

Steel Mill Upgrade

LOCATION

Indiana Harbor, IN

CUSTOMER

Stevens Painton Corp

DESCRIPTION

Diamond wire cutting operating floor penetration in steel mill.

Bluegrass makes short work of tricky cuts at steel mill.

Using core drills and diamond wire saws, Bluegrass surgically cut out a wedge-shaped piece of concrete twenty feet deep in the floor of a steel mill in Indiana Harbor, Indiana, during a plant upgrade outage. Mill owner Mittal Steel had contracted with Bluegrass' client, Stevens Painton Corporation, to replace certain equipment at the mill.

Cutting the wedge-shaped block took Bluegrass just twenty-four hours during the tightly-timed steel mill outage. The hole formed the exact shape needed for Stevens Painton to install a machine that would change the direction of a steel coil conveyor. The machine was located on the steel coil line at the mill.

"It was a tricky drilling job to get the access holes drilled correctly so we could cut on an angle," says David Kreider, project manager for Bluegrass. "Other cutters didn't want to mess with it. And jack-hammering that concrete by hand would have been messy, unsafe, and time-consuming."

Bluegrass first drilled two holes spaced about four feet apart, straight down through the twenty feet thick concrete foundation. The next task was to drill two parallel angled holes down to meet the straight holes at a two points and form the four sides of a wedge. For the angled holes, Bluegrass set up a drill bolted to a plate that was anchored to the concrete floor. The plate was installed at a fixed angle of about fifteen degrees from vertical; it ensured that the drill bit angle would be on target.

Next, Bluegrass wrapped diamond wire through the holes to cut each of the four sides of the wedge. "Once we got the holes right, it was no trick to keep the wire going," said Kreider. "You just keep tension in the wire."

In the same project, Bluegrass also used a circular wall saw to cut a four inch horizontal slot eighteen inches deep into a wall and about twenty feet long. The wall saw made two parallel cuts, one four inches above the other. Crews chipped out the concrete between the cuts to form a slot.

From the top of the wall, Bluegrass drilled down three feet at the back ends of the slot. That permitted diamond wire saws to make three cuts, one across each end and one twenty feet long vertical cut, to form a concrete beam. The beam was lifted out and new equipment could be installed.

"We had to get this job done in minimal time, and we did it," says Kreider.