R 336.1910, R 336.1911)

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any tank in FGSCRUBBERLINES unless its respective packed bed scrubber system with mist eliminator is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes but is not limited to maintaining the scrubber system according to the MAP required by SC III.1. The MAP shall define the proper pressure drop, liquid flow rate and pH range to be maintained, as specified by the manufacturer. (R 336.1224, R 336.1225, R 336.1702, R 336.1910)

2. The permittee shall equip and maintain each packed bed scrubber system with mist eliminator with a device to monitor pressure drop, a device to monitor pH and a device to monitor the liquid flow rate. Each device shall monitor each parameter on a continuous basis. **(R 336.1224, R 336.1225, R 336.1702, 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 perform inspections of each packed bed scrubber system as follows: **(R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
 - a) Determine pressure drop across each packed bed scrubber system on a daily basis. If the pressure drop across the control varies by more than the recommended range as specified by the manufacturer, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
 - b) Determine the pH and liquid flow rate for each packed bed scrubber system on a daily basis. If the pH or liquid flow rate varies by more than the recommended operating range as specified by the manufacturer, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
 - c) Visually inspect each packed bed scrubber, on a quarterly basis, to ensure there is proper drainage, no build up on the packed beds, and no evidence of chemical attack on the structural integrity of the control device.
 - d) Visually inspect the back portion of each chevron eliminator, on a quarterly basis, to ensure that it is dry and there is no breakthrough.
 - e) Visually inspect ductwork from tanks to each packed bed scrubber, on a quarterly basis, to ensure there are no leaks.
2. The permittee shall keep daily records of the pressure drop, pH and liquid flow rate readings. The permittee shall also keep records of all operating and maintenance information, as required in SC VI.1. All records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1910)**

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.SVSCRUBBER	36	38	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SVSCRUBBER2	56	38	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants for Plating and Polishing Operations as specified in 40 CFR Part 63 Subparts A and WWWWWW, as they apply to FGSCRUBBERLINES. **(40 CFR Part 63 Subparts A & WWWWWW)**

Footnotes:

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