STONHARD *Solutions*

Seamless epoxy floor system protects centrifuge platform for chemicals and stresses

Hoechst Celanese, formerly American Hoechst, was searching for a cost-effective way to protect centrifuge platforms from the splash/spillage of acids, vibrations and heavy loads. The Coventry, Rhode Island facility is responsible for processing organic intermediates, utilizing three constantly running centrifuges to separate fluids from product. Three platforms, 575 sq. ft. each, are exposed to acetoacetate, acetone, diketene, water, vibrational stresses, rolled drums, wheeled carts and light foot traffic.

The Problem

During the past twenty years, the surfaces gradually exhibited stress cracks, peeling, lifting and exposure of the course aggregate. These conditions had to be remedied to avoid potential hazards. For instance, an epoxy topping was installed in 1977, but became ineffective within one year of physical abuse. By 1985, Hoechst Celanese decided to restore the platform that was in the worst condition as a one-year trial for a new flooring system.

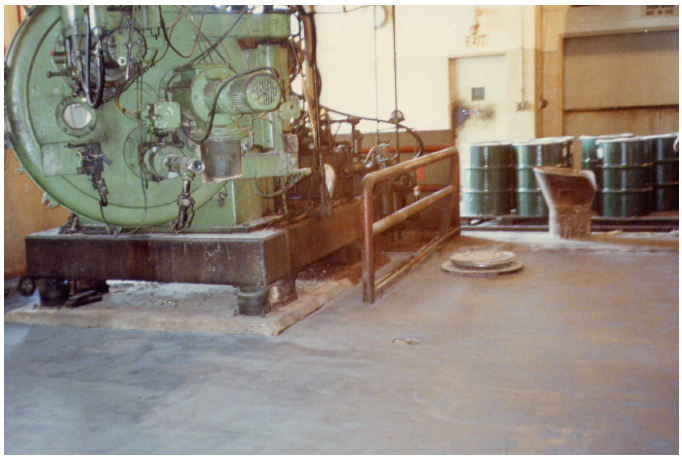
The Solution

Based on competitive bidding, the final selection was a seamless floor with superior impact, abrasion, slip and chemical resistant qualities. Since the plant had an annual two-week maintenance shutdown, an installation crew was able to complete the restoration with no interruption of operations.

The surface was thoroughly cleaned and jackhammers were used to remove the existing concrete and small patches of epoxy. Next, a two-component, moisture tolerant, epoxy based primer was applied to the surface to create a strong bond. The final overlayment was a three-component, troweled mortar consisting of an epoxy resin, curing agent and selected, graded aggregates blended with inorganic pigments.

Once the overlayment cured, control joints were sealed with a flexibilized epoxy resin caulk. The high strength sealant enhances chemical and vibration resistance, and was chosen in a grey color to complement the selected grey flooring surface.

The one-year trial was successful, so Hoechst Celanese decided to install the same flooring system on two adjacent centrifuge platforms in 1986 and 1987. The platform that was restored in 1985 was initially given a sealant topcoat, which was later removed to minimize slippage. Accordingly, the second and third platforms had excellent skid-inhibiting qualities from the start. Since the restoration, Hoechst Celanese reports improved working conditions. The centrifuges run at full speed, with no evidence of cracking or peeling. Traffic flows with ease and corrosion is non-existent.



Restoration of three centrifuge platforms improved plant safety and reduced long-term maintenance costs.

The Stonhard Difference

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As seen in
Chemical Processing
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