

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

B300726077

FACILITY: THIERICA, INC.		SRN / ID: B3007
LOCATION: 900 CLANCY AVE., NE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Dennis Childs		ACTIVITY DATE: 07/02/2014
STAFF: Denise Plafcan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection since the company was issued a PTI modification in the past 12 months.		
RESOLVED COMPLAINTS:		

Denise Plafcan (DP) conducted an unannounced scheduled inspection to determine compliance with state and federal Air Quality rules and regulations and Opt-out Permit to Install (PTI) 37-09A which was issued in the past 12 months. DP drove around the area prior to entering the facility. There were no odors, fugitive emissions or opacity noted from the facility. DP met with, Dennis Childs, Finishing Engineer. After a brief discussion, DP explained the purpose of the inspection and reviewed the Environmental Inspection brochure.

The first thing Dennis mentioned was that their servers were hit with a virus and they could not access any data. DP requested that Dennis call within the next week to give a status update on the system. Until the servers can be repaired, 2013 MAERS data will be used for this Full Compliance Evaluation.

NOTE: Before this compliance inspection was finalized all data and records were recovered and available. Values used to determine compliance were not changed to the records ending in June 2014.

PTI modification was to remove the line that was taken out of service when line B was installed, change the nomenclature in the permit to match that of the company "B and C" instead of "3 and 2" and increase the FG-Facility Material Limit of 22,000 gallons per 12-month rolling time period of VOC containing stencil coatings and associated solvents to 29,268 gallons per 12-month rolling time period of VOC containing stencil coatings and associated solvents. It was not clear why the company received the 22,000 gallon limit in the original permit, because it was more stringent than required by permitting regulations and guidelines. The new limit corresponds with other production restrictions and emission limits in the permit.

The facility, mainly coats small plastic parts for the automotive industry along with a very small number of parts for the aviation industry. Some parts have the surface coating removed with a laser and the color of the area under the surface coating is then exposed so that the part can be backlit. An example end use of these laser parts would be heater controls in an automobile with the light shining through the dials when you turn on the headlights. There are 185 employees that work two ten hour shifts 5-6 days a week. Coatings used on lines B and C are mixed electronically to create an exact color match to the customer's product. The formulations are so precise the measurements are in cubic centimeters or cc's. Occasionally, for a special color they may do hot pot mixing, which is a very small quantity prepared off-line by hand, not by the typical electronic metering on the line.

**SPECIAL CONDITIONS EMISSION UNIT SUMMARY TABLE**

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU-StencilCoatB1	Robotic paint spray booth No. 1 and associated water-wash filter system, HVLP spray guns, and Infrared flash-off area. Stack ID: SV- StencilCoatB1	05/07/2009	FG-StencilCoatB
EU-StencilCoatB2	Robotic paint spray booth No. 2 and associated water-wash filter system, HVLP spray guns, and Infrared flash-off area. Stack ID: SV- StencilCoatB2	05/07/2009	FG-StencilCoatB

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU-StencilCoatB3	Robotic paint spray booth No. 3 and associated water-wash filter system, HVLP spray guns, and Infrared flash-off area. Stack ID: SV- StencilCoatB3	05/07/2009	FG-StencilCoatB
EU-StencilCoatB4	Robotic paint spray booth No. 4 and associated water-wash filter system, HVLP spray guns, and Infrared flash-off area. Stack ID: SV- StencilCoatB4	05/07/2009	FG-StencilCoatB
EU-IRBakeOvenB	An infrared bake oven. Stack ID: SV-IRBakeOvenB	05/07/2009	FG-StencilCoatB
EU-StencilCoatC1	A water wash robotic spray booth for basecoat operation, with associated infra-red flash-off tunnel. Stack IDs: SV-LineCWhite and SV-LineCBakeOven	03/02/2004, 07/20/2007	FG-StencilCoatC
EU-StencilCoatC2	A water wash robotic spray booth for second coat operation, with associated infra-red flash-off tunnel. Stack IDs: SV-LineCBlack1 and SV-LineCBakeOven	03/02/2004, 07/20/2007	FG-StencilCoatC
EU-StencilCoatC3	A water wash robotic spray booth for final coat operation, with associated infra-red flash-off tunnel followed by an infra-red bake oven and/or an occasional electrically heated batch type cure oven for some parts. Stack IDs: SV-LineCBlack2, SV-LineCBakeOven, and SV-LineCCureOven	03/02/2004, 07/20/2007	FG-StencilCoatC

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-StencilCoatB	A plastic automotive interior parts and other non-automotive parts stencil coating line.	EU-StencilCoatB1, EU-StencilCoatB2, EU-StencilCoatB3, EU-StencilCoatB4, and EU-IRBakeOvenB
FG-StencilCoatC	A plastic automotive interior parts and other non-automotive parts stencil coating line.	EU-StencilCoatC1, EU-StencilCoatC2, and EU-StencilCoatC3
FG-Facility	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	Not Applicable (NA)

**The following conditions apply to FG-StencilCoatB**

**DESCRIPTION:** A plastic automotive interior parts and other non-automotive parts stencil coating line.

**Emission Unit IDs:** EU-StencilCoatB1, EU-StencilCoatB2, EU-SprayBoothB3, EU-StencilCoatB4, and

EU-IRBakeOvenB

**POLLUTION CONTROL EQUIPMENT:** Waterwash particulate filtration systems

## I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	COMPLIANCE
1. VOCs	35.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatB	2013 Total for line B was 12.4 tons
2. VOCs	14.0 tpy	12-month rolling time period as determined at the end of each calendar month	Any single EU portion of FG-StencilCoatB	2013 line B1 was the highest line at 4.3 tons of VOCs.
3. Acetone (as purge and clean-up solvent)	1.9 tpy	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatB	0.91 tpy from June 2013 – July 2014 (13 months)
4. Hindered Amine (CAS No. 41556-26-7)	480 pounds per year	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatB	Not contained in the coatings being used.
5. Dimethyl Gluterate (CAS No. 1119-40-0)	712 pounds per year	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatB	Not contained in the coatings being used.
6. Benzotriazol Dimethylpropyl Phenol (CAS No. 25973-55-1)	786 pounds per year	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatB	Not contained in the coatings being used.
<b>Note:</b> TACs = Hindered Amine (CAS No. 41556-26-7), Dimethyl Gluterate (CAS No. 1119-40-0), and Benzotriazol Dimethylpropyl Phenol (CAS No. 25973-55-1)				

## II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	COMPLIANCE
1. VOCs	6.15 lb/gal (minus water)* as applied	Instantaneous	FG-StencilCoatB	5.8 pounds / gallon based on testing conducted by Trace Analytical Labs on 2/7/2012. They continue to use the same formulas.
* The phrase "minus water" shall also include compounds which are used as organic solvents and which are excluded from the definition of volatile organic compound. (R 336.1602(4))				

2. The permittee shall only use stencil coatings in FG-StencilCoatB. Only stencil coatings are being used in FG-StencilCoatB.

### **III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall capture all waste coatings and solvents, and shall store them in closed containers. The permittee shall dispose of all waste coatings and solvents in an acceptable manner in compliance with all applicable state rules and federal regulations. Waste coatings are being handled appropriately

2. The permittee shall handle all VOC and/or HAP containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. Steps are being taken to minimize fugitive emissions.

### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate the spray booth portions of FG-StencilCoatB unless all respective waterwash particulate filtration systems are installed, maintained and operated in a satisfactory manner. All waterwash booths were operational and appeared to be operating properly. They are looking at a new material to add to the waterwash to help minimize waste.

2. The permittee shall equip and maintain the spray booth portions of FG-StencilCoatB with automatic recirculating pressure pot spray equipment or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. Automatic recirculating pressure pot spray equipment is being used and test caps are being maintained on site.

### **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 and solvent, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content 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. Testing was not requested during this compliance inspection.

### **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. Records are being maintained but due to a server virus were unavailable. The 2013 MAERS submittal contained attached records that were used to determine compliance with the permit limits.

2. 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. Records are being maintained.

3. The permittee shall keep the following information on a monthly basis for FG-StencilCoatB:

a) Gallons or pounds (with water) of each coating and solvent used.

b) VOC content in pounds per gallon (minus water and with water) of each coating and solvent as applied.

c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month for each emission unit and FG-StencilCoatB.

d) 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 for each emission unit and FG-StencilCoatB.

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. Based on the 2013 MAERS submittal all records are being maintained.

4. The permittee shall keep the following information on a monthly basis for the use of acetone as a purge and clean-up solvent associated with FG-StencilCoatB:

a) Gallons or pounds of acetone used and reclaimed.

b) Acetone content, in pounds per gallon or pounds per pound, of each solvent used.

c) Acetone mass emission calculations determining the monthly emission rate in tons per calendar month.

d) Acetone 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 on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. . Based on the 2013 MAERS submittal all records are being maintained.

5. The permittee shall keep the following information on monthly basis for FG-StencilCoatB:

a) Gallons or pounds (with water) of each TAC containing material used (TACs = Hindered Amine (CAS No. 41556-26-7), Dimethyl Gluterate (CAS No. 1119-40-0), and Benzotriazol Dimethylpropyl Phenol (CAS No. 25973-55-1))

b) Where applicable, gallons or pounds (with water) of each TAC containing material reclaimed.

c) The TAC content (with water) in pounds per gallon or pounds per pound of each TAC containing material used.

d) Each TAC's mass emission calculations determining the monthly emission rate in pounds per calendar month.

e) Each TAC's mass emission calculations determining the annual emission rate in pounds 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 make them available to the Department upon request. Based on the 2013 MAERS submittal all records are being maintained.

#### 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 dimensions were not verified during this inspection.

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)
1. SV-StencilCoatB1	30	62.5
2. SV-StencilCoatB2	30	62.5
3. SV-StencilCoatB3	30	62.5
4. SV-StencilCoatB4	30	62.5
5. SV-IRBakeOvenB	8	62.5

The following conditions apply to: FG-StencilCoatC

**DESCRIPTION:** A plastic automotive interior parts and other non-automotive parts stencil coating line.

**Emission Unit IDs:** EU-StencilCoatC1, EU-StencilCoatC2, and EU-StencilCoatC3

**POLLUTION CONTROL EQUIPMENT:** Waterwash particulate filtration systems

#### **I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	
1. VOCs	34.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatC	2013 Line C was 15.2 tons
2. VOCs	14.0 tpy	12-month rolling time period as determined at the end of each calendar month	Any single EU portion of FG-StencilCoatC	2013 Line C1 was 5.35 tons
3. Acetone (as purge and clean-up solvent)	1.9 tpy	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatC	0.91 tpy from June 2013 –July 2014 (13 months)
4. Dimethyl-2-heptanone	591.4 pounds per year	12-month rolling time period as determined at the end of each calendar month	FG-StencilCoatC	Not contained in the coatings being used.

#### **II. MATERIAL LIMITS**

Material	Limit	Time Period / Operating Scenario	Equipment	COMPLIANCE
1. VOCs	6.15 lb/gal (minus water)* as applied	Instantaneous	FG-StencilCoatC	5.8 pounds / gallon based on testing conducted by Trace Analytical Labs on 2/7/2012. They continue to use the same formulas.
* The phrase “minus water” shall also include compounds which are used as organic solvents and which are excluded from the definition of volatile organic compound. (R 336.1602(4))				

2. The permittee shall only use stencil coatings in FG-StencilCoatC. Only stencil coatings are being used in FG-StencilCoatC.

#### **III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall capture all waste coatings and solvents, and shall store them in closed containers. The permittee shall dispose of all waste coatings and solvents in an acceptable manner in compliance with all applicable state rules and federal regulations. Waste coatings are being handled appropriately

#### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate the spray booth portions of FG-StencilCoatC unless all respective waterwash particulate filtration systems are installed, maintained and operated in a satisfactory

manner. All waterwash booths were operational and appeared to be operating properly. They are looking at a new material to add to the waterwash to help reduce waste.

2. The permittee shall equip and maintain the spray booth portions of FG-StencilCoatC with automatic recirculating pressure pot spray equipment or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. Automatic recirculating pressure pot spray equipment is being used and test caps are being maintained on site.

#### **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 and solvent, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content 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. . Testing was not requested as part of this compliance inspection.

#### **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. Records are being maintained but due to a server virus were unavailable. The 2013 MAERS submittal contained attached records that were used to determine compliance with the permit limits.

2. 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. Records are being maintained.

3. The permittee shall keep the following information on a monthly basis for FG-StencilCoatC:

- a) Gallons or pounds (with water) of each coating and solvent used.
- b) VOC content in pounds per gallon (minus water and with water) of each coating and solvent as applied.
- c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month for each emission unit and FG-StencilCoatC.
- d) 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 for each emission unit and FG-StencilCoatC.

**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. Based on the 2013 MAERS submittal all records are being maintained.**

4. The permittee shall keep the following information on a monthly basis for the use of acetone as a purge and clean-up solvent associated with FG-StencilCoatC:

- a) Gallons or pounds of acetone used and reclaimed.
- b) Acetone content, in pounds per gallon or pounds per pound, of each solvent used.
- c) Acetone mass emission calculations determining the monthly emission rate in tons per calendar month
- d) Acetone 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 on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. . Based on the 2013 MAERS submittal all records are being maintained.

5. The permittee shall keep the following information on monthly basis for FG-StencilCoatC:
  - a) Gallons or pounds (with water) of each dimethyl-2-heptanone containing material used.
  - b) Where applicable, gallons or pounds (with water) of each dimethyl-2-heptanone containing material reclaimed.
  - c) The dimethyl-2-heptanone content (with water) in pounds per gallon or pounds per pound of each dimethyl-2-heptanone containing material used.
  - d) Dimethyl-2-heptanone mass emission calculations determining the monthly emission rate in pounds per calendar month.
  - e) Dimethyl-2-heptanone mass emission calculations determining the annual emission rate in pounds 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 make them available to the Department upon request. . Based on the 2013 MAERS submittal all records are being maintained.

#### 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: Dimensions were not verified as part of this inspection.

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)
1. SV-LineCWhite	24	51
2. SV-LineCBlack1	24	51
3. SV-LineCBlack2	24	51
4. SV-LineCBakeOven	10	51
5. SV-LineCCureOven	10	51

The following conditions apply Source-Wide to: FG-Facility

#### I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	COMPLIANCE
1. Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-Facility	Highest single HAP was Toluene at 0.66 tpy for June 2013 - July 2014 (13 months)



Pollutant	Limit	Time Period / Operating Scenario	Equipment	COMPLIANCE
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FG-Facility	0.9 tpy for June 2013 - July 2014 (13 months)
3. VOCs	Less than 90.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-Facility	Reported 30 tpy in the 2013 MAERS submittal

## II. MATERIAL LIMITS

1. The permittee shall not use more than 29,268 gallons per 12-month rolling time period of VOC containing stencil coatings and associated solvents (material) on the stencil coating lines in FG-Facility. Less than 12,000 gallons in calendar year 2013.

## V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years

1. The permittee shall determine the HAP content of any material as received and as applied, 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. Testing was not required as part of this inspection.
2. The permittee shall determine the VOC content, water content, and density of any material, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content 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. Testing was not required as part of this inspection.

## VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years.

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.
2. The permittee shall keep the following information on a monthly basis for FG-Facility:
  - 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 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. (R 336.1205(3))

3. The permittee shall keep the following information on a monthly basis for FG-Facility:
  - a) Gallons or pounds of each VOC containing material used.
  - b) Where applicable, gallons or pounds of each VOC containing material reclaimed.
  - c) VOC content, in pounds per gallon or pounds per pound, of each VOC containing material used.

- d) Gallons or pounds of each VOC containing stencil coating and associated solvent used per 12-month rolling time period as determined at the end of each calendar month.
- e) VOC emission calculations determining the monthly emission rate in tons per calendar month.
- f) VOC 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. The permittee shall keep all records on file and make them available to the Department upon request. Records are being maintained as required.

The facility and surrounding grounds were very clean and well maintained. Based on the physical inspection, the amount of materials and emissions reported in the 2013 MAERS submittal the facility appears to be in compliance with state and federal Air Quality rules and regulations.

NAME Denise Oyster

DATE 7.30.14

SUPERVISOR PHB

