



SCHUST
A MEMBER OF THE SCHEUCH GROUP

PROJECT PROFILE

EMISSION CONTROL WITH CANOPY STYLE VENTILATION

The Situation

It was found that employees processing copper were inadvertently being exposed to a Hazardous Air Pollutant (HAP). Quickly, the facility management called Schust to come and evaluate the system and to determine a solution to capture the HAP.

In this type of furnace charging application, the need for a canopy style ventilation is necessary as the close capture hooding cannot capture 100% of the emissions from the furnace during charging. Schust had completed the turnkey installation on the original furnace baghouse only a few years earlier and plant capital was not allocated at that time for the canopy style ventilation design.

PROJECT IN BRIEF:

EQUIPMENT & SERVICE

- Engineering
- Turnkey
- Installation
- Commissioning
- Dust Collector

INDUSTRY

- Copper

APPLICATION

- Emission Control

AIR VOLUME

- 250,000 ACFM

The Solution

This facility utilizes a 250-ton rotary furnace to produce copper rod. Based on calculations done by Schust to get the proper number of air changes per minute for the melt shop area 250,000 acfm was specified as the target volume for this application.

Capturing this HAP needed to be done quickly, but safety was a priority. This project was handled as a turn-key project, which meant we had complete design, fabrication, installation and start up as part of our scope of work.

First, roof vents were closed off by the plant to prevent any leakage to surrounding areas. The clear solution was to install a hood to the roof. This heavy component posed a unique challenge to this building. Schust designed, fabricated, and installed the hood using reinforced steel on the roof to handle the weight of the hood.

Second, to lower the cost of maintenance, online cleaning was added to the dust collector. Online cleaning does not require the use of inlet dampers, therefore, reducing the cost of upkeep. This does pose some cleaning challenges depending on the collected dust chemistry. But with a canopy system and the bulk density of the dust and after nearly a century of experience, Schust knew this was a good, economical solution for the copper processor.

As part of an effort to keep the HAP laden dust on the melt shop side of the facility, an interior wall was added to the casting side of the production.



This

project started engineering mid-third quarter and commission and start-up was finished by the end of the following second quarter.

Follow-up

Passive exposure badges have revealed that employees are exposed to little or no lead after the system was installed.



Contact Schust to learn more about this project.

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