STRATHCONA PROCESSING MILL

About one hour's drive from the City of Sudbury, Ontario, ore from some of the deepest mine shafts in the world undergoes extensive processing that involves the use of flotation and thickener steel tanks protected by a thick-film reinforced epoxy from Tnemec. "These thickener tanks are filled primarily with water, but there is also a very high concentration of chlorides, which is why the steel in these tanks corrode so quickly," Tnemec coating consultant David Walker explained. "So the project engineers were looking for a protective lining with abrasion and chemical resistance, corrosion protection, and the ability to deal with a severely pitted surface."

The Strathcona Processing Mill uses four carbon steel thickener tanks where solids and liquids are separated. At the bottoms of these tanks, which measure 100-feet across and 30-feet deep, solid materials are pulled by rotating rakes to an exit point. As the solids settle, liquid overflows into a launder, or trough, to be recycled back to the mill. A protective lining is required to prevent corrosion from chemical-laden slurry.

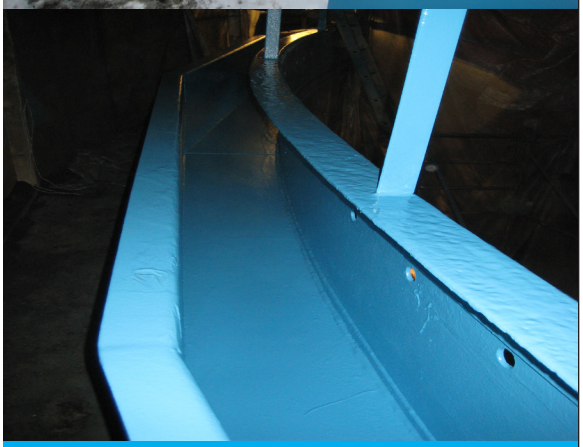
In 2009, the thickener tanks and launders at the Strathcona mill were relined after an existing thin-film epoxy coating failed. Each thickener tank and launder was prepared by the coating contractor, Morin Industrial, in accordance with SSPC-SP5/NACE No. 1 White Metal Blast Cleaning and relined with Series 396 Tank Armor. The 100 percent solids, modified amine epoxy was applied to the interior surface of the thickener tanks, rake arm mechanisms and launders, as well as three steel floatation cells.

After each tank was relined, high-voltage holiday testing was performed to detect pinholes. The fast-curing epoxy lining enabled this required testing within hours of application so the holidays could be repaired. The launders were so severely pitted that a dry film thickness (DFT) of 80 to 125 mils was required. The interior of the thickener tanks were relined at 50 to 80 mils DFT.

After the first thickener tank was complete, the contractor decided to use Series 61 Tneme-Liner, a cycloaliphatic amine epoxy, as a holding primer on the other tanks. "Because the tank was so large, early sections that were blasted started to rust before Series 396 could be applied," Walker added. "With the subsequent tanks, they would blast for a day, stop, clean up the blasted area, and apply Series 61 to protect the steel from rusting. They repeated this process until the entire tank was ready to be lined with Series 396."

FEATURED PRODUCTS

Series 61 Tneme-Liner
Series 396 Tank Armor



PROJECT INFORMATION

Project Location
Sudbury, Ontario, Canada

Project Completion Date
September 2009

Owner
Xstrada - Sudbury, Ontario, Canada

Engineer
Strathcona Processing Mill

Field Applicator
Morin Industrial - Lively, Ontario

Series 396 was applied to the thickener tanks, rake arm mechanisms, and launders to prevent corrosion from chemical-laden slurry.

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