

MPW's Mini Excavator improves safety, increases production time at steel mill



ENGINEERED SOLUTIONS ARE BEST WAY TO ELIMINATE SAFETY HAZARDS

For more than 20 years, workers at an integrated steel operation located in the Midwest had been breaking slag deposits with jackhammers and 20,000 psi water jet pumps to remove deposits from the roll mill. But after a worker was injured by falling slag, the plant and MPW sought a safer, more efficient method to replace this process.

SOLUTION

The plant charged MPW, with its established history of tackling safety-related issues, to develop an automated process for slag fragmentation. MPW knows PPE plays a crucial role in improving safety, but the implementation of engineered solutions is the best way to eliminate safety hazards.

The final automated system consisted of an ultra-compact mini excavator mounted on a platform, which allowed it to traverse along an existing track, demolishing slag using a hydraulic hammer bit. This prevents manual use of jackhammers and water jet pumps, and more importantly, eliminates workers from entering the confined space during the slag-shattering process.

Features of the Mini Excavator-Caster Flume:

- Extended hammer bit
- 20,000 psi blast bar on excavator boom
- Skid for placement on rollers
- Locking pins to secure to roller
- Camera for improved visual reference
- Diesel, propane or electric propulsion options
- Digging height and radius both exceed 9 feet
- Digging depth of over 5 feet
- Safety checklist
- Fire extinguisher

RESULTS

Consistent communication between MPW and the plant, as well as continuous improvements to the equipment between operations enabled MPW to formulate and implement the improved system.

The excavator allows four people per downturn to focus on other tasks, producing a significant reduction in downtime and a correlating increase in production time for the client.

Plant personnel remarked that the tool was one of their most successful recent safety initiatives and even presented the system to their corporate executives.

There have been no safety incidents related to roll mill slag removal at this location since the implementation of MPW's Mini Excavator-Caster Flume.

COMMITMENT TO SAFETY

MPW recorded zero safety incidents during this project