AOC
World Leader in Resin Technology

CaseHistory

Tray Towers

Market Segment:	Scrubbers
Composite Application:	Three Wet-Scrubber Tray Towers
Resin:	Vipel® F085 Epoxy Novolac Vinyl Ester
Manufacturing Processes:	Hand lay-up
Diameter:	20 feet (6.1 meters)
Height:	40 feet (12 meters)
Performance Design Parameters:	36% hydrochloric acid solutions 250°F (120°C) -80 inches (-0.2bar) static pressure water

Tank sections manufactured under ASME-certified conditions were assembled at a riverside site.

To remove process-generated pollutants, a large steel producer specified three tray towers fabricated of fiber-reinforced polymer composite. But after 15 years, the towers started" imploding" even though they had been repaired numerous times. To solve their problem, engineers asked Heil® Process Equipment to replace the failing equipment with an improved tray tower manufactured with Vipel® vinyl ester from AOC.

The replacement job called for three 40-foot (12-meter) high Heil 746-15 tray towers that use wet scrubbing technology to remove hydrochloric acid (HCl) and chlorine gases. The Heil tray towers use a proprietary hand-lay up design that delivers the required high performance. "We prefer hand lay-up to filament winding for more severe applications," explains Bob Hahn, General Manager for Heil Equipment. "Our design is also more resistant to the stresses caused by wide fluctuations in temperature."

Tray Towers, continued

Hahn says superior resistance to high temperatures and wet acidic gases is a primary reason for specifying the Vipel F085 epoxy novolac vinyl ester resin for the matrix of the fiberglass-reinforced laminate. Made with Vipel F085 vinyl ester, the new Heil tray towers are designed to resist 36% concentrations of hydrochloric acid (HCl) at 250°F (120°C) and at negative 80 inches static pressure water gauge (-0.2 bar).

The system is designed for 25 parts per million by volume (ppmv) outlet of HCl and 6 ppmv outlet of chlorine. Concentration of HCl in the blow down is at a usable level of 17%. Independent testing of installed units yielded 6.86 and 2.10 ppmv HCl outlet and 0.31 and 1.90 ppmv chlorine outlet. Acid concentration in the blow down was 21%.

"The Vipel family of corrosion-resistant resins covers a wide range of cost and performance needs," says Emilio Oramas, Business Manager - Corrosion Resistant Resins for AOC. "Within that comprehensive range, we are able to provide the resin technology and service that helps Heil provide a more effective solution for pollution control."

About Heil Process Equipment
Heil Process Equipment of Avon, OH, USA, is a premier designer and manufacturer of corrosion-resistant systems and components for handling corrosive fluids, mists and vapors. More than 80% of Heil sales represent repeat business from satisfied customers who appreciate value, dependable performance and extended service life. Customers specify complete Heil® Engineered Systems as well as special equipment components such as tanks, fans, scrubbers or stacks. For more information, contact Bob Hahn by phoning (440) 327-6051, ext. 224, faxing (440) 327-7088, or e-mailing info@heilprocessequipment.com.

About AOC
AOC is a leading global supplier of resins, gel coats, colorants, additives and synergistic material systems for composites and cast polymers. AOC knows technology, lives quality and delivers service better than any other composites resin supplier. For more information, e-mail corrosionresins@aoc-resins.com, phone (901) 854-2800 or go to www.CorrosionResins.com.

Vipel®
CORROSION
RESISTANT RESIN

AOC®
World Leader in Resin Technology
955 Highway 57 East
Collierville, TN 38017
Toll Free: (866) 319-8827
www.aoc-resins.com