

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

N242230388

<b>FACILITY:</b> PLASTI PAINT INC		<b>SRN / ID:</b> N2422
<b>LOCATION:</b> 801 WOODSIDE DR, SAINT LOUIS		<b>DISTRICT:</b> Lansing
<b>CITY:</b> SAINT LOUIS		<b>COUNTY:</b> GRATIOT
<b>CONTACT:</b> Dave Bacon , President		<b>ACTIVITY DATE:</b> 07/22/2015
<b>STAFF:</b> Robert Byrnes	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> Scheduled Inspection		
<b>RESOLVED COMPLAINTS:</b>		

On July 22, 2015, Interns Hannah Guyer, Tessa Clarizio and I conducted a scheduled compliance inspection at Plasti-Paint Inc. We arrived at the facility at 9:00 am and met with Dave Bacon, General Manager. We began with a brief opening meeting and covered the inspection handout. The purpose of the inspection was to verify compliance with Permit to Install (PTI) No. 568-97C. We then made a complete tour of the facility and finally concluded with a meeting to close.

The facility currently runs 3 shifts per day and 5 days per week (Sometimes 6 days). The facility primarily coats plastic parts and sometimes coats e-coated aluminum/metal parts. All coatings used at the facility are low temperature coatings as the oven operates at or below 185 degree's Fahrenheit. The coatings typically used are the 2 part coatings with a catalyst. The facility paints parts for Catapillar, Lexus, Toyota, Nissan, GM, Honda, and Chrysler just to name a few. They do not conduct any plastic molding at the facility. However, there are 2 offsite buildings which are for maintenance personnel and one for plastic parts sanding, buffing, etc., as to avoid bringing contamination into the paint shop.

There were a few ancillary exempt processes at the facility including a warehouse, electrically operated air compressors, small LP tank storage (less than 100 lbs each, maximum of 20) exempt under Rule 284(b), 3 sanding and buffing tables for minor finessing of plastic parts exempt under Rule 285(l)(vi), and a paint lab for verifying quality by checking color, gloss, film build, humidity testing and cross hatching for adhesion, etc., exempt under Rule 283(b).

The main operation at this facility is the coating line covered by PTI 568-97C. The coating line consists of a 5 stage aqueous washer, an automatic prime booth with 1 robot, a manual prime zone, an automatic basecoat booth with 2 robots, a manual basecoat zone, an automatic clear coat booth with 2 robots, a manual clear coat zone, a flash tunnel and finally the cure oven. The entire line is approximately 1200 feet long and is completely enclosed from the entry of the aqueous washer to the cure oven exit (exempt for booth doors and the panel filter walls). The booths are the cross draft version.

The aqueous washer begins with a city water rinse, a 140 degree heated wash followed by 4 rinse stages with the final stages rinsed with RO water (reverse osmosis <2ppm contaminants) and then the parts were dried in the natural gas fired dry off oven which operates at 180 degrees Fahrenheit.

Each of the paint booths were equipped with Fanuc P-145 robots with traditional HVLP sprayers. The basecoat and clearcoat booths were using electrostatic spray. Each robot zone also had manually filled brush tip cleaners and a purge pot. The purge pots were emptied manually by removing them from the booths and then weighed to claim credit for purge materials collected. Paint was supplied to the outside of the booths by 5 gallon up to 55 gallon containers. Catalyst was mixed with the paint prior to spraying with gear pumps outside the booths as well. The manual zones recirculated the booth air to the automatic zone, the automatic zones recirculated to the automatic zone and then to the thermal oxidizer. The first robots applied 70% of the paint film build, the second robot applied approximately 30% of the paint.

After the paint booths the coated parts continue along a complete enclosure for approximately 12-15 minutes at ambient temperature before entering the cure oven.

#### **Regenerative Thermal Oxidizer (RTO)**

The facility has a Durr Rotary RTO which controls the emissions from all spray booths and the cure oven. The RTO has a capacity of 28,000 cfm, each booth can discharge approximately 8600 cfm and the oxidizer is currently running around 22-23,000 cfm. The operating parameters for the oxidizer were as follows:

Operating Temperature 1422 degrees F, set point was 1426.  
 Outlet Temperature 191 degrees F, inlet temperature was 102 degrees F.  
 Pressure drop was 14" WC across the RTO.

Copies of the temperature records were obtained for a couple weeks of June 2015. All temperatures during that time frame were around 1400 Degree Fahrenheit which is above the permit requirement of 1375 Degrees Fahrenheit. I asked and it was not known what the last temperature calibration date was for the thermocouples. I suggested they be recalibrated and Dave Bacon mentioned he would get that done right away. I also asked if an RTO bake out had been conducted on the unit and apparently 1 bake out had been performed. I explained the concern for opacity on RTO bake outs but no one had observed for opacity during the procedure. Also attached with this report is a copy of the RTO pressure drop recordings for most of June and July 2015. Pressure readings are recorded each day for the inlet, combustion chamber and the differential across the oxidizer. All but 2 of the pressure differential readings were within the expected ranges. Even the 2 readings that were outside the expected range were not excessive.

Booth capture was verified by reviewing the air flow checks which records the pressure drop across the coating line daily for each shift. A copy of the record was obtained for the week of July 20, 2015. All shift records show the pressure differential well above the .007 " WC for the requirements of a Permanent Total Enclosure (PTE). A copy of the air flow checks record is attached to this report.

### Records Review

A copy of the VOC and HAP records were obtained for January 2014 through June 2015. The VOC records were reviewed for the months of March, April and May 2015. The 12 month rolling VOC ton per year was also confirmed for the month ending May 2015. Copies of some of the VOC and HAP records are attached to this report, while the electronic copy is on my network drive. The facility was well below the following emission limits:

Pollutant	Limit	Actual Emissions	Time Period Reviewed	Compliant?
VOC	30.0 tpy	10.83 tpy	June 2014 to May 2015	Yes
Cumene	135.1 lbs/year	0.0 lbs	June 2014 to May 2015	Yes
Ethylbenzene	1146.7 lbs/year	200 lbs	June 2014 to May 2015	Yes
Xylene	25.8 lbs/day	11.29 lbs/day avg.	June 2015	Yes

The facilities records were all very detailed showing information on usage per day, VOC content, HAP contents, TAC contents in a very easy to read spreadsheet. Portions of the spreadsheet have been printed and are attached to this report. Due to the amount of information in the spreadsheet all of the information was not printed but is available on my computer.

### Conclusion:

The site inspection concluded in the afternoon with a closure meeting and briefly reviewing the information requested. There were no areas of concern as the facility appears to be in compliance with all conditions of PTI 568-97C. We did discuss with Dave that the facility should get a General Permit for the new spindle line that maybe installed in the future.

NAME

*[Signature]*

DATE

7/29/15

SUPERVISOR

*[Signature]*