

STEEL INDUSTRY

OVERVIEW

Pivotal's expert team of engineers, machinists and mechanics understand the demands that are placed on steel industry professionals. Allow us to partner with your mill for all of your centrifugal pump repair needs. Our quality pump repairs will ensure optimal safety and uptime for your mill.

Applications

- Descaling Pumps
- Cooling Tower Pumps
- Scale Pit Pumps
- Lagoon Pumps
- Dewatering Pumps
- Pickle Liquor Pumps
- Quench Pumps
- Waste Acid Pumps
- Scrubber Service Pumps
- Lube Oil Pumps

Challenge

Multi-stage centrifugal pumps are utilized at hot strip rolling mills to blast impurities off of glowing hot ingots as they come out of the continuous casters. A new ingot is produced approximately every 15 minutes, requiring the Descaling Pumps to cycle between full flow and minimum flow on a recirculation line four times per hour. Cycling the pumps between full and minimum flow causes internal hydraulic instability within the pump, leading to increased wear and a reduction in effective pump life. A particular mill located in the Midwest US was achieving only 2 years between pump failures.

The Pivotal Solution

Pivotal Pumps team of experienced engineers was able to repair each of their descaling pumps to include the use of specially manufactured wear rings that dramatically improved the useful life of the pumps. The new wear rings utilized Lomakin grooves for increased efficiency and Laser Deposition Welded (LDW) wear surfaces with an effective hardness that exceeded 65 HRC. As a result of these engineered upgrades, the mean-time-between-failure (MTBF) for the descaling pumps increased from 2 to 8 years.