

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection**

N742671350

<b>FACILITY:</b> MetoKote Corporation-Shelby		<b>SRN / ID:</b> N7426
<b>LOCATION:</b> 12020 SHELBY TECH DR, SHELBY TWP		<b>DISTRICT:</b> Warren
<b>CITY:</b> SHELBY TWP		<b>COUNTY:</b> MACOMB
<b>CONTACT:</b> Jason Nowak , Regional Environmental Manager		<b>ACTIVITY DATE:</b> 03/28/2024
<b>STAFF:</b> Owen Pierce	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> FY 24 Inspection Report		
<b>RESOLVED COMPLAINTS:</b>		

On March 28, 2024, I (Owen Pierce EGLE - Air Quality Division) performed a scheduled targeted inspection of the MetoKote Corporation-Shelby (formerly known as The Crown Group) located at 12020 Shelby Technical Drive, Shelby Township, Michigan. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; and Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451 and the conditions of Permit to Install (PTI) No.187-18. Upon arrival, I met with Jason Novak, Regional Environmental Manager - Midwest, Jonathan Rasmussen, Plant Manager, Richard Mroczka, Maintenance, Powder Manager, Christopher Wypych, Process Engineer, and Jeffrey Pajk, Site EHS Manager and conducted a pre-inspection meeting where I introduced myself, presented my credentials, and stated the purpose of the inspection.

During the pre-inspection meeting, Jason explained the facility processes and equipment. The facility coats miscellaneous metal parts using an e-coat system and powder coating process. Metal parts, to be coated, go through an 11-stage cleaning process that starts with Stages 1-3 where metal parts are cleaned using an Alkaline cleaner at 125°F. Stages 4 & 5 consists of a city water rinsing processes. Stage 6 is alkaline cleaning/conditioning. Stage 7 is a zinc phosphating process. Stages 8 & 9 are reverse osmosis rinsing processes. Stage 10 is a sealing process. Stage 11 is a RO (reverse osmosis) water immersion rinse process.

After the 11- stage cleaning process, the parts go through an electrodeposition coating (e-coat) process and 3 stages of post rinsing. The e-coat process utilizes a low (1.6% by weight less water) VOC water-based coating. The coated parts then go through a curing oven. The curing oven operates around 370°F to 385°F. From the curing oven, the parts go to the powder coating booth, where they may or may not be powder coated, depending on customer requirements. Finally, parts then go through a powder cure oven followed by a cool-down tunnel, where they then go through a final inspection and packed for shipment to customers.

In a letter dated March 21, 2024, it was explained that the facility (formerly known as The Crown Group) has recently come under new ownership and is requesting to change the company name on the air permit to MetoKote Corporation-Shelby. It was further explained that as of January 1, 2024, MetoKote Corporation assumed ownership of the Shelby plant, and the Metokote Corporation fully accepts responsibility for the terms of PTI No.187-18, including all associated agreements and/or judgments.

The facility has approximately 100 employees and operates 24 hours a day, but production hours are from approximately 4:30am - 4:30pm. According to Jason, there have been no recent process or equipment changes, and there are no cold cleaners or emergency generators at the facility. Non-permitted equipment at the facility includes a powder coating line, e-coat line, and a boiler.

The facility has a permit for a burn-off oven that is used to remove built up coatings on the metal racks used in the e-coat process. According to Jason, the burnoff oven uses only natural gas for fuel, as required by Special Condition (SC) II.1, and the nameplate on the burnoff oven, as observed during the inspection, confirmed the use of natural gas. Following the pre-inspection meeting, Jason and his team lead me on a tour of the facility.

## Facility Walk-through Observations

Following the pre-inspection meeting, a facility walk-through was conducted. I was first lead to the burnoff oven. I observed a device used to monitor the temperature of the primary and secondary

chambers and a device to record the temperature of the secondary chamber, as required by SC IV.2. The burnoff oven was observed as having an afterburner installed as required in SC IV.1, and it contains an interlock system as shown in the oven manual, as required in SC IV.3. The burnoff oven was in the process of being serviced during the inspection and according to Jason, it was serviced the day prior to the inspection as well.

I was shown the metal racks that are used in the coating process, and Jason explained that only the metal racks that have a built up layer of coating on them are loaded in the burnoff oven as required in SC II.2. According to Jason, no transformer cores are loaded in the burnoff oven, as required in SC III.2. According to the (Safety Data Sheets) SDS sheets for the coatings used in the coating process, no sulfur or halogens are found as ingredients in the coatings, and according to Jason, only cured coatings are processed in the burnoff oven, as required in SC II.3 and SC III.1. Outside of the facility, the burnoff oven stack appeared to be unobstructed, as required in SC VIII, and no visible emissions from the stack were observed, as required in SC I.1.

### ***Powder Coating***

Two powder coating booths were observed in an enclosed room and the filters appeared to be properly installed and maintained in accordance with the AQD Rule 287(2)(d) exemption. I was informed that the air in the room gets filtered and re-circulated with no air escaping outside of the room during coating. According to Jason, there are two types of filters: Merv 8 filters (changed every week), and 13 micron filters (changed ever two weeks).

### ***E-Coat***

During the previous inspection, it was determined by AQD that the e-coat line no longer met the requirements for the Rule 290 exemption. As discussed in the last inspection report, three of the four listed ingredients of the e-coat liquid (Product Name: POWERCRON BLACK FEED; Product name: CF590-534) are registered in the Michigan Air Toxics System Database (Kaolin, Bis(2-(2-butoxyethoxy)ethoxy)methane, and Carbon Black, respirable powder), and all three have listed initial threshold screening levels (ITSL). The AQD currently does not have a screening level for dibutyltin oxide. Rule 290 (2)(a)(ii)(a) states that for toxic air contaminants with an ITSL greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the total uncontrolled emissions shall not exceed 20 pounds per month (lbs/month). Bis(2-(2-butoxyethoxy)ethoxy)methane is the only e-coat ingredient that has an ITSL value between 0.04 and 2.0 micrograms per cubic meter with an ITSL value of 0.1 micrograms per cubic meter.

In addition, the last inspection report explained that according to the SDS, bis(2-(2-butoxyethoxy)ethoxy)methane makes up between 1% and 5% of the e-coat used in the process. With an e-coat product density of 9.01 lbs/gallon and using the lowest recorded monthly e-coat usage from 2021-2023 of 2,378 gallons/month, the emissions for bis(2-(2-butoxyethoxy)ethoxy)methane were estimated to be at least 214 lbs/month and thus exceeded the Rule 290(2)(a)(ii)(a) limit of 20 lbs/month.

In the VN response, dated April 17, 2023, the facility explained that the primary function of bis(2-(2-butoxyethoxy)ethoxy)methane in the e-coat is as a plasticizer, which remains part of the cured film on the coated parts. They further explained that the vapor pressure of bis(2-(2-butoxyethoxy)ethoxy)methane at 25 °C is less than  $9.78 \times 10^{-5}$  mmHg, and at the e-coat process operating temperature of 400°F, the vapor pressure is 1.94 mmHg, as calculated using the Clausius-Clapeyron equation. The facility concluded that based on the vapor pressure of the ingredient in question, as calculated based on the e-coat process operating temperature of 400°F, no volatile emissions of bis(2-(2-butoxyethoxy)ethoxy)methane would occur as part of the E-Coat process at the facility. This is also supported by the Environmental Data Sheet (EDS) for E-Coat, as bis(2-(2-butoxyethoxy)ethoxy)methane is not listed as a volatile component.

In addition, the facility further explained that if bis(2-(2-butoxyethoxy)ethoxy)methane would be treated as a traditional VOC, its actual content, as an ingredient in e-coat, is less than 3%, which results in estimated emissions of less than the 20 pounds per month limit (assuming 3,000 gallons of e-coat usage

per month at the Facility, with a VOC emissions factor of 0.19 pounds per gallon as provided in the EDS).

Upon re-evaluation, AQD determined that the e-coat line does meet the requirements for the 290 exemption since emissions from bis(2-(2-butoxyethoxy)ethoxy)methane would be negligible if any emitted at all due to its role as a plasticizer, low calculated vapor pressure at e-coat operating temperatures, and EDS non-volatile confirmation, and as a result the violation will be resolved. The EDS for the e-coat showed no Hazardous Air Pollutant compounds with some VOC, and according to Rule 290(2)(a)(ii), the uncontrolled emissions of the VOC air contaminants in the e-coat used in this process should not be more than 1,000 pounds per month. The facility provided emissions records from April 2023 to February 2024 and no monthly emissions exceeded the 1,000 pounds per month VOC limit expressed in Rule 290(2)(a)(ii), and the highest monthly emissions was 684 pounds which occurred in April 2023.

### **Boiler**

I observed one natural gas fired Ajax boiler during the walk-through. The boiler has a max heat input of 3.25 MMBTU and is exempt from Rule 336.1201 (Permit-to-Install) pursuant to rules 336.1282(2)(b)(i) (<< 50 MMBTU per hour heat input, natural gas only), and is not subject to New Source Performance Standards (NSPS) Subpart Dc (<< 10 MMBTU per hour heat input, natural gas only).

### **PTI No. 187-18 Compliance Evaluation**

The facility was issued PTI No. 187-18 for a burn-off oven. Recordkeeping requirements were provided during the inspection. MetoKote Corporation-Shelby is required to maintain temperature data records for the afterburner portion of the EUBURNOFF and thermocouple records for EUBURNOFF. The facility provided all of the required records from April 2023 through February 2024.

### **EUBURNOFF**

SC VI.2 states that the permittee shall calibrate the thermocouples associated with the primary and secondary chamber portions of the EUBURNOFF at least once per year. Calibration records for the burnoff oven were provided and according to those records, the thermocouples were tested and found to be in range.

SC VI.3 states that the permittee shall keep, in a satisfactory manner, temperature data records for the burnoff oven secondary chamber/afterburner portion of the EUBURNOFF. A temperature record violation was discovered during the last inspection for failure to maintain records in a satisfactory manner, due to the temperature files for the requested time periods being corrupted. In the VN response dated April 17, 2023, the facility explained that a new data logger was installed as of March 17, 2023. During the inspection this year I was informed that a temperature chart wheel (paper chart recorder) was also installed in June 2023, as a data backup. As a result, the violation will be resolved. I requested temperature data records from April 2023 through February 2024 for review. Temperature data records were viewed at the facility during the inspection, and all temperature records indicate that the afterburner is in compliance with the 1400°F minimum temperature as required in SC IV.1.

SC VI.4 explains that the permittee shall keep in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, and any maintenance performed for EUBURNOFF. Maintenance records were provided during the inspection and maintenance was performed by Power Vac-Service Pro on the following days: April 21, 2023, September 2, 2023, September 16, 2023, February 2, 2024, February 9, 2024, February 14, 2024, February 15, 2024, and February 26, 2024.

SC VI.5 states that the permittee shall maintain a current listing from the manufacturer of the chemical composition of each material (cured coatings) processed in EUBURNOFF, including the weight percent of each component. SDS sheets were provided during the inspection and were reviewed at the facility.

SC VII.1 states that the permittee shall send written notification to the AQD District Supervisor within 7 days of the installation date for each of the following: (a) Stack Height raised from 39 feet to 47.25 feet as required by SC VIII.1, (b) The temperature recording equipment as required by SC VI.1, and (c) The interlock addition preventing the primary chamber burner from firing until after the afterburner is greater than 1400°F upon startup as required by SCIV.3. The permittee sent notice to the AQD of the stack height being raised to the 47.25 feet as required by the permit, and sent proof that the burnoff oven was equipped with an interlock system. The facility did not install a device to record the temperatures of both chambers of the burnoff oven prior to the inspection conducted in August 2020. However, after the inspection, the permittee notified the AQD within 7 days of the installation of the temperature recorder, as required by this condition.

The permittee raised the stack height to 47.25 feet, and installed the interlock system in the burnoff oven before the required date of February 1, 2019 as required in SC IX.1 (a & b). The permittee did not install the temperature recording device in the burnoff oven before the required date of February 1, 2019. The facility was issued a violation for this condition as a result of the August 2020 inspection. The facility has since installed the temperature recording device and as a result, the violation has been resolved.

## Conclusion

Based on the information obtained during the inspection, and an analysis of the requested records, MetoKote Corporation-Shelby is in compliance with the conditions and requirements of PTI No.187-18.

NAME Ouren Pierce

DATE 4/26/2024

SUPERVISOR K. Kelly