

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

November 16, 2021

PERMIT TO INSTALL
349-01G

ISSUED TO
Allied Finishing, LLC

LOCATED AT
4100 Broadmoor Avenue SE
Grand Rapids, Michigan 49512

IN THE COUNTY OF
Kent

STATE REGISTRATION NUMBER
B6196

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: October 13, 2021	
DATE PERMIT TO INSTALL APPROVED: November 16, 2021	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	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 condition 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
EUBL1	Decorative chrome electroplating tank using a fume suppressant for control and a shared packed bed wet scrubber with mist eliminator.	2/2014 TBD	FGBLUE1
EUBL2	Decorative chrome electroplating tank using a fume suppressant for control and a shared packed bed wet scrubber with mist eliminator.	12/2018 TBD	FGBLUE1
EUBL3	Decorative chrome electroplating tank using a fume suppressant for control and a shared packed bed wet scrubber with mist eliminator.	3/2014 TBD	FGBLUE1
EUGL1	Decorative chrome electroplating tank with fume suppressant and a shared three stage composite mesh pad mist eliminator.	12/2019 TBD	FGGREEN1
EUGL2	Decorative chrome electroplating tank with fume suppressant and a shared three stage composite mesh pad mist eliminator.	12/2018 TBD	FGGREEN1
EUGL3	Decorative chrome electroplating tank with fume suppressant and a shared three stage composite mesh pad mist eliminator.	5/19/2021 TBD	FGGREEN1

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.

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
FGBLUE1	Three decorative chrome electroplating tanks with each using a fume suppressant for control; a single packed bed wet scrubber with mist eliminator controls all three tanks.	EUBL1, EUBL2, EUBL3
FGGREEN1	Three decorative chrome electroplating tanks with fume suppressant and a three stage composite mesh pad scrubber with mist eliminator for controls.	EUGL1, EUGL2, EUGL3

**FGBLUE1
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Three decorative chrome electroplating tanks.

Emission Unit: EUBL1, EUBL2, EUBL3

POLLUTION CONTROL EQUIPMENT

Each tank uses a fume suppressant for control; a single packed bed wet scrubber with mist eliminator controls all three tanks.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Total chromium ^a	3.00x10 ⁻⁴ pph ¹	Two-hour average	FGBLUE1	SC V.1	R 336.1225
2. Total chromium ^a	1.7 lb/yr ¹	12-month rolling time period as determined at the end of each calendar month	FGBLUE1	SC VI.9	R 336.1225
3. Total chromium ^b	0.006 mg/dscm ^c	Two-hour average	FGBLUE1	SC V.1, VI.2, VI.3	40 CFR 63.342(d)(2)

^a This limit applies when EUBL1 and/or EUBL3 is not utilizing the foam blanket fume suppressant.
^b This limit applies on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant.
^c Corrected to 70°F and 29.92 inches Hg

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGBLUE1 for more than 5600 hours per year based upon a 12-month rolling time period as determined at the end of each calendar month. This limit no longer applies on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant.¹ **(R 336.1225)**
2. The permittee shall implement and maintain an approvable operation and maintenance plan. Within 30 days of completing the stack test required in SC V.1, the permittee shall submit an updated plan to the AQD District Supervisor. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following:
 - a) Operation and maintenance criteria for FGBLUE1 add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
 - b) The work practice standards for the add-on control device(s) and monitoring equipment;
 - c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur;
 - d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions; and

- e) Proper operation procedures for use of a stalagmometer or tensiometer shall be included in the operation and maintenance plan for FGBLUE1.
(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)
3. Unless a decorative chrome plating tank in FGBLUE1 is using the foam blanket fume suppressant, the permittee shall not operate the decorative chrome plating tank unless the chemical fume suppressant is applied in quantities and at a frequency to ensure the surface tension of the decorative chromic acid electroplating bath in the tank does not exceed 40 dynes/cm (2.8×10^{-3} lb_f/ft), when measured using a stalagmometer, or 33 dynes/cm (2.3×10^{-3} lb_f/ft), when measured using a tensiometer, at any time during operation. **(R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A and N)**
4. While a decorative chrome plating tank in FGBLUE1 is using the foam blanket fume suppressant and after completing the stack test required in SC V.1, the permittee shall either:
- Not allow the surface tension of the electroplating bath contained within the decorative chrome plating tank to exceed the surface tension established during the performance test required in 40 CFR 63.343(b) at any time during tank operation **(R 336.1941, 40 CFR 63.342(d)(3), 40 CFR 63.343(c)(5))**
 - Or, not allow the thickness of the foam blanket contained within the decorative chrome plating tank to be less than 2.54 centimeters (1 inch) or the minimum thickness established during the performance test that corresponds to compliance with the applicable emission limitation. **(R 336.1941, 40 CFR 63.342(d), 40 CFR 63.343(c)(6) or (7))**
5. The permittee shall use fresh water for any make-up water, and shall supply this water to the unit at the top of the packed bed scrubber. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**
6. The permittee shall not add PFOS-based fume suppressants to any chromium electroplating tank. **(R 336.1941, 40 CFR 63.342(d)(4))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall not operate any emission unit in FGBLUE1 unless the packed bed wet scrubber with mist eliminator is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**
- The permittee shall equip and maintain the packed bed wet scrubber with a differential pressure monitoring device. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**

V. TESTING/SAMPLING

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

- Within 180 days after converting any emission unit in FGBLUE1 to the foam blanket fume suppressant, the permittee shall verify total chromium emission rates from FGBLUE1, by testing at owner's expense, in accordance with 40 CFR Part 63 Subparts A and N. The permittee shall notify the AQD District Supervisor in writing of the intention to conduct a performance test, at least 60 calendar days before the test is scheduled to begin, in accordance with 40 CFR 63.347(d). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 63 Appendix A. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. 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 336.1941, R 336.2001, R 336.2002, R 336.2003, 40 CFR Part 63 Subparts A & N)**

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 in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition.¹ **(R 336.1225)**
2. When complying with SC III.3 and/or SC III.4.a for any decorative chrome plating tank in FGBLUE1, the permittee shall monitor, in a satisfactory manner, the surface tension of the decorative chrome plating tank(s) complying with SC III.3 and/or SC III.4.a once every four (4) hours of tank operation for the first 40 hours of tank operation. If there are no exceedances during the first 40 hours of tank operation, then surface tension measurements may be conducted once every eight (8) hours of tank operation for the next 40 hours of tank operation. If there are no exceedances during the 40 hours of tank operation when surface tension measurements are being conducted every eight (8) hours, then surface tension measurements may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every four hours must be resumed and the subsequent decrease in frequency shall follow the schedule as laid out above. The minimum frequency of monitoring allowed is once every 40 hours of tank operation. An example of monitoring frequency is available at 40 CFR 63.343(c)(5)(ii)(C). The surface tension shall be monitored with a stalagmometer or tensiometer as specified in Method 306B of 40 CFR Subpart N. **(R 336.1225, R 336.1910, R 336.1941, 40 CFR 63.343(c)(5))**
3. When complying with SC III.4.b for any decorative chrome plating tank in FGBLUE1, the permittee shall monitor the foam blanket thickness of the decorative chrome plating tank(s) complying with SC III.4.b, once every hour of tank operation for the first 40 hours of tank operation after the applicable compliance date and once a bath solution is drained from the affected tank and a new solution added. If there are no exceedances during the first 40 hours of tank operation, foam thickness measurements may be conducted once every four (4) hours of tank operation for the next 40 hours of tank operation. If there are no exceedances during the 40 hours of tank operation when surface tension measurements are being conducted every four (4) hours, then foam blanket thickness measurements may be conducted once every eight (8) hours of tank operation on an ongoing basis, until an exceedance occurs. Once an exceedance occurs as indicated through foam blanket thickness monitoring, the original monitoring schedule of once every hour must be resumed and the subsequent decrease in frequency shall follow the schedule as laid out above. The minimum frequency of monitoring allowed is once every eight (8) hours of tank operation. All foam blanket measurements must be taken in close proximity to the workpiece or cathode area in the plating tank(s). **(R 336.1941, 40 CFR 63.343(c)(6))**
4. The permittee shall perform inspections of the packed bed scrubber system as follows:
 - a) Determine velocity pressure at the inlet of the packed bed scrubber on a daily basis. If the velocity pressure varies ± 10 percent of the velocity pressure determined during compliance testing, the permittee shall document the variation, and review operation and maintenance procedures. The permittee shall document any corrective action.
 - b) Determine pressure drop across the packed bed scrubber on a daily basis. If the pressure drop across the control varies by more than ± 1 inch of water column, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
 - c) Visually inspect the packed bed scrubber, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on packed beds, and no evidence of chemical attack on the structural integrity of the control device.
 - d) Visually inspect the back portion of the chevron-blade mist eliminator, on a quarterly basis, to ensure that it is dry and there is no breakthrough of chromic acid mist.
 - e) Visually inspect ductwork from tanks to the packed bed scrubber, on a quarterly basis, to ensure there are no leaks. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**
5. The permittee shall monitor emissions and operating and maintenance information in accordance with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. The permittee shall keep records of all source emissions and operating and maintenance information on file at the facility and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**

6. The permittee shall maintain records of inspections required to comply with applicable work practice standards of 40 CFR 63.342(f). Each inspection record shall identify the device inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. 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, R 336.1941, 40 CFR Part 63 Subparts A & N)**
7. The permittee shall keep records of either of the following:
 - a) For each decorative chrome plating tank in FGBLUE1 complying with SC III.3 and/or SC III.4.a, the surface tension of the plating bath, the amount of chemical fume suppressant added to the tank, and the date and time of each addition. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1941, 40 CFR Part 63 Subparts A & N)**
 - b) Or, for each decorative chrome plating tank in FGBLUE1 complying with SC III.4.b, the thickness of the foam blanket in the tank, the amount of chemical fume suppressant added to the tank, and the date and time of each addition. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
8. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, an up to date record of the specific fume suppressant in use in each decorative chrome plating tank in FGBLUE1 and the 40 CFR Part 63 Subpart N compliance method (surface tension or foam blanket thickness) being used for each decorative chrome plating tank in FGBLUE1. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
8. The permittee shall keep records of the hours FGBLUE1 is operated on a daily, monthly and 12-month rolling time period basis. This record is no longer required on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(R 336.1225)**
9. The permittee shall calculate, and keep records of, the total chromium emission rate from FGBLUE1 for each month and 12-month rolling time period, as determined at the end of each calendar month. This record is no longer required on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(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 the first use of the foam blanket fume suppressant in any decorative chrome plating tank in FGBLUE1. **(R 336.1201(7)(a))**
2. The permittee shall submit the following notifications to the Department in accordance with 40 CFR 63.347:
 - a) A notification of the date when construction was commenced, submitted no later than 30 calendar days after such date.
 - b) A notification of the actual date of startup of the source, submitted within 30 calendar days after such date. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
3. Within 30 days after permanently converting all emission units in FGBLUE1 to the foam blanket fume suppressant, the permittee, or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. **(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 / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBLUE1	30	54	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. Within 60 days of issuance of this permit, the permittee shall label the plating tanks and control devices according to a method acceptable to the AQD District Supervisor. Within seven days of completing the labeling, the permittee shall notify the AQD District Supervisor, in writing, as to the date the labeling was completed. **(R 336.1201)**
2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart N. **(R 336.1941, 40 CFR Part 63, Subparts A and N)**

Footnotes:

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

**FGGREEN1
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Three decorative chrome electroplating tanks.

Emission Unit: EUGL1, EUGL2, EUGL3

POLLUTION CONTROL EQUIPMENT

Each tank uses a fume suppressant for control; a single three stage composite mesh pad scrubber with mist eliminator controls all three tanks.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Total chromium ^a	5.00x10 ⁻⁴ pph ¹	Two-hour average	FGGREEN1	SC V.1	R 336.1225
2. Total chromium ^a	2.8 lb/yr ¹	12-month rolling time period as determined at the end of each calendar month	FGGREEN1	SC VI.9	R 336.1225
3. Total chromium ^b	0.006 mg/dscm ^c	Two-hour average	FGGREEN1	SC V.1, VI.2, VI.3	40 CFR 63.342(d)(2)

^a This limit applies when EUBL1 and/or EUBL3 is not utilizing the foam blanket fume suppressant.
^b This limit applies on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant.
^c Corrected to 70°F and 29.92 inches Hg

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGGREEN1 for more than 5600 hours per year based upon a 12-month rolling time period as determined at the end of each calendar month. This limit no longer applies on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant.¹ **(R 336.1225)**
2. The permittee shall implement and maintain an approvable operation and maintenance plan. Within 30 days of completing the stack test required in SC V.1, the permittee shall submit an updated plan to the AQD District Supervisor. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following:
 - a) Operation and maintenance criteria for FGGREEN1 add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
 - b) The work practice standards for the add-on control device(s) and monitoring equipment;
 - c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur;
 - d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions; and

- e) Proper operation procedures for use of a stalagmometer or tensiometer shall be included in the operation and maintenance plan for FGGREEN1. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**
3. Unless a decorative chrome plating tank in FGGREEN1 is using the foam blanket fume suppressant, the permittee shall not operate the decorative chrome plating tank unless the chemical fume suppressant is applied in quantities and at a frequency to ensure the surface tension of the decorative chromic acid electroplating bath in the tank does not exceed 40 dynes/cm (2.8×10^{-3} lb_f/ft), when measured using a stalagmometer, or 33 dynes/cm (2.3×10^{-3} lb_f/ft), when measured using a tensiometer, at any time during operation. **(R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A and N)**
4. While a decorative chrome plating tank in FGGREEN1 is using the foam blanket fume suppressant and after completing the stack test required in SC V.1, the permittee shall either:
- Not allow the surface tension of the electroplating bath contained within the decorative chrome plating tank to exceed the surface tension established during the performance test required in 40 CFR 63.343(b) at any time during tank operation **(R 336.1941, 40 CFR 63.342(d)(3), 40 CFR 63.343(c)(5))**
 - Or, not allow the thickness of the foam blanket contained within the decorative chrome plating tank to be less than 2.54 centimeters (1 inch) or the minimum thickness established during the performance test that corresponds to compliance with the applicable emission limitation. **(R 336.1941, 40 CFR 63.342(d), 40 CFR 63.343(c)(6) or (7))**
5. The permittee shall not add PFOS-based fume suppressants to any chromium electroplating tank. **(R 336.1941, 40 CFR 63.342(d)(4))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall not operate any emission unit in FGGREEN1 unless the three stage composite mesh pad mist eliminator (CMP) system is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**
- The permittee shall equip and maintain the CMP system with a differential pressure monitoring device. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR Part 63 Subparts A & N)**

V. TESTING/SAMPLING

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

- Within 180 days after converting any emission unit in FGGREEN1 to the foam blanket fume suppressant, the permittee shall verify total chromium emission rates from FGGREEN1, by testing at owner's expense, in accordance with 40 CFR Part 63 Subparts A and N. The permittee shall notify the AQD District Supervisor in writing of the intention to conduct a performance test, at least 60 calendar days before the test is scheduled to begin, in accordance with 40 CFR 63.347(d). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 63 Appendix A. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. 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 336.1941, R 336.2001, R 336.2002, R 336.2003, 40 CFR Part 63 Subparts A & N)**

VI. MONITORING/RECORDKEEPING

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

- The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition.¹ **(R 336.1225)**
- When complying with SC III.3 and/or SC III.4.a for any decorative chrome plating tank in FGGREEN1, the permittee shall monitor, in a satisfactory manner, the surface tension of the decorative chrome plating tank(s)

complying with SC III.3 and/or SC III.4.a once every four (4) hours of tank operation for the first 40 hours of tank operation. If there are no exceedances during the first 40 hours of tank operation, then surface tension measurements may be conducted once every eight (8) hours of tank operation for the next 40 hours of tank operation. If there are no exceedances during the 40 hours of tank operation when surface tension measurements are being conducted every eight (8) hours, then surface tension measurements may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every four hours must be resumed and the subsequent decrease in frequency shall follow the schedule as laid out above. The minimum frequency of monitoring allowed is once every 40 hours of tank operation. An example of monitoring frequency is available at 40 CFR 63.343(c)(5)(ii)(C). The surface tension shall be monitored with a stalagmometer or tensiometer as specified in Method 306B of 40 CFR Subpart N. **(R 336.1225, R 336.1910, R 336.1941, 40 CFR 63.343(c)(5))**

3. When complying with SC III.4.b for any decorative chrome plating tank in FGGREEN1, the permittee shall monitor the foam blanket thickness of the decorative chrome plating tank(s) complying with SC III.4.b, once every hour of tank operation for the first 40 hours of tank operation after the applicable compliance date and once a bath solution is drained from the affected tank and a new solution added. If there are no exceedances during the first 40 hours of tank operation, foam thickness measurements may be conducted once every four (4) hours of tank operation for the next 40 hours of tank operation. If there are no exceedances during the 40 hours of tank operation when surface tension measurements are being conducted every four (4) hours, then foam blanket thickness measurements may be conducted once every eight (8) hours of tank operation on an ongoing basis, until an exceedance occurs. Once an exceedance occurs as indicated through foam blanket thickness monitoring, the original monitoring schedule of once every hour must be resumed and the subsequent decrease in frequency shall follow the schedule as laid out above. The minimum frequency of monitoring allowed is once every eight (8) hours of tank operation. All foam blanket measurements must be taken in close proximity to the workpiece or cathode area in the plating tank(s). **(R 336.1941, 40 CFR 63.343(c)(6))**
4. The permittee shall perform inspections of the composite mesh pad (CMP) system as follows:
 - a) Determine pressure drop across the CMP system on a daily basis. If the pressure drop across the control varies by more than ± 2 inch of water column, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
 - b) Visually inspect the CMP system, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on the pads, and no evidence of chemical attack on the structural integrity of the control device.
 - c) Visually inspect the back portion of the mesh pad closest to the fan, on a quarterly basis, to ensure there is no breakthrough of chromic acid mist.
 - d) Visually inspect ductwork from tanks to the CMP system, on a quarterly basis, to ensure there are no leaks.
 - e) Perform wash-down of composite mesh pads in accordance with manufacturer's recommendations. **(R 336.1224, R 336.1225, R 336.1910, R 336.1941, 40 CFR 63.342(f) and 63.343(c)(1) or (3))**
5. The permittee shall monitor emissions and operating and maintenance information in accordance with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. The permittee shall keep records of all source emissions and operating and maintenance information on file at the facility and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
6. The permittee shall maintain records of inspections required to comply with applicable work practice standards of 40 CFR 63.342(f). Each inspection record shall identify the device inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. 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, R 336.1941, 40 CFR Part 63 Subparts A & N)**

7. The permittee shall keep records of either of the following:
 - a) For each decorative chrome plating tank in FGGREEN1 complying with SC III.3 and/or SC III.4.a, the surface tension of the plating bath, the amount of chemical fume suppressant added to the tank, and the date and time of each addition. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1941, 40 CFR Part 63 Subparts A & N)**
 - b) Or, for each decorative chrome plating tank in FGGREEN1 complying with SC III.4.b, the thickness of the foam blanket in the tank, the amount of chemical fume suppressant added to the tank, and the date and time of each addition. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
8. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, an up to date record of the specific fume suppressant in use in each decorative chrome plating tank in FGGREEN1 and the 40 CFR Part 63 Subpart N compliance method (surface tension or foam blanket thickness) being used for each decorative chrome plating tank in FGGREEN. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**
8. The permittee shall keep records of the hours FGGREEN1 is operated on a daily, monthly and 12-month rolling time period basis. This record is no longer required on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(R 336.1225)**
9. The permittee shall calculate, and keep records of, the total chromium emission rate from FGGREEN1 for each month and 12-month rolling time period, as determined at the end of each calendar month. This record is no longer required on and after the date both EUBL1 and EUBL3 have been permanently converted to the foam blanket fume suppressant. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(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 the first use of the foam blanket fume suppressant in any decorative chrome plating tank in FGGREEN1. **(R 336.1201(7)(a))**
2. The permittee shall submit the following notifications to the Department in accordance with 40 CFR 63.347:
 - a) A notification of the date when construction was commenced, submitted no later than 30 calendar days after such date.
 - b) A notification of the actual date of startup of the source, submitted within 30 calendar days after such date. **(R 336.1941, 40 CFR Part 63 Subparts A & N)**

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 / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVGREEN1	24	42.5	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. Within 60 days of issuance of this permit, the permittee shall label the plating tanks and control devices according to a method acceptable to the AQD District Supervisor. Within seven days of completing the labeling, the permittee shall notify the AQD District Supervisor, in writing, as to the date the labeling was completed. **(R 336.1201)**
2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart N. **(R 336.1941, 40 CFR Part 63, Subparts A and N)**

Footnotes:

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