N7697
MANILA

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

N769745852

FACILITY: FINTEX, LLC		**SRN / ID:** N7697
LOCATION: 8900 INKSTER RD, ROMULUS		**DISTRICT:** Detroit
CITY: ROMULUS		**COUNTY:** WAYNE
CONTACT: Kent DesJardins , President		**ACTIVITY DATE:** 08/02/2018
STAFF: Stephen Weis	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Compliance inspection of the Fintex LLC facility in Romulus. The Fintex facility is scheduled for inspection in FY 2018.		
RESOLVED COMPLAINTS:		

Location:
Fintex, LLC
(SRN N7697)
8900 Inkster Road
Romulus 48174

Date of Activity:
Thursday, August 2, 2018

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Kent DesJardins, President, Fintex, LLC

Purpose of Activity

A self-initiated inspection of the Fintex, LLC facility (hereinafter "Fintex") in Romulus was conducted on Thursday, August 2, 2018. The Fintex facility was on my list of sources targeted for an inspection during FY 2018. The purpose of this inspection was to determine compliance of operations at the Fintex facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), and with applicable Federal standards. The facility is also subject to the terms and conditions of DEQ-AQD Permit to Install (PTI) Nos. 68-09 and 60-09.

Facility Site Description

The Fintex facility is located on the west side of Inkster Road about ¼ mile north of Wick Road. The area around Fintex consists of commercial and industrial properties. An Ajax Materials asphalt production facility (SRN B3120) is located past Fintex's north and west property lines. Marathon Petroleum's Romulus Terminal (B9201) is located to the north of the Ajax facility. The closest residential neighborhood is located about 0.4 miles to the southeast of the Fintex facility on the south side of Wick Road between Inkster and Holland Roads.

The Fintex facility is located on a parcel of land approximately 7 acres in area. The facility operations take place inside of a 108,000 square foot building.

Facility Operations

The Fintex facility processes metal fasteners that are used primarily in the automotive industry. I was told during my site visit that 99% of the fasteners that are processed at the facility are for automotive use. Fintex performs mechanical zinc plating and zinc electroplating for corrosion/rust protection on some of the fasteners that they receive, and they apply adhesives, sealants and anti-friction compounds to some of the fasteners based on customer needs and use.

Fasteners are received at the facility, and they are processed according to customer needs and specifications. The coating and patching process equipment is located in the south part of the building. There are currently seven flow coat coating lines that apply adhesives, sealants and anti-friction compounds to the thread portion of fasteners. There is also a nylon patch line that applies a micro-encapsulated adhesive (it is a powder-based product) to some of the fasteners.

The north side of the building contains the facility's plating and metal treatment operations. Most of the fasteners that are plated at the facility go through the zinc electroplating process. The plating process at the Fintex facility involves placing the fasteners into barrels (which are metal containers with a sieve-like outer structure). Prior to plating, the parts to be plated go through a series of alkaline cleaners to clean them, through a hydrochloric acid pickle bath to remove heat treat scale from the parts, and a de-smudging tank which contains an electrically charged sodium hydroxide (NaOH)-based cleaner. The cleaned fasteners are then zinc plated. After plating, the fasteners, still in the barrels, go through a topcoat line. The topcoat line applies two water-based sealers and a coating of 10% trivalent chromate (in solution with water). The chromate coating is used to passivate the zinc-coated fasteners to allow for greater oxidative protection for the parts. After coating, the fasteners are dipped in a water-based wax coating, after which they are run through an electrically heated centrifugal dryer. After drying, the fasteners are packaged for customer use.

The facility also has a mechanical plating operation. Mechanical plating is used for high hardness fasteners. The process does not involve any electric current. Instead, fasteners going through this process are placed in a tumbler that first cleans the parts, then a mixture of zinc metal powder, water and additives are added to the tumbler to coat the part.

Fintex purchased this property and building in 1999, and they began operations at the location in 2000. The facility initially operated the plating operations described in the previous paragraphs. Six of the flow coat coating lines were added to the facility around 2009. According to information in the facility file, these six coating lines were moved to the Fintex facility from another facility, MLOK/Reilly Plating in Melvindale.

I was told during the site visit that the Fintex facility currently operates 3 shifts Monday through Saturday, with occasional shifts occurring on Sundays. The facility currently has 45 employees.

From the perspective of air quality regulations, the following is a listing of the process equipment that is included in the Fintex facility's current DEQ-AQD permits:

- EUFlowCoat 1 through 6 – six coating lines that utilize flow-coat applicators to apply various adhesives, sealants and anti-friction compounds to the thread portion of fasteners.
- EUNylon7 - a nylon patch line that applies a powder-based adhesive coating to fasteners.
- EUFlowCoat8 – a coating line that uses a flow-coat applicator to apply various adhesives, sealants and anti-friction compounds to the thread portion of fasteners. This coating line was added to the facility in 2017.

The plating operations that were previously described are not subject to DEQ-AQD permitting requirements. The regulatory applicability of the plating equipment will be discussed later in this report. The facility also operates two small natural gas-fired boilers at the facility – a Donlee Technologies boiler with a maximum rated heat input capacity of 3.35 MMBTU per hour, and a Johnson Boiler Company boiler with a maximum rated heat input capacity of 4.2 MMBTU per hour.

Inspection Narrative

I arrived at the facility at 9:55am. I was met by Kent DesJardins of Fintex. We proceeded to a conference room in the office portion of the facility, where we began our discussion.

Kent started by providing me with some background about Fintex and the facility. He told me that Fintex began operating at this location in 2000. He described the facility operations, the products produced at the facility, and the operating schedule. He told me that the facility processes fasteners for customers. Some of the fasteners are sent to the Fintex facility directly from the customer (an example being an automotive manufacturer), and some are sent by the company that made (forged, tooled) the fastener. Kent told me that 99% of the fasteners that the facility processes are used in the automotive industry. He told me that the facility zinc plates and/or coats the fasteners. In describing the coating process, Kent provided that toluene is the current solvent carrier of the

coatings used at the facility; the company discontinued use of xylene and ethylbenzene for this purpose. 3M manufactures the adhesive coatings that the facility uses, and Fintex worked with 3M on the formulation of the coating to allow for the facility's substitution of solvents. The facility also uses t-butyl acetate to maintain the viscosity of one of the coatings, and for process clean up operations. Kent told me that the t-butyl acetate that is used for cleaning is recycled for re-use.

We then discussed the facility's permits. Kent had facility recordkeeping documents printed out for me, and we reviewed the information while discussing the facility's compliance with their permits. Kent provided me with some details about the recordkeeping sheet titled "Usage". The first column represents 2353 Blue, which is an adhesive that is thinned with t-butyl acetate. The second and third columns represent 2510 Orange and 5935 Blue, which are 3M adhesives that utilize toluene. The fourth column represents 4291 White, which is another 3M adhesive used at the facility. The fifth column represents EzDrive, which is a water-borne sealant for the fastener threads. The sixth column represents 614 Safety Film, which is a water-borne wax coating that is applied to the entire fastener after zinc plating. The seventh column represents 615 Safety Film, which is an anti-friction material that is applied to the fastener threads. The eighth and ninth columns represent toluene and isopropyl alcohol, which are used to thin the 2510 Orange and 5935 Blue coatings. The tenth column represents TNT 15, which is a friction modifying sealer that is applied as part of the plating process. The eleventh column represents MK05, which was discontinued for use at the facility 10 years ago. The twelfth column represents t-butyl acetate, which is used to thin the 2353 Blue coating, as well as for process clean down.

After reviewing the permits and the facility records, Kent took me on a tour of the facility. We started by looking at the coating lines. The seven coatings lines utilize flow coat technology; at Fintex, this involves a thin stream of coating being poured onto the fastener that is being coated. The fasteners pass through the flow of coating via conveyors; fasteners are rotated if the coating is to be applied all around the threads, or held stationary if the coating is to be applied to only a portion of the thread circumference. With flow coating, there is no spraying, and the coating that is not applied to the fasteners is collected by a trough located directed under the part that is being coated and recirculated for use.

We proceeded to the nylon patch line identified as EUNylon7. Fasteners that are coated via this process have 180° of the circumference at the end of the thread coated with a nylon powder coat that serves to enhance mechanical locking when the fastener is used for its intended purpose. The fasteners are heated to 400°F to allow the powder coat to adhere to them, then water quenched to cool the parts.

We then walked through the plating operation. Kent pointed out the baskets that are used to hold fasteners and carry them through the plating process. He said that a barrel can hold 600 pounds of fasteners. We walked through the zinc electroplating process, starting with the various cleaning tanks, to the zinc plating tanks, to the topcoat line through which the sealers and chromate are applied.

We walked to the northwest portion of the facility, and Kent showed me the materials management area of the facility where waste material is collected. We then looked at the two boilers. The boiler plates/stickers on the units did not provide information related to the maximum BTU or natural gas input, or the dates of installation. Kent called someone in the facility to check the facility files for this information, and I was provided with the maximum rated heat input capacities of the boilers prior to leaving the facility.

We then looked at the mechanical plating operation. Kent explained that this process is used for fasteners that need to have high hardness to prevent hydrogen from getting in cracks or void spaces, which can cause breakage in use due to a condition referred to as hydrogen embrittlement. On the way back to the office, we walked past containers of incoming fasteners that will be processed at the facility, as well as fasteners that were processed at the facility and were being packaged for delivery to Fintex's customers.

When we arrived back at the facility's offices, I was provided with the maximum rated heat input capacities of the boilers. After some conversation to summarize the site visit, I left the facility at 11:45am.

Permits/Regulations/Orders/Other

Permits

The Fintex facility currently has two active DEQ-AQD Permits to Install (PTI). The following is a summary of Fintex's compliance with their permits.

- **Permit to Install No. 68-09**

This permit covers the operation of 7 coating lines – EUFlowCoat1 through 6, and EUNylon7. This PTI serves to limits facility-wide HAP emissions to below major source thresholds. When the seventh flow coat line, EUFlowCoat8, was added to the facility in 2017, it was added to the facility's General Permit to Install for coating lines, PTI No. 60-09. In an e-mail sent from DEQ-AQD's Permit Unit staff, it is stated that the facility was made aware that the emissions from the new flow coat line should be accounted for in the HAP opt-out demonstration required by PTI No. 68-09. A copy of the e-mail from the Permit Unit is attached to this report for reference. The records that were provided by the company show that the facility has been tracking and including emissions from EUFlowCoat8 since July 2017, the first month that this flow coat line operated.

The following provides a description of the Fintex facility's compliance with the Special Conditions put forth by Permit to Install No. 68-09. All of the permit special conditions (SCs) are in the FGFACILITY Flexible Group.

I. Emission Limits

SC I.1 limits the equipment covered by the PTI to 9 tons per year (tpy) of each individual HAP per 12 month rolling time period as determined at the end of each calendar month, and SC I.2 limits the total aggregate HAP emissions from this same equipment to 22.5 tpy per 12 month rolling time period. One of the recordkeeping sheets that is kept by the facility is titled "HAPs Emissions". Kent provided me with a copy of this sheet during the site visit. Based on the information presented on this recordkeeping sheet, which includes HAP emission records from July 2016 through June 2018, the primary HAP at the facility is toluene. The month with the highest reported 12 month rolling individual HAP emissions was June 2017, with 7.68 tpy reported. The month with the highest reported 12 month rolling total/aggregate HAP emissions was March 2017, with 8.85 tpy reported. The facility is in **compliance** with these conditions.

II. Material Limits

There are no material limit restrictions in this PTI.

III. Process/Operational Restrictions

There are no process/operation restriction conditions in this PTI.

IV. Design/Equipment Parameters

There are no design/equipment parameter conditions in this PTI.

V. Testing/Sampling

SC V.1 requires that the HAP content of the materials used at the facility be kept using manufacturer's formulation data. Kent showed me a folder that contains the Safety Data Sheets, as well as some lab sheets, for the HAP containing materials that Fintex uses. **Compliance**.

VI. Monitoring/Recordkeeping

The facility is **in compliance** with the special conditions (VI.1 and 2) in this section. SC VI.2 requires that Fintex keep monthly records of a) the gallons of HAP containing material used; b) gallons of HAP containing material reclaimed; c) HAP content of each HAP containing material used; d) individual and aggregate HAP emission showing the monthly emission rate of each; and e) individual and aggregate HAP emission calculations showing the annual rate of each in tons per 12 month rolling period as determined at the end of each calendar month. Two of the recordkeeping sheets that were provided to me during the site visit, titled "Usage" and "HAPs Emissions", provide this information. "Usage" provides the amount of each HAP containing material used during each month from July 2016 through June 2018. "HAPs Emissions" includes the monthly and 12 month individual and total/aggregate HAP emission estimates required in d) and e). The HAP content of the materials is maintained by the facility as described in the write up for SC V.1 of this PTI.

VII. Reporting

There are no reporting requirements put forth in this PTI.

VIII. Stack/Vent Restrictions

There are no stack parameters specified in this PTI.

IX. Other Requirements

There are no conditions in this section of the PTI.

- **Permit to Install No. 60-09**

This permit is a DEQ-AQD General Permit for Coating Lines Emitting up to 10 Tons per Year of VOCs. The PTI was initially approved and issued per correspondence dated April 16, 2009. This initial iteration of the PTI covered EUFlowCoat1 through 6, and EUNylon7. The portion of application form for each coating line states that there is no add-on control equipment, and that the stacks are at least 1.5 times the building height, except for EUFlowCoat6 and EUNylon7, which both exhaust in-plant. As such, these two coating lines do not meet the stack height requirements for this General Permit, so they are not subject to the 10 tpy limit per coating line, but they are included in the 30 tpy limit on all coating lines. They are included to limit the potential emissions from all of the coating lines to 30 tpy. The PTI was modified in May 2017 to incorporate EUFlowCoat8.

The following provides a description of the Fintex facility's compliance with the Special Conditions put forth by Permit to Install No. 60-09. The format of the conditions is somewhat different than in non-General PTIs.

I. Design Parameters

The provisions in this section of the General Permit, identified as A through D, provide some parameters about the equipment covered by this type of permit. I.A defines a coating line. I.B puts forth the type of particulate control that should be used to spray applications. Recall that Fintex utilizes flow coat application. Information is attached to this report that defines and describes flow coating. I.C requires HVLP spray, or an equivalent technology with equal or better transfer efficiency; flow coat is one of the methods listed as being equal or better. I.D puts forth that exhaust gases from coating lines addressed by this PTI should be vented to the ambient air unobstructed and vertically upwards. As previously mentioned, two of the coating lines, EUFlowCoat6 and EUNylon7, are vented internally. Due to their not meeting the stack requirements of the General Permit, the 10 tpy limit per coating line does not apply to EUFlowCoat6 and EUNylon7; this limit only applies to EUFlowCoat1 through 5 and EUFlowCoat8. The 30 tpy limit on all coating lines in section II. of the General Permit includes EUFlowCoat6 and EUNylon7, as it applies to all coating lines at the stationary source, whether covered by a General Permit, a Permit to Install issued pursuant to Rule 201, or exempt from the requirement to obtain a permit pursuant to Rule 287 and/or Rule 290. Fintex has been demonstrating that EUFlowCoat6 is exempt from permitting requirements per the provisions of Michigan Administrative Rule 287(c), and the EUNylon7 is exempt from permitting requirements per the provisions of Michigan Administrative Rule 290. Also, these two emission units are included in the HAP opt-out permit, PTI No. 68-09.

II. Material Usage/Emission Limits

II.1 limits the VOC emissions from each coating line to 2,000 pounds per calendar month and 10 tpy. II.2 limits the VOC emissions from all coating lines and all associated purge and clean-up operations at the stationary source to 30 tpy based on a 12 month rolling time period as determined at the end of each calendar month. The facility tracks the monthly and 12 month rolling VOC emissions for each coating line on the recordkeeping form titled "VOC". The form currently tracks emissions information from July 2016 through June 2018. The highest recorded 12 month rolling VOC emissions estimate for all of the coating lines is 9.3 tons in March 2017. The 12 month rolling total for June 2018 is 7.46 tons. All of the individual coating lines that are subject to the requirements of II.1 have reported emissions well below 2,000 pounds per month. **Compliance.** A copy of the "VOC" recordkeeping form is attached to this report for reference.

III. Compliance Evaluation

Section III.A puts forth the recordkeeping requirements of the General Permit. The recordkeeping spreadsheets track the information that is required to be recorded by this section. The "Usage" sheet tracks and presents the VOC content of the coatings, reducers and clean-up materials used, and the monthly usage of each of these materials. The "VOC" sheet tracks and presents the monthly and 12 month rolling VOC emission estimates for each coating line, and for all such equipment at the stationary source. The company maintains current listings of the composition of each coating, including Safety Data Sheets. **Compliance**.

Section III.B addresses the VOC emissions testing requirements of the General Permit. Fintex maintains information about the VOC content of the coating-related materials that are used at the facility. DEQ-AQD has not requested a specific test of the VOC content. The facility is complying with the requirements in this section.

IV. Operational Parameters

I was told that all waste coatings and reducers are stored in closed containers and disposed of in an acceptable manner. During the walk through of the facility, Kent showed me the area of the facility where waste is handled. Al waste coatings were in closed containers and marked for recycle or disposal. The facility is in **compliance** with IV.1. The facility does not perform spray coating, so IV.2 is not applicable.

V. Allowed Modifications

This section addresses the methods for replacing or installing new coating lines at the facility. Fintex followed the procedures in this section when they modified this General Permit to add EUFlowCoat8.

VI.

This section of the General Permit is for facilities that use add-on control equipment to meet the emission limits in the permit. This does not apply to Fintex as they do not utilize VOC control equipment.

Regulations
The Fintex facility is an opt-out source for HAP emissions due to PTI No. 68-09 serving as a HAP opt-out permit. Thus, the Fintex facility is classified as an area source of HAPs. PTI No. 60-09, as a General Permit for coating lines, serves to limit potential VOC emissions from the coating lines to 30 tpy.

- **Federal**

The facility coats threads and other portions of metal fasteners. Due to PTI No. 68-09 serving as a HAP opt-out permit, the facility is not subject to 40 CFR Part 63 Subpart MMMM (National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products), which applies to major sources of HAPs. The facility is also not subject to the area source provisions of 40 CFR Part 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources). Per the applicability criteria in 63.11170(a)(3) of Subpart HHHHHH, the facility applies coating to metal substrates in a way that does not meet the definition of "spray-applied coating operations", as provided in 63.11180. The definition states that spray-applied coating involves "...a hand-held device that creates an atomized mist of coating and deposits the coating on a substrate". The definition goes on to state that spray-applied coatings do not include specified material or activities which includes "surface coating application using...flow coating...". Fintex utilizes flow coat technology, which does not meet the Subpart HHHHHH-specific definition of spray coating. Thus, the subpart does not apply.

40 CFR Part 63 Subpart XXXXXX (National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories) does not appear to apply to the Fintex facility as the facility does not manufacture the metal parts that they process; they plate and/or coat them. There is a sub-category in Subpart XXXXXX for the coating of metal parts that addresses the preparation of parts prior to coating. However, as is the case with Subpart HHHHHH, the provisions apply to spray coating, and flow coating is excluded from the definition of spray coating.

40 CFR Part 63 Subpart WWWWWW (National Emission Standards for Hazardous Air Pollutants: Area Sources for Plating and Polishing Operations) applies to areas sources of plating and polishing. Fintex should not be subject to this subpart, which applies to sources that use cadmium, chromium, lead, manganese and/or nickel. Similarly, the plating operations at Fintex are not subject to 40 CFR Part 63 Subpart N (National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks). The electroplating that occurs at the Fintex facility involves zinc. As described earlier in this report, after zinc plating, fasteners go through a top coat process that includes a chromate coating. There is no chrome plating occurring at the facility at this time.

The two boilers at the facility are not subject to the provisions of 40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). Subpart Dc applies to steam generating units that were constructed, modified or reconstructed after June 9, 1989 and that have a maximum rated heat input capacity of greater than or equal to 10 MMBTU per hour, and equal to or less than 100 MMBTU per hour. The maximum rated heat input capacities of the two boilers at the Fintex facility are less than 10 MMBTU per hour.

- **State**

The two boilers are exempt from DEQ-AQD permitting requirements per the exemption provisions put forth in Michigan Administrative Rule 282(b)(i).

The cleaning operations associated with the plating operations are exempt from permitting requirements per the provisions of Rule 281(e) and Rule 285(r).

The facility has utilized the provisions of Rule 290 to demonstrate that emissions from the zinc electroplating line are exempt from permitting requirements. There is a document in the facility file that was prepared for Fintex by ECT, Inc. that demonstrates that, using a worst-case assumption that the zinc plating operates 24 hours per day, 365 days per year, the estimated monthly particulate emission rate from the zinc plating tanks would be about 6 pounds per month. As part of the Rule 290 demonstration, it was proposed that Fintex would maintain monthly records of the following information from the zinc plating tanks – tank bath temperature, concentration of zinc in the bath, the cathode efficiency for zinc, and the current density. This information is being maintained.

Compliance Determination

Based upon the results of the August 2, 2018 site visit and a review of the facility's compliance records, the Fintex, LLC facility in Romulus appears to be **in compliance** with applicable rules and regulations, including with the terms and conditions of Permit to Install Nos. 60-09 and 68-09.

Attachments to this report: copies recordkeeping sheets that are used by the company to track coating line information, titled "Usage", "HAPs Emissions", and "VOC"; an information sheet that defines flow coating; a copy of an e-mail from DEQ-AQD's Permit Unit that addresses the addition of EUFlowCoat8 to the General Permit, and the relation to PTI No. 68-09.

NAME Steve Wes DATE 8/29/18 SUPERVISOR JK