

P1143
MAWILA

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

P114359569

FACILITY: Webasto Roof Systems		SRN / ID: P1143
LOCATION: 14200 North Haggerty Road, PLYMOUTH		DISTRICT: Detroit
CITY: PLYMOUTH		COUNTY: WAYNE
CONTACT: Dave Muenchow , Director Health, Safety, Environment & Facilities		ACTIVITY DATE: 08/27/2021
STAFF: Samuel Liveson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: Scheduled inspection.		
RESOLVED COMPLAINTS:		

On August 27, 2021, AQD staff Sam Liveson and Jeff Korniski conducted an announced, scheduled inspection of Webasto Roof Systems (Webasto) located at 14200 North Haggerty Road in Plymouth, Michigan. The purpose of this inspection was to determine the facility's compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Michigan Air Pollution Control Rules; and the conditions of Permit to Install (PTI) No. 105-20.

The temperature was 78 °F. Wind was easterly (headed west) at 5 miles an hour according to wunderground.com. Weather was cloudy, with some heavy rains occurring during the inspection.

Announced Inspection

AQD inspections are typically unannounced. However, due to health and safety concerns related to the ongoing COVID-19 pandemic and the Delta variant, AQD called the facility on August 20th to schedule this inspection.

Opening Meeting

AQD arrived on-site around 9:35 AM. AQD was met by Mr. David Muenchow, Director of Health, Safety and Environment; Mr. Mike Onoja, Senior HSE Engineer; Mr. James Hope, HSE Engineer; and Mr. Geoffrey Mooney, HSE Systems Lead. AQD provided their employee ID and contact information and explained the purpose of their visit.

Facility Overview

PTI No. 105-20 was issued on March 17, 2021 for the new facility. As of the time of the inspection, all emission units in the permit appeared to be installed and operational.

This facility conducts two main operations. First, glass panels are manufactured in the polyurethane press area using eight press lines (FG-PUPRESS). Secondly, the facility manufactures the hardtop roof assembly for the Ford Bronco. For the hardtop assembly, a paper honeycomb "sandwich" is created with two sheets of fiberglass surrounding a paper honeycomb layer. Then a hard outer plastic layer (PMMA) is molded. The "sandwich" and PMMA layer are combined in the PHC press process (FG-PHCPRESS). The resulting hardtop pieces are then milled, bonded with adhesive, and assembled.

The facility runs in three shifts 24/7. Three crews work 12-hour shifts. From talking with facility contacts and from the facility walkthrough, there do not appear to be boilers, cold cleaners, or emergency generators at the facility.

Facility Walkthrough

FG-PUPRESS – PTI No. 105-20

Webasto has eight polyurethane presses (PUPRESS) to create the frame around a glass panel. Panels are then sent to the Webasto Rochester Hills facility for assembly of the sunroof module.

The presses were in operation during the inspection. AQD visited one of the polyurethane presses and observed priming of the glass panels. A clear primer was applied by hand, followed by a black primer applied by hand. Each primer was applied using a small bottle with a felt tip. Once opened, these small bottles expire within hours, so unused primers are disposed of as waste material. After being primed, panels are placed on a tray elevator that lowers over the course of 20 minutes to allow primers to dry.

Once dry, panels are put into a press. Staff sprayed mold release to the press using what appeared to be HVLP (high volume low pressure) applicators.

AQD talked with maintenance staff regarding the downdraft filter system. A downdraft filter system appears to be in place underneath the application of mold release. Staff unscrewed back panels of the filter system to show AQD that pleated air panel filters were in place. Ductwork indicates that ducts from all eight presses appear to combine into one stack to exhaust to ambient air.

FG-PUPRESS Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1	12-month rolling VOC limit of 7.3 tons per year (TPY)	Compliance	Mr. Onoja provided records for the period of January of 2021 through July of 2021. Emissions are 0.95 tons VOC from January of 2021 through July of 2021.
III.1, 2	Store waste coatings in closed containers; follow rules for proper disposal; minimize coating fugitive emissions; keep containers covered.	Compliance	AQD visited the chemical room which holds new chemical containers and waste materials. The room was clean with no odors. Waste containers were closed. Waste appeared to be labeled. Expired primer is one example of a waste material. AQD was provided a manifest of disposal from August 12, 2021.
III.3	When disposing of filters, minimize air contaminants to the outer air.	Compliance	Staff explained spent filters are disposed in a barrel and as nonhazardous waste because they only contain mold release, not primer.
IV.1	In FG-PUPRESS, use manual applicators or comparable technology.	Compliance	Priming occurs with manual applicators (felt-tip bottles). Mold release appears to be applied with HVLP applicators applied robotically. Since PUPRESS mold release is water-based, the HVLP application is reasonable.
V.1	Determine VOC content with Test Method 24 unless prior written approval.	Pending evaluation	Test Method 24 results and/or manufacturer's formulation data are being collected. SDS sheets were provided.
VI.1	Complete calculations for the previous month by the 15 th of the current month.	Compliance	Data for July of 2021 was provided for an inspection conducted in August of 2021.
VI.2	Maintain a listing from the manufacturer of the chemical composition of each material from MSDS or formulation data.	Compliance	The "Emission Factors" tab of the facility records provides the VOCs and HAPs of coatings used on site.
VI.3.a-d	Keep monthly records of gallons used, VOC content, monthly emissions, and 12-month rolling emissions.	Compliance	Monthly and 12-month rolling records were provided for January 2021 through July of 2021.
VII.1	Notify AQD within 30 days of completion of installation	Compliance	Webasto provided notification that emission units were installed in January of 2021.
VIII.1	Stack and vent parameters	Not evaluated	AQD verified that one stack appears to be associated with FG-PUPRESS, because AQD

SC(s)	Brief Condition Summary	Determination	Explanation
			observed that ventilation ductwork from 8 presses appeared to lead to one exhaust stack. AQD did not visit the roof to observe the stack itself.

Three Sandwich Prep Lines - (R) 285(2)(l)(vi)(C)

AQD visited one of three sandwich lines in the sandwich prep area of the facility. The line was operating. AQD observed a rectangular sheet of cardboard several feet long by several feet wide, and several inches thick, entering one of three enclosed machines to be robotically cut to its required shape. Cutting is visible through a window in the enclosure. Once the cardboard milling is complete, each cardboard piece is adhered to two sheets of fiberglass (one on each side of the cardboard piece) with a glue adhesive. The facility provided the adhesive MSDS (titled "Jowat-Toptherm PO hot melt adhesive 267.00"). Further evaluation is necessary to determine if the adhesive operates under an exemption or requires a permit to install.

Exhaust from the sandwich prep lines exhausts through a baghouse and then to ambient air. Scrap cardboard is conveyed for disposal. A future plan is to install a grinder for cardboard scrap disposal.

The milling operation appears to be exempt from obtaining a Permit to Install per Michigan Air Pollution Control Rule (R) 285(2)(l)(vi)(C) for the cutting of paper board with externally vented emissions controlled by an appropriately designed and operated fabric filter collector.

Thermoforming Area

The outer layer of the hardtop is a polymethyl methacrylate (PMMA) plastic. PMMA arrives at the facility in pallets as flat sheets. In one of three enclosed thermoforming presses, the PMMA is heated electrically and molded into the final shape needed. Edges are trimmed off as well. This process is enclosed and does not appear to vent to ambient air.

FG-PHCPRESS – PTI No. 105-20

AQD visited the polyurethane honeycomb (PHC) press area, which was operating during the inspection. In the PHC press area, the shaped PMMA from thermoforming is combined with the honeycomb cardboard structure from the sandwiching area. The PHC press area includes four spray booths. AQD observed a honeycomb sandwich being picked up robotically to be sprayed with polyurethane by two applicators in the spray booth. Applicators appear to be HVLP. Staff on site explained that the polyurethane acts as a bonding agent for PMMA and a coating for sealing.

These spray booths have fabric filters on their back wall that vent to ambient air through one stack for each booth.

Each of the four spray booths is associated with three encapsulation presses where reaction injection molding (RIM) occurs. Each of the three presses can create one of three sides for the hardtop roof. After being sprayed, the sandwich is transferred into one of the three presses.

FG-PHCPRESS Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1	VOC emission limit of 20.7 tons per year	Pending evaluation	Mr. Onoja provided records for the period of January of 2021 through July of 2021. 8.55 tons VOC have been used from January 2021 through July of 2021. This content is calculated from multiplying the total VOC content of 9.5 tons VOC by 0.9, since on November 10, 2021, the facility explained that 90% of total VOCs are emitted from FG-PHCPRESS. Further discussions on

SC(s)	Brief Condition Summary	Determination	Explanation
			November 17, 2021 indicate the facility at some point switched to using a solvent-based mold release (ACMOS 36-4566) that does not appear to be included in facility records. The facility plans to update records to include this mold release.
I.2	Acetone emission limit of 2000 lbs/year	Compliance	0 tons of acetone have been used from January of 2021 through July of 2021. The facility's listing of materials and their chemical composition indicates Betaseal 43538 contains acetone. It hasn't been used at the facility through July of 2021.
III.1,2	Store waste coatings in closed containers; follow rules for proper disposal; minimize coating fugitive emissions; keep containers covered.	Compliance	AQD visited the chemical room which holds new chemical containers and waste materials. The room was clean with no odors. Waste containers were closed. Waste appeared to be labeled. Expired primer is one example of a waste material. AQD was provided a manifest of disposal from August 12, 2021.
III.3	Dispose of spent filters appropriately	Compliance	Staff explained spent filters are disposed in a barrel and as nonhazardous waste because they only contain mold release, not primer.
IV.1	Maintain presses with manual applicators or comparable technology	Pending evaluation	Mold release appears to be applied with HVLP applicators applied robotically. PHC press mold release ACMOS 36-4566 is not water based. Talking with AQD permit engineer Jeff Khaled, the facility mold release submitted with the PTI application, ACMOS 133-250, was water based. The facility can submit a PTI application to use the new mold release, or demonstrate that the new mold release is exempt from obtaining a PTI. In a call with the facility on November 10, 2021, the facility indicated they may submit a permit application for this mold release.
V.1	Determine VOC content using Method 24, or formulation data upon AQD approval	Pending evaluation	Test Method 24 results and/or manufacturer's formulation data are being collected. SDS sheets were provided.
VI.1	Complete previous month's records by 15 th day of current month	Compliance	Data for July of 2021 was provided for an inspection conducted in August of 2021.
VI.2	Maintain a listing from the manufacturer of the chemical composition of each material from MSDS or formulation data.	Compliance	The "Emission Factors" tab of the facility records provides the VOCs and HAPs of coatings used on site.
VI.3.a-d	Keep monthly records of gallons used, VOC content, monthly	Compliance	Monthly and 12-month rolling records were provided for January 2021 through July of 2021.

SC(s)	Brief Condition Summary	Determination	Explanation
	emissions, and 12-month rolling emissions.		
VI.4	Keep monthly and 12-month records of acetone emissions for FG-PHCPRESS	Compliance	Monthly and 12-month rolling records were provided for January 2021 through July of 2021.
VII.1	Notify AQD within 30 days of completing permitted installation	Compliance	Webasto provided notification that PHC 1, 2, 3, and 4 were installed in October of 2020, September of 2020, July of 2020, and May of 2020 respectively.
VIII.1	Stack parameters	Not evaluated	Ventilation on site indicates that four stacks are associated with the four spray booths in FG-PHCPRESS. The facility permit includes only one stack for FG-PHCPRESS. Since modeling with stack parameters wasn't performed, having a different stack setup shouldn't affect the allowable emission rate. AQD will use discretion to avoid issuing a violation notice for this issue.

FG-FACILITY

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

A milling area involves cutting of PHC panels into their final shape. There do not appear to be air quality concerns with milling operations.

AQD visited the bonding and assembly area of the facility. Here, panels are glued together with an adhesion promotor and a urethane glue. This process exhausts to ambient air. Further evaluation is needed to determine if this adhesive application is exempt or requires a PTI.

The warehouse, office, Coordinate Measuring Machine (CMM) room (which appears to conduct measuring for quality purposes), and maintenance areas of the facility do not appear to have air quality concerns.

FG-Facility Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1	Ethylbenzene emission limit of 900 lbs/year	Compliance	From facility records, 54 pounds of ethylbenzene have been used from January of 2021 through July of 2021.
VI.1	Complete previous month's records by 15 th day of current month	Compliance	Data for July of 2021 was provided for an inspection conducted in August of 2021.
VI.2	Maintain a listing from the manufacturer of the chemical composition of each material from MSDS or formulation data.	Compliance	The "Emission Factors" tab of the facility records provides the ethylbenzene content of coatings used on site.
VI.3	Keep monthly and 12-month rolling emission records of gallons used,	Compliance	Monthly and 12-month rolling records for ethylbenzene emissions were provided for January 2021 through July of 2021.

SC(s)	Brief Condition Summary	Determination	Explanation
	ethylbenzene content, and ethylbenzene emissions		

Conclusion

Based on the AQD inspection and records review, it appears that Webasto is in compliance with the conditions of PTI No. 105-20, and applicable state and federal regulations. Further evaluation is necessary for determining VOC contents from Method 24; the compliance status of the mold release used in FG-PHCPRESS, and the associated recordkeeping for this mold release; and the compliance status of adhesives used in the sandwich line and in bonding and assembly.

NAME *JA L*

DATE 11/17/21

SUPERVISOR *JK*