

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

P060941504

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|--|-----------------------------------|------------------------------|
| FACILITY: Mold Masters Limited | | SRN / ID: P0609 |
| LOCATION: 29111 Stephenson Highway, MADISON HTS | | DISTRICT: Southeast Michigan |
| CITY: MADISON HTS | | COUNTY: OAKLAND |
| CONTACT: Brian Finkel , Manager | | ACTIVITY DATE: 08/10/2017 |
| STAFF: Kerry Kelly | COMPLIANCE STATUS: Non Compliance | SOURCE CLASS: MINOR |
| SUBJECT: Based on this inspection, it appears Mold Masters is in violation of R 336.1201 for installing a DMC 450-400V Dinamec Systems LLC oven without first obtaining a permit to install. At this time, a notice of violation will not be issued because a permit application has been received by the AQD for this equipment. Compliance will be achieved, with regards to this violation, when a PTI is approved for the DMC 450-400V Dinamec Systems LLC oven. | | |
| RESOLVED COMPLAINTS: | | |

On August 10, 2017, I (Kerry Kelly, MDEQ-AQD) conducted a targeted inspection of Mold Masters Limited located at 29111 Stephenson Highway, Madison Heights, Michigan. 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; and the conditions of PTI 99-15.

PTI 99-15 was issued July 1, 2015. Equipment in PTI 99-15 includes a SEGHERS Fluid Clean Fluidized Bed Type D-1666/CEF/LIS natural gas-fired cleaning furnace (EUFLUIDCLEAN) and a SEGHERS Mini SMC350 cleaning furnace equipped with an electrically heated cleaning chamber (EUMINICLEAN). EUFLUIDCLEAN and EUMINICLEAN are used to remove plastic residues from plastic metal extrusion tooling.

I arrived at Mold Masters at approximately 2:45 PM on August 10, 2017. The building where Mold Masters is located is also occupied by DME. Mold Masters services and repairs steel manifolds. DME is involved in warehousing and parts distribution. I entered the office at Mold Masters and spoke with Mr. Brian Finkel, Manager Mold Masters – Milacron. Mr. Finkel and Mr. Jarrod Madaus, Service Technician Mold Masters answered questions, provided records, and accompanied me during the inspection. Mold Masters operates 6:00 AM to 4:30 PM Monday through Friday and sometimes 4 hours on Saturday with a staff of 85-90 employees including office staff. Non-permitted equipment at Mold Masters includes a small vertical mold machine, two enclosed sandblast machines, a heated parts washer, a CNC, a grinder, three saws, and a generator.

COMPLIANCE EVALUATION
EUFLUIDCLEAN

EUFLUIDCLEAN is a SEGHERS Fluid Clean Fluidized Bed Type D-1666/CEF/LIS used to clean plastic residues from plastic metal extrusion tooling. The emissions from EUFLUIDCLEAN are controlled using a natural gas fired after burner zone and a ceramic element filter equipped with lime injection. According to Mr. Madaus tubes under the sand bed in EUFLUIDCLEAN heat up sand bed to burn off plastics. The afterburner is a flame zone above the sand bed.

SC I.1. through 3. sets PM, PM10, and PM 2.5 emission limits for EUFLUIDCLEAN. The emission limits are displayed in the table below:

| Pollutant | Limit |
|-----------|---|
| 1. PM | 0.016 lbs per 1000 lbs of dry exhaust gas |
| 2. PM10 | 0.10 pph |
| 3. PM2.5 | 0.10 pph |

According to the permit, compliance with the emission limits is determine by testing requested by the AQD and by measuring the pressure drop and by visible emissions readings. The AQD has

not requested testing. The pressure drop and visible emission readings were provided as discussed below.

SC I.4. requires visible emissions from EUFLUIDCLEAN not exceed a six-minute average of 10 percent opacity. According to EUFLUIDCLEAN SC VI.5. visible emission readings for EUFLUIDCLEAN shall be taken a minimum of once per calendar month by either a certified or non-certified reader during routine operating conditions. Mr. Madaus said he does visible emission reading once a month. Records of the visible emission readings are required per EUFLUIDCLEAN SC VI.6. Records of the visible emission readings (attachment 1) were provided by Ms. Sonja Augousti, Administrator. According to these records, visible emission readings are taken approximately once a month and there were no instances where visible emissions occurred between August 2016 and August 2017.

SC III. 1. mandates that Mold Master not process any material in EUFLUIDCLEAN other than metal parts with small amounts of cured residues of the following approved types of plastics: polyethylene, polypropylene, polystyrene, polycarbonate, polyamide, acrylonitrile-butadiene-styrene (ABS), polysulfone, and polyethersulfone. The amount of plastic residue on each part shall be minimized by removing as much residue as possible using hand tools. Mr. Madaus stated that plastic residue is chipped off using hand tools and wires are cut from the steel manifolds being cleaned prior to being placed in EUFLUIDCLEAN. The parts are also weighed before and after they are placed in EUFLUIDCLEAN. Mold Masters provided a list from the customer of the chemical composition of each material being removed from the parts being processed as required per EUFLUIDCLEAN SC VI.2 and the weight of the material before it is placed in the oven and after it is taken out (attachment 1). Safety Data Sheets (SDSs) for are kept for all products entering the facility, regardless of whether the material has gone into EUFLUIDCLEAN. Mr. Finkel provided a copy of five SDSs to demonstrate the SDSs are being kept (attachment 2).

The sand bed must be preheated to 850°F before parts are loaded into the sand bed for processing per SC III.2. Mr. Madaus said the sand bed is heated to 900°F before parts are put in EUFLUIDCLEAN. Records of the daily sand bed temperatures are required per EUFLUIDCLEAN SC VI.3. Mr. Finkel sent graphs with the temperature readings for January, February, March, August, October, and November 2016 and January through August 2017 and raw data for January through August 2017 (attachment 3). The data provided for 2016 indicates EUFLUIDCLEAN is heated to 900 degrees Fahrenheit and remains above 850 degrees Fahrenheit for several hours. The raw data indicates the temperature is above 850 degrees for 2.5 to 4 hours a run. The date and time each load was put into and taken out of EUFLUIDCLEAN was not being kept according to Mr. Madaus. Mr. Madaus and Mr. Finkel agreed to keep a log, going forward, of the time parts are placed in EUFLUIDCLEAN and the temperature when the parts are put in and removed. Mr. Finkel sent a copy of the log to show the information is now being kept (attachment 4).

According to EUFLUIDCLEAN SC IV.1. the fluidized bed cleaner shall not operate unless the natural gas-fired afterburner zone and the ceramic element filter equipped with lime injection are installed, maintained, and operated in a satisfactory manner. According to Mr. Madaus the sand and filters are changed and the pipes are cleaned once a year. The ceramic filters are changed as needed based on the pressure drop.

The pressure drop across the ceramic element filter control system for EUFLUIDCLEAN is continually monitored, according to Mr. Madaus, as required per EUFLUIDCLEAN SC IV.2. I inspected EUFLUIDCLEAN and observed a pressure drop monitor. Daily records of the pressure drop across the ceramic filter for each batch are required to be kept in EUFLUIDCLEAN SC VI.4. Records of the pressure drop (attachment 1) were provided by Ms.

Augousti. These records indicated the pressure drop was between 19 and 22 from August 2016 and August 2017.

EUFLUIDCLEAN SC IV. 3. states the permittee shall not operate EUFLUIDCLEAN unless the manufacturer's automatic temperature control system for the sand bed and afterburner zone are installed, maintained and operated in a satisfactory manner. I inspected EUFLUIDCLEAN and observed a temperature monitor for the sand bed. The calibration schedule is set by the manufacturer and calibration is performed by manufacturer in accordance with the schedule.

EUFLUIDCLEAN SC VI.7. requires records of the date, duration, and description of any malfunction of the cleaning furnace, any maintenance performed and any testing results for EUFLUIDCLEAN be kept. Mr. Finkel provided maintenance records for June 2015 through July 2016 (attachment 1).

Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity per EUFLUIDCLEAN SC VII. 1. This condition is now obsolete because it was addressed in a violation notice and response in 2016.

I inspected the stack for EUFLUIDCLEAN. The stack appears to meet the stack/vent restrictions listed in VIII.1.

EUMINICLEAN

The SEGHERS Mini SMC350 was removed from the facility and replaced with a natural gas-fired DMC 450-400V Dinamec Systems LLC oven manufactured in 2007. According to Mr. Finkel and Mr. Madaus the DMC 450 was installed approximately a month ago and has not operated. The DMC 450 electrical installation was not complete at the time of the inspection. Mr. Finkel provided an email from the manufacturer of the ovens stating the "DMC-450 has the same plastic removal capacity as the older DMC-350 model, and thus the same emission levels." (attachment 5). An incomplete permit application was submitted to AQD in August 2017 for the DMC 450. AQD permit section received a second permit application for the DMC 450 which included emissions data which was deficient in the previous application. Installation of the DMC 450 without first obtaining a Permit to Install constitutes a violation of R 336.1201. A violation notice will not be issued for the R 336.1201 violation because the company has addressed the violation by submitting permit application and the equipment is reported, by the manufacturer, as having the same processing capacity and emissions.

According to an email from Mr. Finkel (attachment 6), the SEGHERS Mini SMC350 was off line from April – September 2016, due to mechanical issues. The Mini clean was "fixed" during this time, ran in October 2016, then broke down November 2016 to present date. Mr. Finkel provided temperature records for EUMINICLEAN for 2016 (attachment 7). Compliance with PTI 99-15 conditions applicable to EUMINICLEAN were not evaluated because the equipment was removed.

MOLD MACHINE

The small vertical TPE mold machine is used to purge manifolds of polypropylene. The equipment is vented to the general in-plant environment and appears to be exempt from the requirement in R336.1201 to obtain a permit to install per R336.1286(2)(b).

SAND BLAST EQUIPMENT

Mold Masters has two portable, fully enclosed sand blast units used to clean parts. The sand

appears to be exempt from the requirement in R336.1201 to obtain a permit to install per R336.1281(2)(d).

HEATED PARTS WASHER

The heated parts washer at Mold Masters has two tanks. Mr. Finkel provided the SDS for the parts washer (attachment 8). According to the SDS, the VOC content of the cleaning product used in the parts washer is 2.04 percent by weight at 10 percent solution and a boiling point of 212 degrees Fahrenheit. Because the cleaning solution has a VOC content less than 5 percent and is heated to less than it's boiling point, it meets the definition in R336.1101(q) of an aqueous based parts washer. This equipment appears to be exempt from the requirement in R336.1201 to obtain a permit to install per R336.1281(2)(k) because it meets the definition of aqueous parts washer.

GENERATOR

There is an Onan Model 12JC-3R31/1R, natural gas fired generator with a power rating of 30.1 bhp at 1800 RPM generator at Mold Masters which is used to supply electricity in the event of a power outage.. The engine was reported as being installed in the 1980's. The generator appears to exempt from the requirement of R336.1201 to obtain a permit to install per R336.1285(2)(g) because the heat input is approximately 0.134 MMBtu/hr based on 25 percent thermal efficiency. The generator does not appear to be subject to the Standards of Performance for New Stationary Sources (40 CFR 60 Subpart JJJJ) because it was installed before June 12, 2006. Michigan Department of Environmental Quality, Air Quality Division(MDEQ, AQD) has not accepted delegation from the U.S. Environmental Protection Agency (USEPA) for enforcing the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63 Subpart ZZZZ) at area sources of hazardous air pollutants.

CNC, GRINDER and SAWS

The CNC, grinders, and saws appear to be exempt from the requirement in R336.1201 to obtain a permit to install per R336.1285(2)(l)(vi)(B) because they are used to cut and/or grind metal or wood and the emissions are released into the general in-plant environment.

CONCLUSION

Based on this inspection, it appears Mold Masters is in violation of R 336.1201 for installing a DMC 450-400V Dinamec Systems LLC oven without first obtaining a permit to install. At this time, a notice of violation will not be issued because a permit application has been received by the AQD for this equipment. Compliance will be achieved, with regards to this violation, when a PTI is approved for the DMC 450-400V Dinamec Systems LLC oven.

NAME

K. Kelly

DATE

9/22/17

SUPERVISOR

SK