


INDUSTRIAL SOLUTIONS USA

A Field Report

Primary Containment – Phosphate Slurry

Project/Customer Information:

Project Overview:	 <p>Application of a spray on monolithic liner to the interior of the slurry suspension tank to prevent corrosion and abrasion failure.</p>
Industrial Customer:	J. R. Simplot Company
Project Location:	Vernal Phosphate Operation Vernal, UT
C&I Applicator:	Rhino Linings Industrial Division, California and Dealer applicator, Vernal, Utah
Lining Solution:	Rhino Linings Tuff Stuff, 100% solids polyurethane sprayed on lining
Lining Application System:	Rhino Linings MX-2300 Hi-Flow SprayCast System – low pressure and low temperature.

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Situation Overview:



Primary storage tanks made of mild steel will eventually fail from corrosion and abrasion degradation. Owners of mild steel primary processing/storage tanks must reconcile the cost of building a replacement tank when it fails and the cost of installing a protective lining that will significantly lengthen to service life of the tank. J. R. Simplot decided to install our sprayed on monolithic lining to protect their above ground processing/storage tank.

Existing Situation:

The 12,000 square foot interior of the slurry tank needed a monolithic lining installed to prevent the inevitable failure due to corrosion and abrasion. The owners considered rubber but were concerned about the adhesive performance between the rubber and the steel substrate as well as the seam integrity. They were also concerned about the long term performance of the rubber after noticing early applications of rubber showed cracking and loss of elasticity.

J. R. Simplot decided to install our thick sprayed on polyurethane solution.

The cost for our lining material was slightly less than the rubber alternative however the installation costs were significantly less.

In addition the finished lining would be monolithic fully adhered to the entire surface of the tank interior and the long term physical performance of our lining was superior to the rubber alternative.



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The Solution:



The interior of the tank was prepared according to SSPC accepted standards for linings and coatings: the mild steel substrate was cleaned of salts and other contaminants, then profiled by media blasting; the substrate was cleaned again then primed; lastly the Tuff Stuff lining was sprayed applied to the entire interior surface of the tank to a minimum thickness of 1/8".

The lining becomes tack free within one minute and the tank could be back in service after 24 hours after completion of the lining installation.



The sprayed on lining created a monolithic, impervious protective lining. In areas expected to receive more severe service, the lining thickness was increased to 1/4" – another benefit of our sprayed on lining system – each application is customized to the needs of the customer.

The lining was installed in 2001 and upon inspection 5 years later it is performing beyond the customer's expectations.

For more information, samples and bids please contact Industrial Solutions USA.

5115 S. Rolling Green Avenue, Suite 211 Sioux Falls, SD 57108
www.industrialsolutionsusa.com