

The Pit that Ate Pumps

“When it comes to submersible pumps, the GPM-Eliminator™ is the top of the line. Once I witnessed the capabilities of the pump, I knew that it would outperform anything else in the market.”

~Maintenance
Superintendent

This white paper includes two case studies, including the case of GPM vs. the pump-eating pit. Picture a pit filled with the most abrasive slurry imaginable – exploded slag, which is basically tiny shards of glass. At one industrial aggregates plant in Indiana, a pit like this was chewing through a pump every four days.

Conditions in America’s steel mills are some of the toughest in heavy industry.

The pump equipment used in a steel mill must withstand considerable stress from the elements and handle immense amounts of abrasive material in need of disposal. At a major steel mill in Hammond, Indiana, demanding conditions put the GPM-Eliminator™ to the test and demonstrated why the product has set the standard for all heavy-duty slurry pumps in the market.



Safer Work Environments

At one steel mill in Indiana, basic oxygen furnace (BOF) unit, scrap metal and raw carbon (coke) are melted in massive ladles, where the mixture is processed into steel. This process generates an incredible amount of heat, eventually bringing the molten metal to a temperature of 3,000 degrees Fahrenheit. To control the heat, BOF workers use a mixture of water and liquid coolants, which end up flowing into pits. From there, it must be pumped out for recycling or disposal. These pits are hot and caked in thick slurry consisting of slag, silica and scale. The installation and removal of equipment in these applications can be risky for workers. For this reason, it is crucial that the slurry pumps placed in the pits are reliable and do not require frequent maintenance or replacement. Since installing the GPM-Eliminator™ into these tough applications, the steel mill workers have seen dramatic declines in downtime. The GPM pumps provide the reliability and durability that they need 24 hours a day.

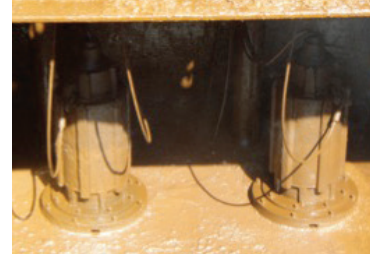


“[Before switching to the GPM-Eliminator™] we had almost a million dollars in costs due to pumps that didn’t last. The GPM-Eliminator™ pumps have been outstanding. We have seen zero failures in the past two years.”

~ Steel Mill
Maintenance
Supervisor

Sludge

Twin GPM-Eliminators™ (shown right) pump thick slurries of mud out of a pit. This pit contains mostly overflow but often includes large items such as sections of hose, scrap metal, or trash. While an application this tough would destroy most slurry pumps, the GPM-Eliminator™ rises to the challenge and remains in excellent operating condition after months of use. These pumps run 24 hours a day, 7 days a week and are an indispensable part of maintaining efficient operations in the steel mill.



Efficient Operations Means Running Non-Stop

For several years, the basement of the Indiana mill’s cooling tower was a site of recurrent flooding. Water levels would often rise higher than three feet and the Mill would incur high costs while workers abandoned their daily tasks to clean the basement. This flooding was due in part to unreliable pumping systems.

GPM recognized the need for a pump capable of performing well without interruption, so it offered the Mill the opportunity to test a GPM-Eliminator™ on a 90-day trial basis at no charge. GPM installed four horizontal dry pit pumps in the cooling tower basement. The results were incredible. Not only did the pumps stop the flooding for the duration of the 90-day trial period, the same GPM-Eliminator™ pumps have been running in this application non-stop for three years, even running dry at times. In addition, cost savings with the elimination of downtime, the Mill also earned an EnergyStar® award for the innovative use of the GPM-Eliminator™.





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GPM vs The Pump-Eating Pit

A large cement company operates an industrial aggregates plant adjacent to the steel mill. At this site, the Company deals primarily with slag, a byproduct of steel production. The unique production process involves hot slag combined with cold water, causing it to “explode,” breaking down chunks of slag into an aggregate that resembles sand in appearance but is sharp, similar to tiny shards of glass. This byproduct is commonly used as a component of cement sold by the Company. Transporting the slag once it is in granule form had previously proven to be a costly undertaking. Before the product can be processed into cement, the slurry must be pumped onto a conveyor system and moved into large piles. The product is so abrasive that until recently, the Company had to replace its slurry pump every four days.

Hoping to reduce the cost of replacing pumps at such a fast rate, and after hearing from the steel workers about the quality of the GPM-Eliminator™ pumps, the Company installed two pumps in their toughest application. Today, GPM is the most trusted provider of pumping solutions for the simple reason that the GPM-Eliminator™ is the only pump that is tough enough to handle such harsh conditions; none of the competition came close. Interestingly, the cement company was so sure that their applications would destroy the pumps, they bought extra units to install when the first purchase stopped working. Those pumps are still in storage.

Summary

The GPM-Eliminator™ is the toughest slurry pump on the market. Success at both the steel mill and cement plant, in what may be the most abusive applications in heavy industry, testify to this fact. In the steel industry, where downtime is expensive and replacing equipment is dangerous, the GPM-Eliminator™ delivers critical cost savings and creates a safer, more efficient work environment. Most importantly, GPM provides a product that customers really appreciate and no other company can replicate. The GPM-Eliminator™ truly is “the top of the line in the bottom of a pit.”

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