

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

N571640437

FACILITY: MRM INDUSTRIES INC		SRN / ID: N5716
LOCATION: 1655 INDUSTRIAL DR, OWOSSO		DISTRICT: Lansing
CITY: OWOSSO		COUNTY: SHIAWASSEE
CONTACT: Deborah Mahan , Office Manager		ACTIVITY DATE: 06/27/2017
STAFF: Nathaniel Hude	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, unannounced inspection as part of a FCE in conjunction with MAERS review.		
RESOLVED COMPLAINTS:		

Inspection Report

N5716- MRM Industries Inc.
1655 Industrial Drive
Owosso, MI 48867

Inspection Date:

6/27/17

Facility Contacts:

Deborah Mahan, Office Manager, 989-723-7443, deb@mrmindustries.com

MDEQ AQD Personnel:

Nathan Hude – 517-284-6779, huden@michigan.gov

Facility Description:

MRM is located on the south east side of Owosso on Industrial Drive between McMillan Road and Aiken Road in an industrial park area. Some residential structures are located approx. 800 feet east and approx. 2000 feet north west.

From the front of the building, there are 4 stacks visible with 3 of the 4 having rain caps installed.

From Website: <http://www.mrmindustries.com/about.htm>

“MRM has 22,000 sq. ft. of manufacturing space dedicated to RTM. This “built-in” efficiency provides great cost savings for our customers. In fact, MRM is one of the only manufacturers 100% dedicated to RTM. MRM Industries Inc. is one of only a few companies in the US who have the manufacturing capabilities for Resin Transfer Molding (RTM) of reinforced fiberglass plastic. Of those who have this level of manufacturing ability, we are among only a handful of RTM molding companies with a custom built facility. This has important benefits for you if reinforced fiber plastic is the best solution for your composite requirements, from basic FRP panels to very complex vacuum assisted resin transfer molding.”

The facility manufactures semi-truck air deflectors, containers for weather testing equipment, certain Harley Davison faring pieces, exhaust fan shrouds for agricultural animal buildings, and other custom jobs. There are approx. 15 fulltime employees that work shifts of 5am-1:45pm and 7am-3:45pm. The office is generally open from 6:30am-5pm.

The facility does not have boilers or emergency generators.

Permit History:

191-95C, issued 12/15/98: to modify an existing three stage fiberglass reinforced plastic (FRP) fabrication process; adding three additional resin transfer mold (RTM) machines.

Updated Permitted Emission Units:

One (1) gelcoat spray booth equipped with dry filters, stack 1 in permit evaluation

Seven (7) RTM machines discharged in plant, no external stack / vent in permit evaluation

Two (2) fiberglass grinding booths, identical individual stacks numbered 2 and 3 in permit evaluation

191-95B, voided 12/15/98: to modify an existing three stage fiberglass reinforced plastic (FRP) fabrication process; modify fiberglass grinding booth from one booth to two booths

Updated Permitted Emission Units:

One (1) gelcoat spray booth equipped with dry filters, stack 1 in permit evaluation

Four (4) RTM machines discharged in plant, no external stack / vent in permit evaluation
Two (2) fiberglass grinding booths, identical individual stacks numbered 2 and 3 in permit evaluation

191-95A, voided 6/19/96: relocation of equipment from 503 S. Chestnuts Street to 1665 Industrial Drive (no changes in equipment).

191-95, voided 11/29/95: Three stage fiberglass reinforced plastic (FRP) fabrication process

Permitted Emission Units:

One (1) gelcoat spray booth equipped with dry filters, stack 1 in permit evaluation
Four (4) RTM machines discharged in plant, no external stack / vent in permit evaluation
One (1) fiberglass grinding booth, individual stack

Applicable Regulations:

1) 191-95C as detailed above

2) R336.1287(c) for a paint booth controlled by fabric filter using < 200 gallons of paint per month per 1/26/15 inspection, pre 12/20/16 rule changes applies

3) R336.1285(I)(vi) for a water jet cutting tool which is internally vented per 1/26/15 inspection, pre 12/20/16 rule changes applies

Previous Inspections:

1/26/15- Brian Culham, no issues
8/23/12- Dan McGeen, no issues
7/28/09- Robert Lamrouex, no issues

Previous Violations:

9/15/98- PTI 191-95B violations regarding acetone (clean-up solvent) waste practices and emissions

Recent Complaints (within 2 years):

None found on record

Number of Violations Found During this Inspection:

No violations were cited due to onsite resolution.

Inspection Key Concerns:

1. Emissions calculations per PTI SC 10 Note were not using the proper emission factor. Discussions lead to the correction of the calculation and previous emissions (recalculated) are still well below the permit limits.
2. One resin waste drum and one resin mix (to be used) drum were found uncovered; on the spot corrections were made. Future instances will result in a violation.

MAERS Reporting

Yes, due to HAP Opt-Out status, though is not a "Fee Category" source.

MAERS Emission Unit List

EU-ACETONE: acetone used as a purge and cleanup solvent.
EU-GELCOAT: gelcoat spray on
EU-PAINTBOOTH: Primer paint spray booth.
EU-RTM: seven resin transfer molding machines (RTM) closed molds which exhausts in-plant

2016 MAERS Reported Emissions:

VOC: 1356 lbs
Methyl Ethyl Ketone: 21.7 lbs
Methyl Methacrylate Monomer: 8.5 lbs
Styrene: 1206 lbs

Inspection Summary

I arrived at approx. 11:15 am and checked into the front office. While approaching the business and in the parking lot, I did not observe any VE's or detect any odors. The weather was mostly sunny with a northwest wind estimated at 5-15 mph.

I met Deborah who maintains the environmental records and management of the company. We went into her office where we reviewed records prior to walking the facility. The records are discussed in the appropriate conditions later in the report.

While in the office, I did discuss with her the spreadsheet used for MRM MAERS reports. It appeared that for the Gelcoat and the RTM Catalyst an emission factor of 0.01 was being used. I explained that a factor of 0.03 should be used as per PTI 191-95C SC10 Note. I also thought that the RTM Resin calculation should be using the same emission factor though it is not listed in the permit condition. I later found that the emission factor for the RTM Resin was 0.03 as used in the permit review. Since this was used for calculating the Opt-Out emissions, this emission factor of 0.03 must be used from now on for the RTM Resin. A copy of the permit review calculations were sent to Deborah via email on 6/29/17 informing her on the basis of the emission factor.

Upon entering the manufacturing portion of the facility, styrene odor was very evident.

191-95C: EU-GELCOAT, FG-RTM, FG-GRINDING, and FG-FACILITY

1. The total volatile organic compound (VOC) emission rate (including styrene) from the three stage fiberglass reinforced plastic (FRP) fabrication process, hereinafter "FRP fabrication process", shall not exceed 10.6 pounds per hour nor 13.65 tons per year, based on a 12-month rolling time period as determined at the end of each calendar month. This condition is necessary to assure compliance with Rules 205, 225, 702(a), 901, and 40 CFR Part 52.21 Subparts (c) and (d).

RESULT: Compliance- using the updated emission factors, the total styrene emissions equated to 2387.7 lbs or 1.19 tons. Using an operating schedule of 2000 hours per year (2080 hours minus 80 hours for holidays or 10 holidays) this equates to 1.19 lbs per hour.

2. The acetone emission rate from the use of purge and cleanup solvents shall not exceed 17.5 pounds per hour nor 35.1 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. This condition is necessary to assure compliance with Rules 224, 225, and 901.

RESULT: Compliance- these records were reviewed on site and are well below the limits.

3. The total styrene emission rate from the gelcoat spray booth and the seven resin transfer molded (RTM) machines shall not exceed 7.8 pounds per hour nor 9.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. This condition is necessary to assure compliance with Rules 205, 225, and 702(a).

RESULT: Compliance- the styrene emitted from these processes equated to 835lbs for the Gelcoat booth and 1239.8lbs for the RTM process. This gives a combined total of 2074.8lbs or 1.04 tons. Using an operating schedule of 2000 hours per year (2080 hours minus 80 hours for holidays or 10 holidays) this equates to 1.04 lbs per hour.

4. The styrene monomer content of all gelcoats (except for tooling gelcoats) used by the applicant shall not exceed a maximum of 40.0% by weight. This condition is necessary to assure compliance with Rules 225 and 702 (a).

RESULT: Compliance- multiple MSDS sheets were reviewed while in the office. The most commonly used gelcoat was "Cool Ultra White" at 25% styrene.

5. The styrene monomer content of all tooling gelcoats used by the applicant shall not exceed a maximum of 45.0% by weight. This condition is necessary to assure compliance with Rules 225 and 702(a).

RESULT: Compliance- multiple MSDS sheets were reviewed while in the office. The most commonly used tooling gelcoat was "Orange Tooling" at 41.8% styrene.

6. The styrene monomer content of all resins used by the applicant shall not exceed a maximum of 47.0% by weight. This condition is necessary to assure compliance with Rules 225 and 702 (a).

RESULT: Compliance- multiple MSDS sheets were reviewed while in the office. The highest valued styrene content was 41.5%.

7. The hazardous air pollutant (HAP) emissions, as defined pursuant to Section 112(b) of the Clean Air Act, shall be less than 9.0 tons per year for any individual HAP and 13.65 tons per year for any combination of HAPs at this stationary source. The annual limit shall be based upon a 12-month rolling time period as determined at the end of each calendar month. This condition is necessary to assure compliance with Rules 205 and 901.

RESULT: Compliance- Total combined VOCs counted as individual HAPs equates to 2387.7 lbs or 1.19 tons.

8. Rule 331 - The particulate emission from the two fiberglass grinding booths, hereinafter "grinding booths", shall not exceed 0.10 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis, 7.4 pounds per hour, nor 32.6 tons per calendar year. This condition is necessary to assure compliance with Rules 205, 331, 901, and 40 CFR Part 52.21 Subparts (c) and (d).

RESULT: Compliance- the booths were not operating during the inspection, though filters were in place as appropriate for PM capture.

9. Daily, monthly, and yearly records of the amount of and VOC/styrene monomer content of each gelcoat, resin, and catalysts, shall be maintained. Also maintained, shall be records of the amount of acetone purge/cleanup solvent used and the amount of acetone purge/cleanup solvent reclaimed. The gelcoat records shall be kept such that they distinguish between regular gelcoat and tooling gelcoat. Also maintained shall be the actual hours of operation of the gelcoat spray booth and each of the seven RTM machines. All such records shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request. This condition is necessary to assure compliance with Rules 205, 225, 702(a), 901, and 40 CFR Part 52.21 Subparts (c) and (d).

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

10. Based upon the data collect per Special Condition No. 9 and according to a method acceptable to the District Supervisor the applicant, shall calculate the following emissions on a monthly hourly average basis, a tons per month basis, and a monthly 12-month rolling time period basis as determined at the end of each calendar month:

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

A. Total VOC emissions (including styrene) from the FRP fabrication process

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

B. Acetone emissions from the use of purge/cleanup solvent

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

C. Styrene emissions from the gelcoat spray booth

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

D. Total styrene emissions from the seven RTM machines

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

E. Total individual and aggregate HAP emissions from MRM Industries facility at 1655 East Industrial Drive, Owosso, Michigan

RESULT: Compliance- these records are being kept and printed monthly, the records were reviewed in the office.

Note, in calculating the styrene emissions from the gelcoat spraybooth an emission factor of 0.305 pounds of styrene emitted per pound of styrene monomer processed shall be used. In calculating the styrene emissions from the seven RTM machines an emission factor of 0.03 pounds of styrene emitted per pound of styrene monomer processed shall be used.

RESULT: Non-Compliance- It appeared that for the Gelcoat and the RTM Catalyst an emission factor of 0.01 was being used. I explained that a factor of 0.03 should be used as per PTI 191-95C SC10 Note. I also thought that the RTM Resin calculation should be using the same emission factor though it is not listed in the permit condition. I later found that the emission factor for the RTM Resin was 0.03 as used in the permit review. Since

this was used for calculating the Opt-Out emissions, this emission factor of 0.03 must be used from now on for the RTM Resin. A copy of the permit review calculations were sent to Deborah via email on 6/29/17 informing her on the basis of the emission factor.

Based on the recalculated emissions still being well below permitted limits, a violation was not cited for this as immediate compliance was obtained for future calculations.

All calculations shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request. This condition is necessary to assure compliance with Rules 205, 225, 702(a), 901, and 40 CFR Part 52.21 Subparts (c) and (d).

RESULT: Compliance- records are being maintained as required.

11. Applicant shall not operate the gelcoat spray booth unless all exhaust filters are in place and operating properly. This condition is necessary to assure compliance with Rules 224, 301, 901, and 910.

RESULT: Compliance- the booths were not operating during the inspection, though filters were in place as appropriate for PM capture.

12. Applicant shall not operate either grinding booth unless their respective exhaust filters are in place and operating properly. This condition is necessary to assure compliance with Rules 224, 301, 901, and 910.

RESULT: Compliance- the booths were not operating during the inspection, though filters were in place as appropriate for PM capture.

13. The disposal of collected air contaminants and/or spent filters shall be performed in a manner which minimizes the introduction of air contaminants to the outer air. This condition is necessary to assure compliance with Rules 225, 331, 702 (a), and 901.

RESULT: Compliance- I did not observe the removal of filters for disposal, but it appears they follow a replacement schedule for filter replacement being every Monday and it appears they are removed and disposed of in a manner to not introduce air pollutants.

14. The applicant shall only operate the seven RTM machines at room temperature. They shall not be heated. This condition is necessary to assure compliance with Rules 225 and 702(a).

RESULT: Compliance- per Deborah, none of the RTM machines are heated as they do not want the associated fire hazard and the equipment is incapable of being heated.

15. All waste gelcoats, resins, and catalysts shall be disposed of in an acceptable manner in compliance with all applicable rules and regulations. This condition is necessary to assure compliance with Rules 225, 702 (a), and 901.

RESULT: Non-Compliance- during the inspection, I found one resin waste drum and one resin mix (to be used) drum uncovered. This was corrected by one of the workers upon the request of Deborah when asked and used as an educational point thus a violation will not be cited.

16. All waste acetone purge/cleanup solvents shall be captured and stored in closed containers and be disposed of in an acceptable manner in compliance with all applicable rules and regulations. This condition is necessary to assure compliance with Rules 225 and 901.

RESULT: Compliance- the facility uses 5 gallon waste buckets with lids and caps for waste acetone capture. The 5 gallon buckets are then emptied into 55 gallon drums which are stored in a shed located outdoors on the east side of the building.

17. The exhaust gases from the gelcoat spray booth shall be discharged vertically upwards to the ambient air from a stack with a maximum diameter of 42 inches at an exit point not less than 50 feet above ground level. This condition is necessary to assure compliance with Rules 225 and 901.

RESULT: Compliance- I confirmed the stack diameter while on site and it appears the height is appropriate though physical measurement could not be obtained.

18. The exhaust gases from the two grinding booths shall be discharged vertically upwards to the ambient air from two stacks (one per booth), each with a maximum diameter of 24 inches at an exit point not less than 36 feet above ground level. This condition is necessary to assure compliance with Rules 225 and 901.

RESULT: Compliance- I confirmed the stack diameter while on site and it appears the height is appropriate though physical measurement could not be obtained.

EU-PAINTBOOTH

R336.1287(c) A surface coating line if all of the following conditions are met:

(i) The coating use rate is not more than 200 gallons, as applied, minus water, per month.

RESULT- Compliance- records indicate a usage total of 30 gallons for 2016.

(ii) Any exhaust system that serves only coating spray equipment is supplied with a properly installed and operating particulate control system.

Compliance- the booths were not operating during the inspection, though filters were in place as appropriate for PM capture.

(iii) Monthly coating use records are maintained on file for the most recent 2-year period and are made available to the department upon request.

RESULT: Compliance- records are being maintained as required.

FG-FINISHING (two stations with downdraft filtration exhausted into the building in plant environment and 1 waterjet cutting tool exhausted into the building in plant environment)

R336.1285(l) The following equipment and any exhaust system or collector exclusively serving the equipment:

(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following:

(B) Equipment that has emissions that are released only into the general in-plant environment.

RESULT: Compliance- I confirmed that all devices are exhausted into the building in plant environment

Based on my inspection, it appears that the MRM Industries, with corrections made during the inspection, is in compliance with state of Michigan air quality rules and PTI 191-95C.

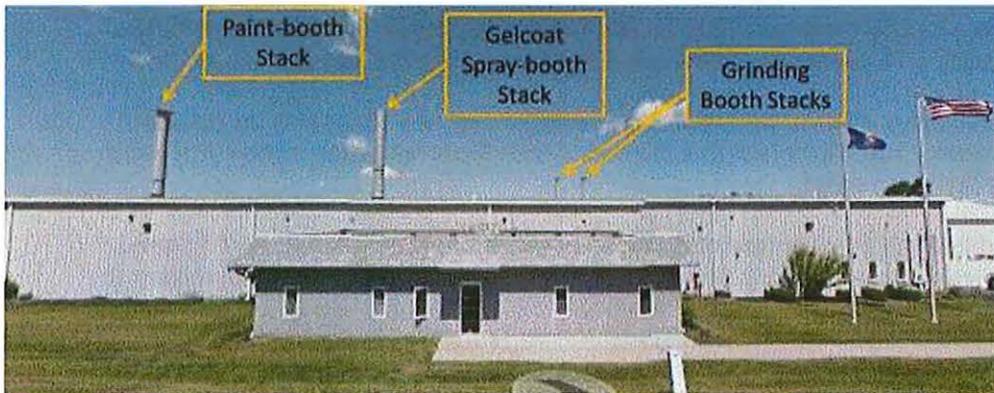


Image 1(Facility Stacks) : Facility Stacks

NAME *[Signature]*

DATE 6/29/17

SUPERVISOR *[Signature]*