

Specifying ChemLine® 784/31 Coating for Hydrochloric Acid Tanks at Viking International

ChemLINE®
CASE STUDY

Viking Chemicals, a global service company engaged in oil and gas drilling and completion, well servicing, pressure pumping, wireline, geophysical, civil engineering and transportation, needed assistance for a tank lining operation to handle Hydrochloric Acid, a chemical that causes severe corrosion.



HCl storage tank at Viking Chemicals.



A tank destined for future HCl storage for Viking Chemicals (top photo), first needs to have the existing dirty greasy epoxy lining blasted and removed, and then chemically cleaned and prepped by MarineLine Turkey at its application facility. (Lower photo) the tank is then lined with two coats of ChemLine® 784/31 delivering a protective solution for storing corrosive Hydrochloric Acid.



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The ChemLine® 784/31 Solution

Viking turned to the well-known tank manufacturer Cazgir Makina, based in the city of Sansun in Northern Turkey, for the best solution, and they in turn worked closely with MarineLine Turkey for the right linings answer.

MarineLine Turkey recommended ChemLine® 784/31, a specialty high performance coating from Advanced Polymer Coatings (Avon, Ohio, USA), that could deliver the service requirements needed for the Viking tanks carrying/ holding HCl. MarineLine Turkey showed Viking and Cazgir a marketing presentation that explained how the company had provided linings for many of the over-the-road transport tanks carrying aggressive chemicals in Turkey and the region.

So the first specification from Viking was to refurbish an existing 150 cubic meter storage tank with ChemLine® 784/31 so that it could hold HCl. This tank had previously been lined with an epoxy coating, and had been storing dirty petroleum products (DPPs). It had never held HCl which would not have been possible for the epoxy coating.

Tank Preparation & Application

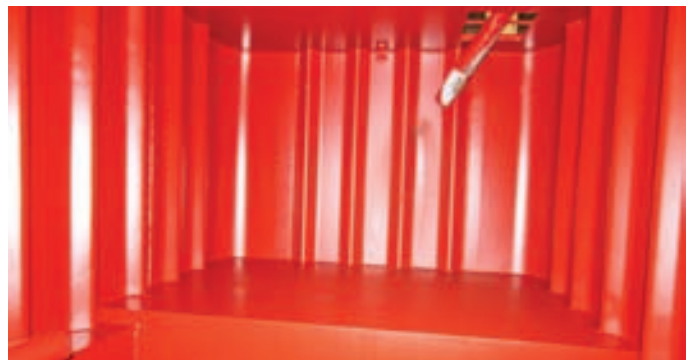
MarineLine Turkey first needed to remove the existing epoxy lining from the internal tank surfaces that had layers of dirt and greasy build-up from past DPP storage. The process followed various steps:

- 1 The tank surface started with chemical cleaning using a chemical detergent with a high pressure water jet.
- 2 The tank surface was pre-blasted to remove the existing dirty epoxy lining.
- 3 The tank surface was again re-washed and checked for hydrocarbon and chloride residues.
- 4 The tanks were then re-blasted again and prepped for coating application.
- 5 Next, the coating application was done in two coats; first a grey base coat at 7-8 mils, followed by a 7-8 mils red-coloured top coat to prevent any discoloration from the HCl.
- 6 The ChemLine® tank coating was then heat cured at 177°C for eight (8) hours to enhance crosslinking of the polymer.
- 7 MarineLine Turkey carried out all the application and heat curing work at its Tuzla, Turkey application facility.

Viking was very pleased with the coating application and the quality result. After about a year in successful service, they asked for a second HCl tank to be coated with ChemLine® 784/31. This tank was a newbuild. There is a third tank to be coated this year, and many other tanks that may be coated in the future.

The ChemLine® coating creates a very smooth service so Viking can easily wash and clean the tanks as needed. But the best feature is the coating's ability to handle the very aggressive Hydrochloric Acid cargo from corroding the tanks in an outdoor environment.

These tanks have been in service for several years now with no problems. This has enabled Viking to avoid using rubber lining for the tanks because rubber lining is expensive and difficult to repair. These are only the latest in hundreds of tanks lined with ChemLine® 784 to provide resistance to HCl's aggressive corrosive capability.



Up close inspection photos after the final coating shows the very clean, smooth surface that will effectively protect the tank from corrosion against HCl service.

