



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

DATE: See Date of Section Chief Signature Below

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
A Finkl & Sons Co, Chicago, IL

FROM: Brittany Cobb, Environmental Engineer
AECAB (MI/WI)

THRU: Sarah Marshall, Section Chief
AECAB (MI/WI)

TO: File

BASIC INFORMATION

Facility Name: A Finkl & Sons Co

Facility Location: 1355 East 93rd St. Chicago, IL 60619

Date of Inspection: 8/10/2021

EPA Inspector(s):

1. Brittany Cobb, Environmental Engineer
2. Alexandra (Sasha) Letuchy, Environmental Engineer
3. Victoria Nelson, Environmental Engineer
4. Veronica Fischer, Environmental Engineer

Other Attendees:

1. Steve Tyrolt, Director of Engineering
2. Chuck Mamich, Vice President of Engineering and Continuous Improvement

Contact Email Address: styrolt@finkl.com

Purpose of Inspection: To determine Clean Air Act (CAA) Compliance.

Facility Type: Iron and Steel Mini Mill

Regulations Central to Inspection: 40 CFR Part 60 Subpart AAa – NSPS for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983; 40 CFR Part 63 Subpart YYYYYY – NESHAP for Area Sources: Electric Arc Furnace Steelmaking Facilities; 40 CFR Part 60 Subpart IIII – NSPS for Stationary CI Internal Combustion Engines (ICE)

Arrival Time: 10:00AM CST

Departure Time: 12:30PM CST

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Steve Tyrolt or Chuck Mamich unless otherwise noted.

Company Ownership: This facility started full production in 2014. The equipment was purchased, and operations started in between 2010 and 2014.

Process Description:

Scrap steel is delivered by truck. The scrap steel is visually inspected and screened by a radiation detector system. Approximately 10 loads are rejected per year. The scrap is then loaded into a charge bucket, transported to the melt shop via rail and charged into the electric arc furnace (EAF). The top of the EAF swings closed after the scrap from the charge bucket is added. The EAF's physical capacity is 90 tons, and a typical charge is 70 tons. Emissions generated during melting at the EAF are exhausted out of the fourth hole to the melt shop baghouse. Once melting is complete, the molten steel is tapped into a ladle before proceeding to the ladle metallurgy furnace (LMF). Emissions generated during charging and tapping routed to the melt shop baghouse through a canopy hood system. Various alloys are added at the LMF to meet consumer specified specifications. Molten steel leaving the LMF will then be further processed in a vacuum tank degasser. Afterwards, a teeming car will pour the processed steel into molds using a "trumpet" that allow the steel to be bottom poured into respective molds. The steel molds are left to solidify for 16 to 48 hours. Once the molds are solidified, they are dumped out and transported to the heavy forge shop where they are reheated and reshaped. Ingots are heat treated and quenched in water to relieve any stress in their micro-structure. Treated ingots are then sent to the machine shop for rough machining and finishing. After machining, ingots are sent to storage and shipping. Emissions generated during processing at the LMF, scrap cutting, and point-of-use

bins are also routed to the melt shop baghouse through a canopy hood system. Melting takes place between the hours of 10:00PM and 7:00AM and is dependent on customer needs and electricity prices. An average of 60,000 – 80,000 tons are melted per year.

Staff Interview: The melt shop baghouse only runs during, slightly before and after EAF melts. The canopy hood is always on. There is a bag leak detection system that has never gone off during normal operations. The staff take daily opacity readings of the baghouse stack (three 6-minute readings) and weekly readings of the melt shop rooftop (two 6-minute readings) during melting. The staff have never seen emissions at the stack, but they have seen occasional opacity over the roof, below opacity limits. They do not perform nighttime opacity observations and therefore wait until sunrise. The baghouse bags are changed out and serviced every 5 years. They also do visual checks of the bags every couple of weeks during maintenance, but this is not recorded. The temperature at the ducts and differential pressure across the baghouse is monitored but not regularly recorded. They do not monitor static pressure in the ducts, air flow rate or have a continuous emissions monitoring system (CEMS) for the baghouse. They also do not inspect for dust in the ductwork or record damper position, because the damper is in a fixed position. The last stack test was performed 3 years ago and the next one is scheduled for January 2022. The stack test measured nitrogen oxides (NO_x), carbon monoxide (CO), lead (Pb), volatile organic compounds (VOCs), particulate matter (PM), and sulfur dioxide (SO₂) emissions.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

Steve Tyrolt led the inspectors on a tour of the facility. Inspectors observed visible dust near the LMF while staff were emptying a hopper of alloy into a super sac. There was also a strong burning/metal smell. Inspectors observed large garage doors that were closed during the inspection. The inspectors were informed that the doors are opened during the summer. Inspectors also observed holes in the LMF area walls/ceilings.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

1. Opacity Readings

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

1. 2016 – 2020 Annual Compliance Records
2. 2016 – 2020 Annual Emission Reports

3. 2019 – 2021 Maintenance and Inspection Records for Baghouse
4. 2020 – September 2021 Pressure drop data for the baghouses
5. Baghouse Design Capacity
6. Copy of most recent stack test
7. 2020 – 2021 NSPS Subpart AAa Semiannual Compliance Reports
8. 2021 – 2021 NESHAP Subpart YYYYYY Semiannual Compliance Reports

Concerns: There were holes in the building of the LMF area and a distinct burning smell. Additionally, it is concerning that large overhead doors are left open during operations and the staff members don't regularly record pressure drop data.

Compliance Assistance: EPA inspectors made several "good practice recommendations". At this point, it is recommended that the facility repair holes in the building of the melt shop, check for dust accumulation in the duct work, confirm airflow through the duct work is sufficient and ensure inward draft is maintained when the doors are kept open in the summer.

DIGITAL SIGNATURES

Report Author: Cobb,
Brittany Digitally signed by Cobb,
Brittany
Date: 2021.09.23
10:22:05 -05'00'
Brittany Cobb
Environmental Engineer

Section Chief: SARAH
MARSHALL Digitally signed by
SARAH MARSHALL
Date: 2021.09.23
14:22:39 -05'00'
Sarah Marshall
Section Chief

APPENDICES AND ATTACHMENTS

1. Digital Image Log

Facility Name: A Finkl & Sons Co
Facility Location: 1355 East 93rd St. Chicago, IL 60619
Date of Inspection: August 10, 2021

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Alexandra (Sasha) Letuchy	2. Archival Record Location: https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_A%20Finkl_IN_21_Inspection/Photos?csf=1&web=1&e=bWjh7S
---	--

Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	IMG_1	11:34 AM	Exterior view of baghouse and ducts.
2	IMG_2	11:44 AM	Dust from emptying the hopper in the melt shop.
3	IMG_3	11:45 AM	Dust from emptying the hopper in the melt shop.
4	IMG_4	11:45 AM	Visible holes in the building.
5	IMG_5	11:51	Forging Operations