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**Problem**

A paper mill was utilizing a 40’ dia x 38’ high tile lined tank to temporally store Kraft pulping liquors. An accidental overfilling of the tank damaged the exterior tiles. After that incident, the tank leaked above 27’ limiting its storage capacity. A civil engineering group was brought in to examine the tank and found that the inner walls were sound but because of the harshness of liquors stored in tank, the recommendation was to demolish and rebuild. Due to price, this option was not acceptable.

In 2001, *Specialty Coating Solutions* was requested to provide other options that might allow the tank to remain in service

**Solution**

Examination of the interior of the tank showed that the acid tile was in fair shape. The interior walls and floor were found to have voids 1-3” in diameter and hairline cracks running vertically along the grout lines. These imperfections were repaired using a fast cure epoxy filler and then the entire area was primed and sealed with an **isopolymer**.

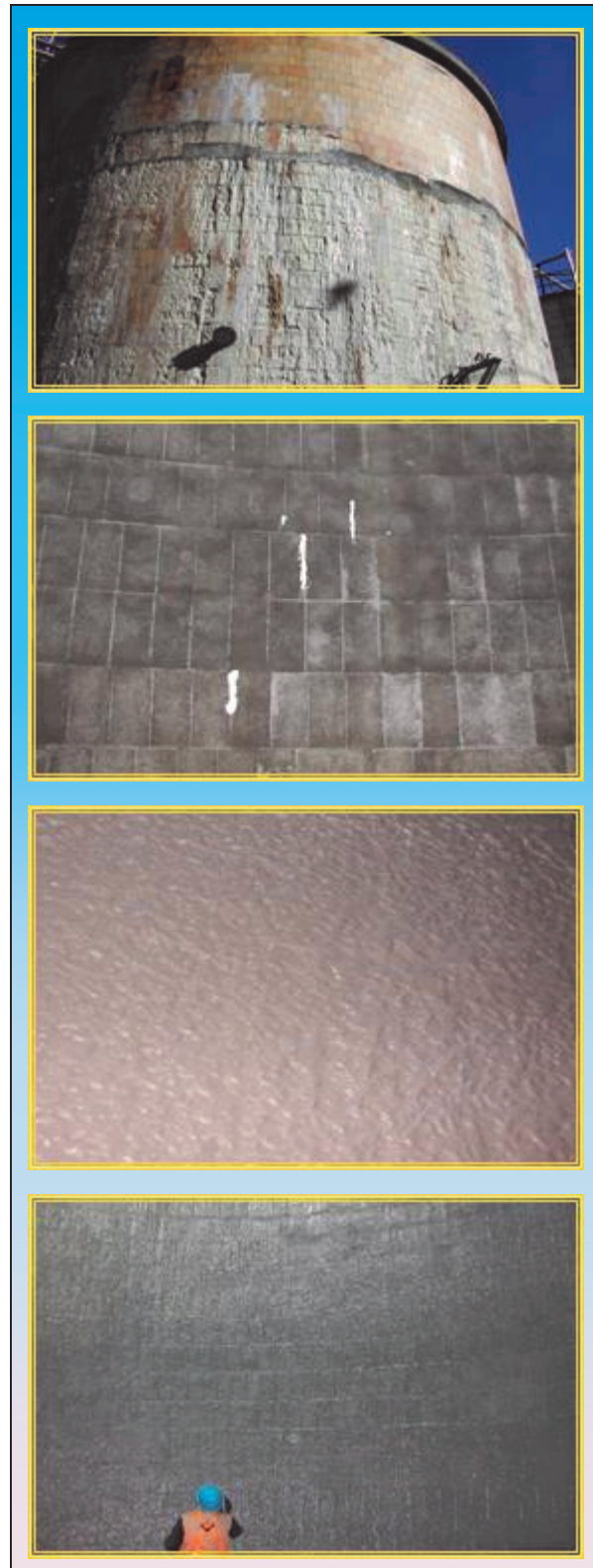
The isopolymer primer chosen has excellent penetrating ability, high strength, and will seal the substrate surface. Most importantly, the isopolymer primer could be applied in freezing temperatures (project was scheduled for January) and still cure within 15 minutes.

The inner surfaces were then lined with 80 mils of **100% pure Polyurea**, an isopolymer with over 500% elongation allowing it to bridge cracks without failure.

Third party testing has shown that **Polyurea** is chemically resistant to the chemicals typically stored in tank, but to accommodate even harsher chemicals, **SCS** elected to topcoat the lining with a **Novalac Epoxy**. This topcoat is a 100% solids, high film build coating which offers excellent chemical, corrosion and abrasion resistance in the most sever industrial environments.

**Results**

*Specialty Coating Solutions* was able to offer the mill an alternative solution to the costly demolition and rebuild option. By lining the interior surfaces of the tank, further damage from leakage was eliminated extending the life of the tank for many years. The completed project was accomplished on time and under budget and the tank was returned to plant operations.



**THE  
SCS  
EPOXY**