

PROJECT:
Coal Mine Corrosion Protection

LOCATION:
Canonsburg, PA

OWNER:
CONSOL Energy, Inc.

APPLICATOR:
IPI, Inc.

COATING SYSTEM:
POLYSHIELD HT™ Polyurea
With AE-4 (adhesion enhancer)
80 mils

TOTAL AREA:
1500 sq. ft.

DATE COMPLETED:
June 2010

PROBLEM:

The coal mining process creates an extremely corrosive environment that accelerates the breakdown of steel from rust. CONSOL Energy, the largest producer of high-Btu bituminous coal in the United States, needed a durable coating system to protect parts of their coal mine steel infrastructure. Replacing sections of steel is a very expensive process, costing approximately \$150 per foot, not including labor and safety expenses. Other important project requirements included: minimizing any fumes to maintain internal air-quality, using a fast curing product that would not interrupt 24/7 mine operations, and be able to withstand power washing to remove daily coal residue build-up.

SOLUTION:

Project officials and the contracting company evaluated several options. They chose SPI's Polyshield HT™ polyurea because of its corrosion resistance, high elongation and rapid curing properties. This elastomeric coating provides a seamless, flexible membrane that conforms to virtually any substrate shape. Polyshield HT's™ hydrophobic, fast-set properties allow for

applications in high moisture environments. In addition, this advanced polyurea contains 100% solids, has zero VOCs and is odorless after application.

The steel substrates were cleaned and sand-blasted to provide a 6 mil anchor profile for adhesion purposes. Next, the applicator spray-applied 80 mils of Polyshield HT™ with AE-4 (adhesion enhancer) to the steel surface. Using AE-4 eliminated the extra step of applying a primer, saving time and money.

RESULTS:

CONSOL Energy officials are very excited with the performance of Polyshield HT™. Mine maintenance personnel are able to power wash the corrosion-resistant coating to remove coal residue and dust. They now have a reliable solution in place that will extend the service life of their multimillion dollar investment. This substantial cost-saving solution also lowered their eco-footprint by avoiding the need to replace parts of their steel infrastructure.

