

August 2, 2010

Spray Lining System for Leachate Tanks

Extends life and performance

Landfills contain materials and chemicals collected from the trash that is put there. These materials and chemicals eventually come in contact with the rain and as the rain water drains through the trash and chemicals some of these materials will mix with the water and drain from the landfill. To prevent this liquid called leachate from getting into the environment and the groundwater the landfill is designed to collect the leachate into large collecting tanks called leachate tanks. The leachate tanks hold the leachate water prior their processing.

A land fill in Eastern West Virginia visually identified extensive corrosion to the interior of its two 6700 square foot buried leachate tanks. Although there was no indication of leakage maintenance staff was concerned about the potential for leakage and decided to be proactive and consider rehabilitation or replacement of the tanks. Consulting with an engineering firm, quotations for replacing the tanks and other conventional and alternative proposals were submitted. The most cost effective and less intrusive measure was to do conventional repairs to the tanks (welding and patching) and selecting a tough, abrasive lining system that is environmental friendly. After reviewing the system and analyzing samples of the product it was determined that HydraTech Engineered Products, PolySpray SS100 would be used. PolySpray SS100 is a fast cure, high build, tough, flexible lining system that can be applied on the prepared surface of tanks and pipes to provide a long term durable rehabilitation.

After the decision to utilize PolySpray SS100 a certified applicator was recommended by the manufacturer to perform the surface preparation and apply the material. EB Miller of Cincinnati, OH was selected to perform the lining based on its proven track record.

To continue operation of the landfill leachate system only one tank was taken out of service at a time. The contractor performed a full surface preparation of the tank which included a de-humidification system to provide environmental controls, grit blasting the steel material to commercial blast standards and a 2-3 mil profile for optimum adhesion of the Spray applied liner to the tank surfaces. Surface preparation is the key to the success of any coating and lining and like other professional applicators, EB Miller followed strict standards to maintain the recommended guidelines set by the manufacturer. Once surface preparation was completed, the contractor visually inspected all areas that required repaired, generally holes in the surface that are less than a quarter of an inch can be ignored as the lining system's semi-structural characteristics will bridge those areas.

Once the surface was repaired, the lining was applied. PolySpray SS-100 is a rapid cure high build system that can be applied at various thicknesses, but typically 40-60 mils for most linings with heavier thickness applied for severely degraded surfaces. The cure time of the system is less than 10 seconds and the liner can be walked on in less than 30

minutes. Total cure time and return to service can be accomplished in hours.

The Landfill project met its owners expectations by:

- Cost savings
- Extended life of Leachate System
- Eliminated unnecessary excavation with no impact to the environmental
- Required no disruption of the system and returned system to full capacity in a short window.
- Provided a durable, abrasion resistant, long term, flexible lining that eliminated corrosion concerns.

Topics: Leachate
