

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

N127631064

<b>FACILITY:</b> WEBASTO SUNROOFS INC		<b>SRN / ID:</b> N1276
<b>LOCATION:</b> 2700 PRODUCT DR, ROCHESTER HLS		<b>DISTRICT:</b> Southeast Michigan
<b>CITY:</b> ROCHESTER HLS		<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b> Gary Bucholz , HSE Manager		<b>ACTIVITY DATE:</b> 03/31/2015
<b>STAFF:</b> Francis Lim	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b>		
<b>RESOLVED COMPLAINTS:</b>		

On March 31, 2015, I conducted an inspection at Webasto Roof Systems, Inc. located at 2700 Product Drive, Rochester Hills. The purpose of the inspection was to determine compliance with the Federal Clean Air Act, Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules and conditions of Permit-to-Install No. 84-05. Mr. Tom Stangelwicz, Assembly Manager assisted during the inspection. Mr. Garry Bucholz, Health, Safety , and Environmental Manager is the contact person for this facility.

Webasto is an OEM moonroof manufacturer. Manufacturing is done at 2700 Product Drive. Facility operates with 2 shifts, 5 days a week.

Facility operates an R & D facility at another building adjacent to the manufacturing building. The R & D facility operates an environmental chamber to simulate extreme weather conditions. I did not notice any significant source of air emissions at the R & D facility.

Facility currently operates 4 moonroof glass assembly lines, Line G1, G3, G4, and G5. In the robotic work cell for the glass assembly line, a robot applies both a clear and black primer on the glass periphery so that the adhesive can stick properly to the glass. The clear primer is actually a cleaner but also serves to etch the glass. Another robot applies the urethane based adhesive.

Line G1 (older technology) uses a disposable felt tip to apply the clear and black primer. The disposable felt tip is cut off and discarded after each use and disposed as hazardous waste. The applicator tip is purged with a small amount of MEK after each application. The purge system is a "closed loop", where a very small amount of MEK from a closed fresh MEK tank is used to purge the black primer and deposited in a second closed used MEK tank.

Line G3 uses a felt tape that rotates after each application cycle, to apply the clear and black primer. The applicator tip is purged with MEK after each application cycle. The purge system also has a closed loop purge system similar to Line 1.

Line G4 and G5 also use a felt tape that rotates after each application cycle to apply the clear and black primer. The applicator tip is purged with MEK after each application cycle. But instead of a closed loop, the used MEK is deposited in an open container.

During the off-shift when there is no production, the black primer is recirculated in the line to prevent buildup and hardening of the black primer in the lines. The used MEK is not reused for purging. All used MEK is disposed of as hazardous waste. Note that the facility reports all MEK used in the purging as VOC emissions even though majority of the MEK purge solvent is actually recycled and not emitted at the facility.

After the glass leaves the robotic work cell, a metallic frame and rubber seal is manually installed on the glass. Urethane adhesive is used.

Some of their clients require the application of an adhesion promoter in the moonroof assembly to enable an adhesive tape that needs to be installed to stick better. Usage of the adhesion promoter is very low.

Butyl sealant is applied to the front rails and the end caps of the sunroof assembly frame. The butyl sealant is applied to prevent water leaks in the moonroof module. Butyl sealant contains heptane.

The rest of the assembly process consists of putting together the glass, sunshade, motor, module and other components.

Facility does not manufacture the sunshade. This is subcontracted out. For quality control, facility supervises closely the sunshade manufacturing operations.

Prior to packaging, the moonroof glass is cleaned using ethanol dispensed from small bottles. Facility also use premoistened wipes for cleaning. This is included in the VOC/HAP emissions. Usage is low.

Permit-to-Install No. 84-05 is for the W1-G1 (now G1) glass line, FG-W2 (now G3) glass line, and SRX (now gone) glass line. Facility claims G4 and G5 glass lines are each exempt under Rule 290.

Material usage is logged and totaled every month. The urethane adhesive and butyl sealant contain a small amount of VOC. The facility is also now using a solvent free Butyl sealant. To cure the sealant, it is heated prior to application.

Special Cond 1.1a. Limit for Line G1 glass line is 13.0 tpy VOC as determined each month based on a rolling 12-month period. Facility calculates emissions monthly. For the 12-month period ending February 2015, 12-month rolling emissions are 6.4 tons VOC.

Special Cond 1.2. All waste materials are stored in closed containers and disposed of in an acceptable manner.

Special Cond 1.3. VOC content is determined using formulation data, as allowed in permit.

Special Cond 1.4. All required calculations are completed monthly.

Special Cond 1.5. Facility maintains current listing of chemical composition of primer, adhesive, and sealant using MSDS and Technical data Sheets from manufacturer.

Special Cond 1.6. Facility keeps the following information on a monthly basis: usage of clear primer, black primer, MEK, ethanol, urethane adhesive, and butyl sealant; VOC mass emissions per month; and VOC mass emissions per 12-month rolling time period.

Special Cond 1.7. Exhaust stack for Line G1 is as specified in permit condition.

Special Cond 2.1a. Limit for Line G3 glass line is 14.7 tpy as determined each month based on a rolling 12-month period. Facility calculates emissions monthly. For the 12-month period ending February 2015, 12-month rolling emissions are 3.5 tons VOC.

Special Cond 2.2. All waste materials are stored in closed containers and disposed of in an acceptable manner.

Special Cond 2.3. VOC content is determined using formulation data, as allowed in permit.

Special Cond 2.4. All required calculations are completed monthly.

Special Cond 2.5. Facility maintains current listing of chemical composition of primer, adhesive sealant using MSDS and Technical data Sheets from manufacturer.

Special Cond 2.6. Facility keeps the following information on a monthly basis: usage of clear primer, black primer, MEK, ethanol, urethane adhesive, and butyl sealant; VOC mass emissions per month; and VOC mass emissions per 12-month rolling time period.

Special Cond 2.7. Exhaust stack for Line G3 is as specified in permit condition.

Special Cond 3.1a and Special Cond 3.2a. Facility-wide individual HAP limit is 9.0 tpy and facility-wide aggregate HAP limit is 22.5 tpy. Although facility actually keeps individual HAP monthly and yearly individual

HAP emissions, total HAP emissions is even lower than the individual HAP limit. For the 12-month period ending February 2015, 12-month rolling total HAPs emissions are 2.5 tons. This includes HAPs from all operations including glass lines G1 and G3 and exempt glass lines G4 and G5.

Special Cond 3.2. HAP content is determined using formulation data, as allowed in permit.

Special Cond 3.3. All required calculations are completed monthly.

Special Cond 3.4. Facility keeps the following information on a monthly basis: material usage records; HAP content of each HAP containing material; HAP individual and aggregate mass emissions per month; and HAP individual and aggregate mass emissions per 12-month rolling time period.

Facility submitted Rule 290 calculations for G4 and G5. These two lines produce the panoramic moonroof. Lines G4 and G5 produce 10,000 modules each, with each module containing a front and rear glass panel. Since these lines do not use a heptane based butyl sealant, emissions are much lower. Emissions are below 1000 pounds of VOC per month for each line.

NAME

J. A. J.

DATE

9-9-15

SUPERVISOR

CJE

