

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection

FY 2015 Insp-  
N2949

N294929353

FACILITY: DURA SILL CORPORATION	SRN / ID: N2949
LOCATION: 22550 HESLIP, NOVI	DISTRICT: Southeast Michigan
CITY: NOVI	COUNTY: OAKLAND
CONTACT: Ray Morianti, President	ACTIVITY DATE: 04/29/2015
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2015 inspection of Dura-Sill Corporation ("Dura-Sill")	SOURCE CLASS: MINOR
RESOLVED COMPLAINTS:	

N2949 - SAR - 2015 04 29

**Dura-Sill Corporation (N2949)**  
22550 Heslip Drive  
Novi, Michigan 48375-4139  
Phone: (248) 348-2490

NAICS Code: 326199

PTI No. 721-91 dated August 2, 1991, for gelcoat booth. This permit may be considered a presumptive synthetic minor permit with VOC limit of 3.9 tpy (PTI No. 721-91, SC 14 limit: 3.9 tons/yr VOC). All VOC emissions are styrene (40% styrene in coatings and rest 60% solids).

Not subject to (<10 [Single HAP] /25 [Aggregate HAP] tpy Area Source; HAP = Styrene): Major Source NESHAP / MACT 4W: 40 CFR, Part 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production. Dura-Sill is not subject to NESHAP / MACT 4W because it obtained a presumptive synthetic minor permit with VOC limit of 3.9 tpy.

On April 29, 2015, I conducted a level-2 self-initiated inspection of Dura-Sill Corporation ("Dura-Sill") located at 22550 Heslip Drive, Novi, Michigan 48375-4139. The inspection was conducted to determine compliance with the requirements of federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994; PTI No. 721-91; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the FY 2015 inspection, Mr. Steve Morianti and Mr. Ray Morianti (Phone: 248- 348-2490; Cell 248-895-5940; Fax: 248-348-7946; E-mail: [RBMBUBBALU@MSN.com](mailto:RBMBUBBALU@MSN.com)) assisted me. Mr. Ray Morianti assisted me with VOC / HAP records. Mr. Ray Morianti keeps all records and prepares annual MAERS reports.

Dura-Sill manufactures imitation marble window sill products. The process consists of gelcoat spray application to the desired window sill molds in gelcoat booth, air-drying the gelcoat at an ambient room temperature and spreading on the molds the matrix. Unlike natural marble, imitation marble is not porous due to gelcoating on its surface.

#### PTI No. 721-91: Gelcoat booth

The gelcoat application booth (12 ft. Wide \* 7 ft. Tall \* 5 ft. Deep Binks Model FAEC-10-7) is equipped with Andrae Filters. On the top of this filter, another layer of a protective flat filter is installed to save Andrae filters, which are relatively expensive. The inexpensive protective top layer is replaced once every two weeks. Andrae filters are replaced once or twice a year

depending upon air flow or pressure drop ( $\Delta P$ ) across the filter media. 7,400 cfm exhaust gases laden with styrene are discharged via 17-foot stack. In this booth window sill molds get a coating of gelcoat that adheres to window sill providing waterproofing to sills. Natural marble is porous.

During the FY 2015 (04/29/2015) inspection, I found a large hole in the Andrae filter layer. It may be due to a mold (several feet long) hitting the filter. I asked Mr. Ray Morianti to replace the filter immediately. Overspray gelcoat particles would bypass the filter system via this large hole. Also, I asked him to install and inspect the filters such that they fit, at all times, snugly without gaps and holes.

### **Sill molding**

The matrix is mixed in matrix machine called Gisco Mixer (continuous casting machine). The matrix consists of calcium carbonate or lime stone (~80%, powder), an inorganic filler (~10%), a resin (~2.5%, liquid), a catalyst (1.5%, small amount) and a pigment. The matrix is dispensed on previously gelcoated mold and spread by a skilled technician. The catalyst initiates and promotes the exothermic polymerization reaction that releases sufficient heat to maintain mold warm. The curing continues for one and one half hour under ambient conditions.

### **Sill finishing (sanding) booth**

The matrix material is now set on the mold. The window sill fixture is removed from the mold and sent to a finishing booth (completely enclosed) where it is sanded to give finishing touches. Gelcoat is affixed on the fixture and not on the mold.

Finishing booth consists of one Cemco 2000 sanding machine, which is equipped with almost 100 percent capture device (capture efficiency CE  $\approx$ 100%) because all sanding is enclosed. The booth dust is controlled by a baghouse (28 bags) and exhaust is recycled into work area (inside the building).

The booth dust is exhausted to a fabric filter system with indoor exhaust. The dust on the bags (28) is removed using a shaker mechanism. The bags (28) are shaken for one minute every time the baghouse is started; about three (3) times per day. The dust captured in the hopper (consisting of four (4) 55-gallon drums) during the shaking is emptied once every 3-4 weeks and disposed of according to RCRA. The finished window sill fixture is packaged and shipped. Filtered air is released to in-plant environment.

Sanding process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285 (l).

### **PTI No. 721-91: Styrene (HAP and VOC) emissions**

Based upon CY 2014 purchase records, annual styrene emissions, based upon 6.54 tons of gelcoat for usage, is 2.616 tons per year (PTI No. 721-91, SC 14 limit: 3.9 tons/yr VOC) based upon MSDS information of 40% styrene content in gelcoat. Styrene (VOC & HAP) emissions are in compliance with the permit limit.

Dura-Sill also used 1,460 pounds of acetone and 224 pounds of methylene chloride, which is used to stop polymerization in the event of emergency, during. Methylene chloride is also used for special clean-up.

Styrene (VOC & HAP) emissions records are based upon purchase records. Dura-Sill will be required to keep usage logs to show compliance with PTI No. 721-91, SC 14 limit. Besides, Dura-Sill will be required to obtain formulation styrene content. These accurate emission requirements will be imposed when the emissions are near the permit limit.

With properly operating filters, the spray booth has no visible emissions potential (PTI No. 721-91, SC 15 limit: no VE). The emissions records are kept based upon purchase records (PTI No. 721-91, SC 17). Dura-Sill will be required to keep usage logs to show compliance with PTI No. 721-91, SC 14 limit (when the emissions are near the limit).

Andrae filters together with a protective filter layer were NOT operating properly due to a large hole in Andrae filter (PTI No. 721-91, SC 18).

### **Gelcoat**

Maxguard GG-CM-0006 Clearcoat Gelcoat (Product Code: 126221; Ashland of Columbus 800-325-3751)

Boiling Point (BP) = 293 °F. Flash Point (FP) = 85 °F. Flammability range = 1.1 %v (LEL) - 6.1 %v (UEL). Vapor Pressure (VP) = 0.853 kPa (0.124 PSI) at 77 °F / 25 °C.

There is always solvent odor inside the plant; no odor outside the building.

### **Federal NESHAP / MACT and ROP**

Dura-Sill's imitation marble window sill manufacturing process is **NOT** subject to 40 CFR, Part 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production. The Proposed Rule was published in Federal Register / Vol. 66, No. 149 / Thursday, August 2, 2001 / Proposed Rules. The Final Rule was published in Federal Register / Vol. 68, No. 76 / Monday, April 21, 2003 / Rules and Regulations.

Pursuant to 40 CFR, Part 63, Subpart WWWW, 63.5785, Dura-Sill is NOT subject to the NESHAP because it is not a major source for HAP; imitation marble manufacturing process emissions of styrene is less than major source thresholds (10 tpy single HAP and 25 tpy aggregate HAP). 2.6 tpy of styrene emissions for CY 2014 are greater than 1.2 tpy (40 CFR, Part 63, Subpart WWWW, 63.5785(d)) but the process is not located in a NESHAP major source. Area source MACT for Reinforced Plastic Composites Production is not promulgated yet. Besides, AQD has decided not take delegation for Area Source MACT rules. Hence, AQD has NOT determined Area Source MACT 4W compliance.

### **Conclusion**

Dura-Sill is NOT subject to the NESHAP / MACT (40 CFR, Part 63, Subpart WWWW). 2.6 tons of styrene (Sec. 112 HAP) emitted during CY 2014.

NAME *J. S. McNamee* DATE *05/11/2015* SUPERVISOR *CJE*