MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

April 4, 2018

PERMIT TO INSTALL
2-18

ISSUED TO
KC Jones Plating Company

LOCATED AT
321 West Ten Mile Road
Hazel Park, Michigan

IN THE COUNTY OF
Oakland

STATE REGISTRATION NUMBER
B7773

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: **February 8, 2018**	
DATE PERMIT TO INSTALL APPROVED: **April 4, 2018**	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
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	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, 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
EUElectrolessNi_101	Electroless nickel plating line.	3/3/1999 / PTI DATE	FGPlatingLines
EUZnNiLine_111	A zinc/iron electroplating line, consisting of Tank #110 and Tank #106, and controlled by a wet scrubber.	1/15/1999 / PTI DATE	FGPlatingLines
EUELECTROLESS_102	An electroless nickel plating line consisting of the following tanks: Tanks 606 and 608 (electroless nickel) and Tank 610 (electroless strip), and a wet scrubber.	4/30/2003 / PTI DATE	FGPlatingLines
EUENiLINE1_107	Electroless nickel plating line consisting of four (4) electroless nickel plating tanks, an alkaline soak cleaner tank, electro-cleaner tank, hydrogen chloride acid tank and five (5) rinse tanks. The four electroless nickel tanks are vented to a packed bed scrubber system. The other tanks vent to the in-plant environment.	1/3/2014 / PTI DATE	FGPlatingLines
EUHTB_113	A high tin bronze electroplating line for processing of steel substrates for automotive and related industries. The line consists of an electrocleaner tank, seven water-flow rinse tanks, an acid (sulfuric acid) dip tank, a cyanide pre-dip tank, a high tin bronze electroplating tank, a bronze strip tank and a post dip tank. In addition to the plating line, there will be a coil steam heated spin dryer used for drying the parts. The electorcleaner tank and acid tank are controlled by a 1700 cfm packed bed fume scrubber system. The cyanide pre-dip tank, tin-bronze electroplating tank, bronze strip tank and post dip tanks are controlled by a 5200 cfm packed bed fume scrubber system.	12/10/2015 / PTI DATE	FGPlatingLines
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
FGPlatingLines	Five plating lines that consist of an electroless nickel-barrel line (EUElectrolessNi_101), zinc auto electroplating line (EUZnNiLine_111), electroless nickel rack line (EUELECTROLESS_102), electroless nickel plating line (EUENiLINE1_107), and a high tin bronze electroplating line (EUHTB_113). EUElectrolessNi_101, EUZnNiLine_111, EUELECTROLESS_102, and EUENiLINE1_107 are each controlled by a packed bed scrubber dedicated to their operation. Emissions from EUHTB_113 are controlled by two packed bed scrubbers arranged in parallel.	EUElectrolessNi_101 EUELECTROLESS_102 EUENiLine1_107 EUZnNiLine_111 EUHTB_113

The following conditions apply to: FGPlatingLines

DESCRIPTION: Five plating lines that consist of an electroless nickel-barrel line (EUElectrolessNi_101), zinc auto electroplating line (EUZnNiLine_111), electroless nickel rack line (EUELECTROLESS_102), electroless nickel plating line (EUENiLINE1_107), and a high tin bronze electroplating line (EUHTB_113). EUElectrolessNi_101, EUZnNiLine_111, EUELECTROLESS_102, and EUENiLINE1_107 are each controlled by a packed bed scrubber dedicated to their operation. Emissions from EUHTB_113 are controlled by two packed bed scrubbers arranged in parallel.

Emission Units: EUElectrolessNi_101, EUELECTROLESS_102, EUENiLine1_107, EUZnNiLine_111, EUHTB_113

POLLUTION CONTROL EQUIPMENT:
EUElectrolessNi_101: Packed bed scrubber
EUELECTROLESS_102: Wet scrubber
EUENiLINE1_107: Packed bed scrubber system controls the four (4) electroless nickel tanks
EUZnNiLine_111: Wet scrubber
EUHTB_113: Electrocleaner tank and acid tank are controlled by a 1700 cfm packed bed fume scrubber system. The cyanide pre-dip tank, tin-bronze electroplating tank, bronze strip tank and post dip tanks are controlled by a 5200 cfm packed bed fume scrubber system.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Ammonia (CAS# 7664-41-7)	0.9 pph[1]	Hourly	EUELECTROLESS_102	SC V.2, VI.3	R 336.1225
2. Ethylenediamine (CAS# 107-15-3)	1.2 pph	Hourly	EUELECTROLESS_102	SC V.2, VI.3	R 336.1225, R 336.1702(a)
3. Hydrogen Chloride (CAS# 7647-01-0)	0.19 pph[1]	Hourly	EUZnNiLine_111 Tank #110	SC V.1, VI.2	R 336.1224, R 336.1225
4. Formaldehyde (CAS# 50-00-0)	0.0085 pph[1]	Hourly	EUZnNiLine_111 Tank #106	SC V.1, VI.2	R 336.1224, R 336.1225

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any of the plating lines in FGPlatingLines unless a malfunction abatement plan (MAP) as described in Rule 911(2), 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.

   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 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any plating line in FGPlatingLines unless the associated scrubber system(s) are installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes but is not limited to monitoring and maintaining the packed bed scrubber systems within the parameters as described in the MAP, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1910)**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor the pressure drop across each of the scrubber systems for FGPlatingLines on a continuous basis. **(R 336.1224, R 336.1225, R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor the liquid flow rate across each of the scrubber systems for FGPlatingLines on a continuous basis. **(R 336.1224, R 336.1225, R 336.1910)**

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor the pH of each of the scrubber systems for FGPlatingLines on a continuous basis. **(R 336.1224, R 336.1225, R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify hydrogen chloride and formaldehyde emission rates from EUZnNiLine_111 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Reference Test Method Table. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. The hourly emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. 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 336.1224, R 336.1225, R 336.1702, R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. Upon request of the AQD District Supervisor, the permittee shall verify ammonia and ethylenediamine emission rates from EUELECTROLESS_102 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Reference Test Method Table. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. The hourly emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. 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 336.1224, R 336.1225, R 336.1702, R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

Reference Test Method Table

Pollutant	Test Method Reference
Formaldehyde	40 CFR Part 63, Appendix A, Method 320
Hydrogen Chloride	40 CFR Part 60, Appendix A
Ammonia	40 CFR Part 63, Appendix A
Ethylenediamine	Method approved by AQD District Supervisor

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 of the scrubber systems for FGPlatingLines as follows: **(R 336.1224, R 336.1225, R 336.1910, R 336.1911)**
   a) Determine the pH, liquid flow rate and pressure drop for each of the packed bed scrubbers on a weekly basis. If the pH, liquid flow rate or pressure drop of the control varies by more than what is recommended by the scrubber manufacturer and as specified in the MAP, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
   b) Visually inspect the packed bed scrubbers, on a quarterly basis, to ensure there is proper drainage, no build up on packed beds, and no evidence of chemical attack on the structural integrity of the control devices.
   c) Visually inspect ductwork from the tanks to the packed bed scrubbers, on a quarterly basis, to ensure there are no leaks.

2. The permittee shall keep the following records:
   a) The weekly pH, liquid flow rate and pressure drop readings,
   b) Records of all inspections required by SC VI.1 and any inspections specified by the MAP.
   c) Production records, including addition of make up materials to the tanks in EUZnNiLine_111.

   The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1910)**

3. The permittee shall keep the following records for EUELECTROLESS_102:
   a) Monthly usage records of all ammonia and ethylenediamine containing materials. **(R 336.1224, R 336.1225, R 336.1702(a))**
   b) Daily records of the hours of operation for each electroless nickel plating tank.[1] **(R 336.1225)**
   c) Calculations of ammonia and ethylenediamine emission rates on a pound per hour basis from the current representative bath make-up. This calculation must be revised when the representative bath makeup is modified. **(R 336.1224, R 336.1225, R 336.1702(a))**

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. SVElectrolessNi_101	1040 sq inches area[1]	40[1]	R 336.1225
2. SVNICKEL_102	18[1]	40[1]	R 336.1225
3. SVENiTANKS_107	32[1]	46[1]	R 336.1225
4. SVZnNiLine_111	18[1]	40[1]	R 336.1225
5. SVPRETREATSCR_113	15.75[1]	38[1]	R 336.1225
6. SVPLATINGSCR_113	19.75[1]	42[1]	R 336.1225

IX. OTHER REQUIREMENTS

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

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