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Corrosive Mining Media

Case Study: Mexico
September 2019

Industry: Mining

Process Conditions:

| | |
|--------------------|---------------------------------------|
| Size | 4" |
| Valve Model | F150SS-PGG-L-100 |
| Quantity | 2 pcs/ 4 pcs /7 pcs /4 pcs/10 pcs |
| Temperature | 212F Max |
| Application | Isolation of cyanide and caustic soda |
| Media | Cyanide and Caustic Soda |
| Pressure | 80 |

| | |
|----------------------------------|--|
| <p>Problem</p> | <p>At the end of September 2019, Flo-Tite had contacted the customer and was presented with this challenge. A gold mine in Mexico had been buying valves from at least 6 or 7 different manufacturers and none had worked effectively in the process.</p> <p>The mine was installing 4" Class 150 Stainless Steel Ball Valves with PTFE seats for handling a solution of Cyanide + Caustic Soda at 212 deg F and 80 psi.</p> <p>The valves were failing constantly – often lasting less than 2 weeks. They told us that the metal parts made of 316 SS (body, ball and stems) were intact but the seats were being destroyed by the solution. The white PTFE turned to a brownish color and had come loose from the mount.</p> |
| <p>Flo-Tite™ Solution</p> | <p>Flo-Tite's suspicion was since this was a Gold Mine and based on where the valves were installed, it wasn't just sodium cyanide in the process....it would be Gold Monocyanide, which is not very friendly to PTFE.</p> <p>A metal seated ball valve would do the trick since the casting and balls were not affected, but the decision to try PEEK proved to be less costly.</p> <p>The customer put 2 valves in service – one in this application and one in another application in the plant.</p> <p>After a couple of weeks of success, they ordered several more 4" Class 150 valves.</p> <p>An additional 27 more valves had been supplied and the plant currently has 5 more on order.</p> |