

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

N374870191

<b>FACILITY:</b> Belding Tank Technologies, Inc.		<b>SRN / ID:</b> N3748
<b>LOCATION:</b> 200 N Gooding St., BELDING		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> BELDING		<b>COUNTY:</b> IONIA
<b>CONTACT:</b> Paul Crystler , Purchase Manager		<b>ACTIVITY DATE:</b> 12/19/2023
<b>STAFF:</b> Eric Grinstern	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Unannounced compliance inspection		
<b>RESOLVED COMPLAINTS:</b>		

## FACILITY DESCRIPTION

Belding Tank Technologies manufactures fiberglass reinforced plastic tanks. The facility is located in the City of Belding.

## REGULATORY ANALYSIS

The facility is operating under ROP No. MI-ROP-N3748-2021a, which was issued on September 21, 2023. The permit was revised via a minor modification to incorporate PTI No. 82-23 into the ROP, which was for adding a new fiberglass tank mold room (EUMOLDROOM6), and a new take assembly area (EUTANKASSEMBLY3). PTI No. 82-23, lists EUMOLDROOM5 as being modified under PTI No. 82-23, however, EUMOLDROOM5 was not modified. The original ROP No. MI-ROP-N3748-2021 had an effective date of August 5, 2021.

The facility is subject to Subpart WWW – Reinforced Plastics Composites Production NESHAP.

## COMPLIANCE EVALUATION

At the facility, staff consisting of Eric Grinstern (EG) met with Paul Crystler, Purchasing Manager. Prior to entering the facility and while onsite, staff did not observe any odors outside of the buildings housing the emission units.

The facilities operations are currently located in six separate structures:

1. Building 1: Resin storage building
2. Building 2: EUMOLDROOM1, EUMOLDROOM2, EUMOLDROOM5
3. Building 3: EU3&4NORTHMOLD, EU3&4MIDMOLD, EU3&4SOUTHMOLD
4. Building 4: EUTANKASSEMBLY
5. Building 5: EUTANKASSEMBLY2
6. Building 6: EUMOLDROOM6, EUTANKASSEMBLY3

Below is a summary of the facility's compliance with the ROP and MACT requirements. Records required by the permit and Subpart WWW were requested and provided by the facility.

## SOURCE-WIDE CONDITIONS

All process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment.

### Emission Limits

Limits the emissions of VOC and styrene. VOCs are limited to 89.9 tons per year. Styrene is limited to 57.6 pounds/hr. and 76.0 tons per year.

The facility supplied the requested most recent 30 days of daily records. The records showed all days reviewed to be below 57.6 pounds per hour, with a majority of days having styrene emissions below 20 pounds per hour. The days with the highest emission rates were below 30 pounds per hour.

The facility supplied the most recent 12-month period of monthly records. The records document the highest styrene emissions occurred ending in November 2023, with 31.57 tons emitted on a 12-month rolling time period.

The facility records document the highest VOC emissions on a 12-month rolling time period were 32.35 tons, for the period ending in November 2023.

### Material Limits

Limits the styrene content of resins and gelcoats.

	Limit	Actual
1. Styrene	<b>50% by weight for resins applied using the chop/hoop winding technique<sup>2</sup></b>	<b>For the records reviewed, the highest styrene content of a resin was 45%.</b>
2. Styrene	<b>35% by weight for vinyl ester lamination resins that do not contain vapor suppressants<sup>2</sup></b>	<b>All vinyl ester resins are vapor suppressed</b>
3. Styrene	<b>45% by weight For vinyl ester lamination resins that contain vapor suppressants<sup>2</sup></b>	<b>For the records reviewed, the highest styrene content of a vinyl ester resin was 44%. All vinyl ester resins in use are vapor suppressed.</b>
4. Styrene	<b>50% by weight for resins applied using wet filament winding technique<sup>2</sup></b>	<b>For the records reviewed, the highest styrene content of a resin was 45%.</b>
5. Styrene	<b>50% by weight for isophthalic lamination resins</b>	<b>For the records reviewed, the highest styrene content of a resin was 45%.</b>
6. Styrene	<b>37% by weight of all gelcoats<sup>2</sup></b>	<b>For the records reviewed, the highest styrene content of color and tooling gelcoat was 37%.</b>
7. Styrene	<b>42% by weight of tooling gelcoats<sup>2</sup></b>	<b>For the records reviewed, the highest styrene content of color and tooling gelcoat was 37%.</b>

### Process/Operational Restrictions

Requires that spent filters be disposed of in a manner to minimize the introduction of air contaminants to the outer air.

During the inspection, staff did not observe any spent filters being disposed.

### Design/Equipment Parameters

Requires that the permittee only spray apply resins with non-atomized mechanical applicator guns or technology that produces equivalent or lower styrene emission rate.

The facility stated that only non-atomized applicator guns are used. During the inspection, non-atomized guns were observed to be in use.

Requires chop/hoop winding be carried out by use of dry winding fiberglass together with application of chopped fiberglass and resin by use of non-atomized mechanical applicator guns or equivalent technology.

The facility conducts chop/hoop winding in EUMOLDROOM2 (Bay 2 & Bay 3) and EUMOLDROOM5 (Bay 4 & Bay 5), with an automated chop/hoop process. During the inspection staff observed chop/hoop winding being conducted in accordance with the permit requirements.

Requires that exhaust filters be installed, maintained, and operated in a satisfactory manner in each mold room.

During the inspection exhaust filters, were observed in each mold room. All of the filters appeared to be in good condition, with the exception of the center filter in EUMOLDROOM2, which appeared to be in need of replacement based on build up on the filter. EG discussed filter maintenance with Mr. Chryster.

#### Monitoring/Recordkeeping

The facility is required to keep records of the resin, gel coat and catalyst. Records include weight percent of each component, as supplied and as applied styrene and methyl methacrylate content, styrene mass emissions on an hourly basis, 12-month roll time period styrene emissions, VOC emissions on a monthly and 12-month rolling time period and vapor suppression.

The facility is maintaining the required records. The facility supplied records requested, documenting compliance.

#### Other Requirements

All waste resins, gelcoats, catalysts, and acetone are required to be captured and stored in closed containers and disposed of properly.

Staff did not observe anything in contradiction to this requirement.

### EUMOLDROOM1

EUMOLDROOM1 contains one tank mold (Bay 1) and is located in Building 2. The bay has a manual wet wind process and a manual chop process.

#### Emission Limits

VOC limit of 438 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 102.45 pounds on December 5, 2023. All other observed days had considerably lower emissions.

VOC limit of 15.3 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 10.11 tons for the 12-month period ending in November 2023.

Styrene limit of 17.8 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 6.7 pph on December 5, 2023. All other observed days had considerably lower emission rates.

**Styrene limit of 15.1 tons per year**

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions recorded: 9.84 tons for the 12-month period ending in November 2023.

**Stack/Vent**

Requires a stack with a maximum diameter of 30 inches and minimum height of 60 feet.

Visual evaluation showed that the stack appeared to meet the permitted limits.

**EUMOLDROOM2**

Mold Room 2 contains two tank molds (Bay 2 and Bay 3) and is located in Building 2, adjacent to Mold Room 1.

**VOC limit of 937 pounds per calendar day**

Review of the facility records provided showed compliance with the daily VOC limit. The highest daily VOC emissions were 108.83 pounds on November 27, 2023.

**VOC limit of 29.7 tons per year**

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 7.35 tons for the 12-month period ending in November 2023.

**Styrene limit of 38.0 pounds per hour**

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 7.23 pph on November 27, 2023.

**Styrene limit of 29.2 tons per year**

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions were 7.21 tons for the 12-month period ending in November 2023.

**Stack/Vent**

Requires a stack with a maximum diameter of 36 inches and minimum height of 60 feet.

Visual evaluation showed that the stack appeared to meet the permitted limits.

**EUMR3&4NORTHMOLD**

Mold Room 3&4 North Mold contains one tank mold (Bay 6) and is located in Building 3.

**VOC limit of 391 pounds per calendar day**

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 70.88 pounds on December 9, 2023.

**VOC limit of 6.6 tons per year**

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 1.87 tons for the 12-month period ending in November 2023.

**Styrene limit of 15.8 pounds per hour**

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 8.86 pph on December 9, 2023.

**Styrene limit of 6.5 tons per year**

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions were 1.82 tons for the 12-month period ending in November 2023.

### **EUMR3&4MIDMOLD**

Mold Room 3&4 Mid Mold contains one tank mold (Bay 7) and is located in Building 3.

VOC limit of 391 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 70.88 pounds on December 9, 2023

VOC limit of 8.9 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 7.35 tons for the 12-month period ending in November 2023.

Styrene limit of 15.8 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 7.39 pph on December 9, 2023.

Styrene limit of 8.8 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions recorded: 7.21 tons for the 12-month period ending in November 2023.

### **EUMR3&4SOUTHMOLD**

Mold Room 3&4 South Mold contains one tank mold (Bay 8) and is located in Building 3.

VOC limit of 391 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 29.87 pounds on December 1, 2023

VOC limit of 14.0 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 1.89 tons for the 12-month period ending in November 2023.

Styrene limit of 15.8 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 1.98 pph on December 1, 2023.

Styrene limit of 13.8 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions recorded: 1.86 tons for the 12-month period ending in November 2023.

### **EUMOLDROOM5**

Mold Room 5 contains two tank molds (Bay 4 & Bay 5) and is located in Building 2, adjacent to Mold Room 2.

VOC limit of 391 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 134.61 pounds on December 5, 2023.

VOC limit of 24.8 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 7.73 tons for the 12-month period ending in November 2023.

Styrene limit of 15.8 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 8.80 pph on December 5, 2023.

Styrene limit of 23.6 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions were 7.51 tons for the 12-month period ending in November 2023.

#### Stack/Vent

Requires a stack with a maximum diameter of 36 inches and minimum height of 60 feet.

Visual evaluation showed that the stack appeared to meet the permitted limits.

#### EUCLEANUP

The facility only uses acetone for cleanup. The facility utilizes a small distiller to recycle used acetone.

Acetone emission limit of 55 tons per year.

Review of the records provided show that the facility emitted 28.96 tons for the 12-month period ending in December 2023.

#### EUTANKASSEMBLY

Emission unit associate with the assembly of tank components, located in Building 4.

VOC limit of 62.2 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 12.53 pounds on December 11, 2023.

VOC limit of 3.6 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 1.57 tons for the 12-month period ending in November 2023.

Styrene limit of 2.6 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 0.83 pph on December 11, 2023.

Styrene limit of 23.6 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions were 1.54 tons for the 12-month period ending in November 2023.

Styrene content in resin not to exceed 35%, for resins that do not contain a vapor suppressant.

For the records reviewed, the facility was only using a vinyl ester vapor suppressed resin in EUTANKASSEMBLY.

Styrene content in resin not to exceed 45%, for resins that contain a vapor suppressant.

The facility is using a vapor suppressed vinyl ester resin with a styrene content of 44%.

#### EUTANKASSEMBLY2

Emission unit associate with the assembly of tank components, located in Building 5.

VOC limit of 62.2 pounds per calendar day

Review of the facility records provided showed compliance with the daily VOC limit. The highest recorded amount of VOC emissions was 12.47 pounds on December 11, 2023.

VOC limit of 3.6 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. VOC emissions were 1.02 tons for the 12-month period ending in November 2023.

Styrene limit of 2.6 pounds per hour

Review of the records provided showed compliance with the pph styrene limit. The highest recorded rate of styrene emissions was 0.83 pph on December 11, 2023.

Styrene limit of 3.6 tons per year

Records reviewed for the 12-month rolling time period showed compliance with the limit. Styrene emissions were 1.02 tons for the 12-month period ending in November 2023.

Styrene content in resin not to exceed 35%, for resins that do not contain a vapor suppressant.

For the records reviewed, the facility was only using a vinyl ester vapor suppressed resin.

Styrene content in resin not to exceed 45%, for resins that contain a vapor suppressant in EUTANKASSEMBLY2.

The facility is using a vapor suppressed vinyl ester resin with a styrene content of 44%.

### **EUTANKASSEMBLY3, EUMOLDROOM6**

EUTANKASSEMBLY3 and EUMOLDROOM6 are going to be located in a new building that was under construction at the time of the inspection. Review of the facility's records showed emissions associated with EUMOLDROOM6. The facility subsequently determined that an entry for resin usage was erroneously entered for EUMOLDROOM6, that was intended for another emission unit. The facility fixed the records to account for the correct location of the resin usage. Neither EUTANKASSEMBLY3 or EUMOLDROOM6 have operated yet.

### **FGCOMPOSITESMACT**

Subpart WWW – Reinforced Plastics Composites Production NESHAP

Subpart WWW had a compliance date of April 21, 2006. The facility has opted to show compliance with the standard via Option C. Option C allows for demonstration of compliance with a weighted average emission limit for all open molding operations. Option C compliance is based on a 12-month rolling average. The facility is using the software created by ACMA for recordkeeping and compliance demonstration with the NESHAP.

Review of the facility's records shows compliance with the MACT weighted average emission limit on a 12-month rolling average. The facility was at 90.3% of the 12-month rolling average of the MACT limit.

Work Practice Standards – The facility is subject to five work practice standards under the NESHAP (63.5805, Table 4). The facility became subject to these standards on April 21, 2006.

For each cleaning operation, the permittee shall not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin. (40 CFR 63.5805, Table 4)

The facility does not use any HAP containing solvents. The only solvent currently in use is acetone.

For each HAP-containing materials storage operation, the permittee shall keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety. (40 CFR 63.5805, Table 4)

The facility has two 5500 bulk tanks that that are divided for iso and vinyl resins. Each side of the tank has a vent. Additionally, the facility has two 550-gallon vinyl ester promoter tanks and one 1,000-gallon acetone storage tank.

Observation of each of the tanks onsite showed the covers to be in place and in good condition.

For each mixing operation, the permittee shall use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation. (40 CFR 63.5805, Table 4)

Observation of the tanks showed no gaps greater than 1 inch.

For each mixing operation, the permittee shall close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety. Vents routed to a 95 percent efficient control device are exempt from this requirement. (40 CFR 63.5805, Table 4)

During the inspection, staff did not observe anything that contradicted this requirement.

#### FGMR3&4

EUMR3&4NORTHMOLD, EUMR3&4MIDMOLD, EUMR3&4SOUTHMOLD

North, Middle, and South tank molds in Room 3&4 (Bays 6, Bay 7, and Bay 8)

#### Stack/Vent

SVESESTACK-0004 - Requires a stack with a max. diameter of 36 inches and min. height of 60 feet.

SVESESTACK-0005 - Requires a stack with a max. diameter of 36 inches and min. height of 60 feet.

Visual evaluation showed that both stacks appeared to meet the permitted limits.

#### FGRULE290

The facility uses a two-part foam, on some of the tanks. The foam manufacture has previously supplied a letter indicating no VOC emissions or extremely small amount of emissions.

The facility is maintaining records of material usage. The facility provided records of purchases for Part A and Part B on a monthly and 12-month rolling basis. The facility purchased/used a total of 3,000 pounds of Part A and Part B combined for the 12-month period ending in November 2023. The facility uses an equal amount of Part A and Part B.

#### Summary

Based upon the information and observations made during this inspection, the facility appears to be in compliance with the applicable air quality rules and regulations.

Records attached.

NAME Eric Grinstern

DATE 1/12/2024

SUPERVISOR HH