

**PROJECT:**  
Rehabilitating Mining Ball Mills

**LOCATION:**  
Louisiana, U.S.

**OWNER:**  
Global Equipment Manufacturer

**APPLICATOR:**  
Advanced Construction Coatings

**COATING SYSTEM:**  
Watershield III™ with AE-4  
80 - 125 mils

**TOTAL AREA:**  
2,000 square feet

**DATE COMPLETED:**  
August 2010

**PROBLEM:**

One of the world's leading equipment manufacturers for the Mining, and Oil & Gas Industries wanted to convert dry ball mills into wet mills. These 10' x 10' retired ball mills were going to be rehabilitated for a South America refinery that would use them for grinding oily and sandy sludge. The sludge was being refined to allow it to pump into a coker unit for further treatment.

The ball mills steel interior needed protection from the sand and metal balls used to crush and pulverize the sludge material. Extreme conditions required a coating that would properly adhere to the surface, while providing strong abrasion, corrosion, and chemical resistance. Extending the service life of the retired ball mills would provide substantial cost savings for the refinery, eliminating the need to buy expensive new steel material.

**SOLUTION:**

SPI's Watershield III™ polyurea was ultimately selected due to the coating's high tensile strength and strong resistance to abrasion and many caustic materials. Utilizing the NACE-SSPC-10 near white metal surface

preparation standard, the applicator abrasive blasted the steel surfaces to remove years of built-up corrosion damage.

Next, SPI's Watershield III™ polyurea coating, with AE-4 (adhesion enhancer), was spray-applied at 80 - 125 mils. The AE-4 admixture increases adhesion to properly prepared substrates and eliminates the need to use a primer.

**RESULTS:**

The OEM project manager carefully inspected the rehabilitated ball mills. Both the equipment manufacturer and end client were completely satisfied with the finished product. The OEM was able to extend the equipment's service life, saving them money, while reducing their eco-footprint.

