

STONHARD *Solutions*

Heavy-duty flooring protects concrete and aids traction with non-slip surface

Problem

The Kokomo, IN Chrysler Plant builds all the transmissions and transaxles for Chrysler and American Motors in the United States, Canada and Mexico. Automatic transmissions are also sent to Mitsubishi (MMC) for re-export to France and Spain. Land Rover and Aston Martin in England, as well as Maserati and Iveco in Italy, also receive Chrysler Kokomo transmissions.

This worldwide activity results in heavy and severe traffic on the 2.1 million square feet of floors in the plant buildings. This, in addition to gouging from steel containers and penetration by transmission oil and other fluids, caused the breakup of the upper layer of the concrete floors. Oil also contributed to objectionable slippery surfaces for vehicles and pedestrians.

Solution

When these problems began to surface, Chrysler undertook a program to find a resistant concrete resurfacing material. Wear resistance, impact strength and bond strength were all important factors in the selection of the proper system. Several flooring trials were initiated without satisfactory results. The materials tested did provide initial protection of the concrete but showed endurance of only six months to two years and did not provide the desired traction. Finally, in 1980, Chrysler engineers found a material which responded to their service demands. It was a 1/4" thick, silica quartz epoxy flooring system specifically formulated for tough industrial environments.

This high performance polymer flooring system was formulated with a



Traffic aisle overlayed with Stonhard's Stonclad PT high-performance polymer flooring system provides a monolithic surface that's easy to clean and maintain. And, with an optional texture, provides a high level of slip-resistance for employee safety.

highly cross-linked epoxy matrix and a range of finely graded silica particles. These features create a floor with excellent tensile, compressive and flexural strengths.

The flooring manufacturer had its own specially trained crew prepare and install 100,000 square feet in various production areas, aisleways, approaches to work stations and entrance ramps.

To prepare the floor, previous toppings were first removed and the substrate surface was cleaned of oils. In most areas, this was effectively accomplished by dust-free shot blasting equipment. After a sound concrete substrate was exposed, a penetrating primer was applied to the clean concrete to maximize bonding and prevent binder loss from the overlayment.

Then, the three-component floor sur-

facier was mixed and screed-applied at a 1/4" thickness. Power trowels were used to close and finish the floor.

After sealing the surface with a high performance epoxy coating, the floor was ready for foot traffic within eight hours, moderate wheeled loads in 24 hours, and heavy loading in 48 hours.

Results

After over 20 years of service, the heavy-duty epoxy flooring is still holding up. Its monolithic surface has contributed to smooth operation of mobile transportation, and minimized gouging and dynamic lead damage. Areas exposed to water and oil spillages have maintained their slip-resistance, even on the steep entrance ramps where five-car trains pull 27,000 pound loads.

Over the last two decades, the flooring system has improved employee safety in the Kokomo facility, while reducing

floor maintenance and, therefore, production downtime.

The Stonhard Difference

Stonhard is the unprecedented world leader in manufacturing and installing high performance polymer floor, wall and lining systems. Stonhard's seamless, long-wearing and easy to clean floor systems are engineered to perform in both industrial and commercial environments without sacrificing design and innovative vision. You'll experience unparalleled products, easy maintenance, progressive and customized designs and Stonhard's single source warranty covering both installation and products. Stonhard maintains 300 project engineers and 175 installation teams worldwide who will work with you on design specifications, project management, final walk through and service after the sale.



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General Manufacturing

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FLOORS FOR EVERY ENVIRONMENT