

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

July 30, 2021

PERMIT TO INSTALL
318-01G

ISSUED TO
3M Company

LOCATED AT
11900 Eight Mile Road
Detroit, Michigan 48205

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
N2999

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

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: June 21, 2021	
DATE PERMIT TO INSTALL APPROVED: July 30, 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
EU-ABRASIVEPAPER	Abrasives material process consisting of web unwind, adhesive make coating application controlled by a regenerative thermal oxidizer (RTO), abrasive solids application controlled by a baghouse, a main drying oven (natural gas-fired) controlled by the RTO, final size coating application, and a web wind. The main drying oven has a number of bypass stacks. Two side wall vents are located in the make coating and size coating application areas.	1950 / 10-08-2013	
EU-ROLLCURE	Roll cure oven (natural gas-fired) controlled by the RTO with optional bypass.	July 1991 / 09-09-2003	

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EU-ABRASIVEPAPER
EMISSION UNIT CONDITIONS**

DESCRIPTION

Abrasives material process consisting of web unwind, adhesive make coating application controlled by a regenerative thermal oxidizer (RTO), abrasive solids application controlled by a baghouse, a main drying oven (natural gas-fired) controlled by the RTO, final size coating application, and a web wind. The main drying oven has a number of bypass stacks. Two side wall vents are located in the make coating and size coating application areas.

Flexible Group ID: FGFACILITY

POLLUTION CONTROL EQUIPMENT

RTO

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOCs	24.5 tpy	12-month rolling time period as determined at the end of each calendar month	EU-ABRASIVEPAPER	SC VI.3, SC VI.4	R 336.1224, R 336.1225, R 336.1702(a)
2. Formaldehyde (CAS No. 50-00-0)	3.9 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EU-ABRASIVEPAPER	SC VI.3, SC VI.5	R 336.1225
3. Formaldehyde (CAS No. 50-00-0)	5.5 pph ¹	Hourly	EU-ABRASIVEPAPER	GC 13	R 336.1225
4. Furfuryl alcohol (CAS No. 98-00-0)	3.1 lb/day ¹	Calendar day	EU-ABRASIVEPAPER	SC VI.3, SC VI.6	R 336.1225
5. Furfuryl alcohol (CAS No. 98-00-0)	0.8 pph ¹	Hourly	EU-ABRASIVEPAPER	GC 13	R 336.1225

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1702(a))**
2. Within 180 days after permit issuance, the permittee shall not operate EU-ABRASIVEPAPER unless a malfunction abatement plan (MAP) as described in Rule 911(2) 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 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EU-ABRASIVEPAPER with roll coating applicators or comparable technology with equivalent transfer efficiency. **(R 336.1702(a))**
2. The permittee shall not operate EU-ABRASIVEPAPER unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the RTO includes a minimum VOC control (combined capture and destruction) efficiency of 91.2 percent (by weight), a minimum temperature of 1400°F, a minimum retention time of 0.5 seconds, and in accordance with an approved MAP as required in SC III.2. The permittee shall operate the RTO when applying coatings with VOC contents greater than 0.5 lb/gallon (minus water) before control. **(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))**

1. The permittee shall determine the VOC content, water content, and density of any coating as applied and as received, using federal Reference Test Method 24 or from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**
2. Starting September 18, 2024, and every five calendar years thereafter, the permittee shall complete performance testing to measure the destruction efficiency of the RTO. During this performance testing, the permittee must be operating under conditions that are most challenging to the RTO and are also representative of operating conditions (excluding startups, shutdowns, and malfunctions). The permittee will propose these operating conditions in the test protocol submitted to the AQD with consideration given to operating with raw materials containing formaldehyde, as applicable. The permittee shall use the result of the most recent capture efficiency test and destruction efficiency test to demonstrate compliance with the overall minimum efficiency required by the permit for the relevant emission units. The overall minimum efficiency for EU-ABRASIVEPAPER is specified in SC IV.2. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, R 336.2001, R 336.2003, R 336.2004, Administrative Order EPA-5-21-113(a)-MI-01)**

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 by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall monitor, in a satisfactory manner, the temperature in the RTO on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1224, R 336.1225, R 336.1702)**
3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each coating and solvent, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702)**
4. The permittee shall keep the following information on a calendar month basis for the EU-ABRASIVEPAPER:
 - a) Date and time of each startup and shutdown of the RTO.
 - b) Date and time of start and stop for each production run. (A production run is defined as one specific product family which may have many product grades within the production run.)
 - c) Gallons (with water) of each coating and solvent used separately, during periods of RTO operation and RTO bypass on a production run basis.
 - d) VOC content in lbs/gallon (minus water and with water) of each coating and solvent, as applied, on a production run basis.
 - e) VOC mass emission calculations determining the monthly emission rate in tons per calendar month as determined at the end of each calendar month.
 - f) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The records shall be kept in a format acceptable to the AQD District Supervisor and emission calculations shall be performed as specified in Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702)**

5. The permittee shall keep the following information on a calendar month basis for the EU-ABRASIVEPAPER:
 - a) Gallons (with water) of each formaldehyde (CAS No. 50-00-0) containing material used.
 - b) Where applicable, the gallons (with water) of each formaldehyde (CAS No. 50-00-0) containing material reclaimed.
 - c) The formaldehyde (CAS No. 50-00-0) content (in weight percent), as applied.
 - d) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the monthly emission rate in tons per calendar month.
 - e) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor and emission calculations shall be performed as specified in Appendix B. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(R 336.1225)**

6. The permittee shall keep the following information on a calendar day basis for the EU-ABRASIVEPAPER:
 - a) Gallons (with water) of each furfuryl alcohol (CAS No. 98-00-0) containing material used.
 - b) Where applicable, the gallons (with water) of each furfuryl alcohol (CAS No. 98-00-0) containing material reclaimed.
 - c) The furfuryl alcohol (CAS No. 98-00-0) content (in weight percent), as applied.
 - d) Furfuryl alcohol (CAS No. 98-00-0) mass emission calculations determining the daily emission rate in pounds per calendar day using the following evaporation credits.

Evaporation Rate=11.4% for furfuryl alcohol application rates of <32 lbs/hr

Evaporation Rate=8.3% for furfuryl alcohol application rates of 32 to 50 lbs/hr

Evaporation Rate=3.5% for furfuryl alcohol application rates of 200 to 300 lbs/hr

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(R 336.1225)**

7. The permittee shall keep, in a satisfactory manner, continuous records of the temperature in the RTO. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702)**

VII. REPORTING

NA

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. SVOVEN01A – Main oven zone 1 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVOVEN01B – Main oven zone 1 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
3. SVOVEN01C – Main oven zone 1 bypass stack	30	45	R 336.1225, 40 CFR 52.21(c) & (d)
4. SVOVEN02 – Main oven zone 2 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
5. SVOVEN03 – Main oven zone 3 bypass stack	32	45	R 336.1225, 40 CFR 52.21(c) & (d)
6. SVOVEN03AUX – Main oven zone 3 bypass stack	36	45	R 336.1225, 40 CFR 52.21(c) & (d)
7. SVOVEN04 – Main oven zone 4 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
8. SVOVEN05 – Main oven zone 5 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
9. SVOVEN06 – Main oven zone 6 bypass stack	14	45	R 336.1225, 40 CFR 52.21(c) & (d)
10. SVOVEN06AUX – Main oven zone 6 auxiliary bypass stack	18	45	R 336.1225, 40 CFR 52.21(c) & (d)
11. VSIZE10 - Size coating application area stack	20	40	R 336.1225, 40 CFR 52.21(c) & (d)
12. SVRTO11 – Thermal oxidizer stack	68	45	R 336.1225, 40 CFR 52.21(c) & (d)

13. The permittee shall only use the bypass stacks on the drying oven portion of EU-ADHESIVEPAPER when applying coatings with VOC contents less than 0.5 lb/gallon (minus water) before control. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910)**

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

**EU-ROLLCURE
EMISSION UNIT CONDITIONS**

DESCRIPTION

Roll cure oven (natural gas-fired) controlled by the RTO with optional bypass.

Flexible Group ID: FGFACILITY

POLLUTION CONTROL EQUIPMENT

RTO

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Formaldehyde (CAS No. 50-00-0)	0.26 pph*	Hourly	EU-ROLLCURE	GC 13	R 336.1225, R 336.1702(a)

* Mass emission rate before control device

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-ROLLCURE uncontrolled for more than 876 hours per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1224, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-ROLLCURE unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the RTO includes a minimum VOC control (combined capture and destruction) efficiency of 91.2 percent (by weight), a minimum temperature of 1400°F, a minimum retention time of 0.5 seconds, and in accordance with an approved MAP. Unless, EU-ROLLCURE is operated per SC III.1. **(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))**

1. Starting September 18, 2024, and every five calendar years thereafter, the permittee shall complete performance testing to measure the destruction efficiency of the RTO. During this performance testing, the permittee must be operating under conditions that are most challenging to the RTO and are also representative of operating conditions (excluding startups, shutdowns, and malfunctions). The permittee will propose these operating conditions in the test protocol submitted to the AQD with consideration given to operating with raw materials containing formaldehyde, as applicable. The permittee shall use the result of the most recent capture efficiency test and destruction efficiency test to demonstrate compliance with the overall minimum efficiency required by the permit for the relevant emission units. The overall minimum efficiency for EU-ROLLCURE is specified in SC IV.1. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the

test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, R 336.2001, R 336.2003, R 336.2004, Administrative Order EPA-5-21-113(a)-MI-01)**

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 by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702)**
2. The permittee shall monitor, in a satisfactory manner, the temperature in the RTO on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1225, R 336.1702)**
3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each abrasive material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702)**
4. The permittee shall keep, in a satisfactory manner, records of operating hours when EU-ROLLCURE bypasses the RTO per 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702)**
5. The permittee shall keep, in a satisfactory manner, continuous records of the temperature in the RTO. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702)**

VII. REPORTING

1. The permittee shall notify the Department if a change in land use occurs for property classified as industrial or as a public roadway, where this classification was relied upon to demonstrate compliance with Rule 225(1). The notification shall be submitted to the AQD District Supervisor, within 30 days of the actual land use change. Within 60 days of the land use change, the permittee shall submit to the AQD District Supervisor a plan for complying with the requirements of Rule 225(1). The plan shall require compliance with Rule 225(1) no later than one year after the due date of the plan submittal.¹ **(R336.1225(4))**

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. SVROLL07BP – Roll cure oven bypass stack	36	45	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVRTO11 – Thermal oxidizer stack	68	45	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

FGFACILITY CONDITIONS

DESCRIPTION

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

POLLUTION CONTROL EQUIPMENT

RTO

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall determine the HAP content of any material as applied and as received, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311. **(R 336.1205(3))**
2. Starting September 18, 2024, and every five calendar years thereafter, the permittee shall complete performance testing to measure the destruction efficiency of the RTO. During this performance testing, the permittee must be operating under conditions that are most challenging to the RTO and are also representative of operating conditions (excluding startups, shutdowns, and malfunctions). The permittee will propose these operating conditions in the test protocol submitted to the AQD with consideration given to operating with raw materials containing formaldehyde, as applicable. The permittee shall use the result of the most recent capture efficiency test and destruction efficiency test to demonstrate compliance with the overall minimum efficiency required by the permit for the relevant emission units. Testing shall be performed using an approved EPA Method listed

in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, R 336.2001, R 336.2003, R 336.2004, Administrative Order EPA-5-21-113(a)-MI-01)**

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 by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**
2. The permittee shall keep the following information on a calendar month basis for FGFACILITY:
 - a) Gallons or pounds of each HAP containing material used.
 - b) Where applicable, gallons or pounds of each HAP containing material reclaimed.
 - c) HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.
 - d) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
 - e) Individual and aggregate HAP emission calculations determining the cumulative emission rate of each during the first 12-months and the annual emission rate of each thereafter, in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

APPENDIX A
 VOC Emission Calculation Methodology

$$\text{VOC content with water (lbs/gallon) for each coating in the production run, as applied} = (1 - E) \frac{\sum_{i=1}^n A_{ci} B_{ci} C_{ci}}{\sum_{i=1}^n A_{ci}}$$

$$\text{VOC content minus water (lbs/gallon) for each coating in the production run, as applied} = (1 - E) \frac{\sum_{i=1}^n A_{ci} B_{ci} C_{ci}}{\sum_{i=1}^n A_{ci} W_{ci}}$$

$$\text{Monthly mass VOC emission rate (tons/month) as determined at the end of each calendar month} = (1 - E) \frac{\sum_{i=1}^n A_{ci} B_{ci} C_{ci}}{2000}$$

$$\text{Annual mass VOC emission rate (tons/12 month) as determined at the end of each calendar month} = (1 - E) \frac{\sum_{k=1}^{12} \sum_{i=1}^n A_{ci} B_{ci} C_{ci}}{2000}$$

Where: A_{ci} = gallons of each coating (i) consumed during the production run,
 B_{ci} = density of each coating (i) as received, as lb/gallon,
 C_{ci} = percent VOC by weight in each coating (i) as received,

NOTE: B_{ci} and C_{ci} may be reported separately, but will normally be reported as a single value $B_{ci} C_{ci}$ (lbs VOC/gallon).

H_{ci} = percent water by weight in each coating (i) as received,
 W_{ci} = gallons minus water correction factor, equals: $[1 - (B_{ci} H_{ci} / 8.34)]$
 E = VOC control efficiency,
 i = coating and solvent,
 k = current calendar month plus 11 preceding calendar months.

APPENDIX B
 Formaldehyde Emission Calculation Methodology

$$\text{Monthly mass formaldehyde emission rate (tons/month) as determined at the end of each calendar month} = (1 - E) \frac{\sum_{i=1}^n A_{ci} B_{ci} F_{ci}}{2000}$$

$$\text{Annual mass formaldehyde emission rate (tons/12 month) as determined at the end of each calendar month} = (1 - E) \frac{\sum_{k=1}^{12} \sum_{i=1}^n A_{ci} B_{ci} F_{ci}}{2000}$$

- Where: A_{ci} = gallons of each coating (i) consumed,
 B_{ci} = density of each coating (i) as received, as lb/gallon,
 F_{ci} = percent formaldehyde by weight in each coating (i) as received,
 E = VOC control efficiency,
 i = coating,
 k = current calendar month plus 11 preceding calendar months.