



## Case Study: Harley Davidson Plant

(Original Article by *Concrete Construction*: A New Bridge Deck in 11 Hours)

A bridge leading visitors to a Harley Davidson plant in Milwaukee had seen better days. A combination of heavy traffic and brutal winter weather had taken its toll on the concrete surface.

The task of repairing the surface fell to Steve Martinez, structural maintenance specialist for the Wisconsin DOT's southeast region. He had to specify a deck coating for the 2,400-square-foot access bridge leading into the facility.

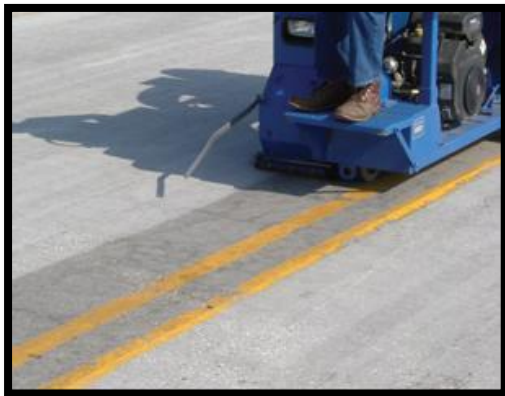
The bridge deck has developed cracks that were getting larger. As a result, water was starting to penetrate down to the rebar. Another concrete pavement overlay was not possible due to the load capacity of the bridge. So Martinez opted for an epoxy overlay as a lighter-weight alternative.

Material requirements included a flexible coating that could withstand vibration and very fast cure times to enable a return to service in 12 to 14 hours. After reviewing several options, Martinez decided on a specially formulated bridge coating system.

At about 8 a.m., the bridge was closed and the crew created a clean, abraded surface to which the coating system can bond. Workers applied the first coat, ICO Flexi-Coat FC, a fast-cure product made by Milamar Coatings., with a notched squeegee at a rate of 30 square feet per gallon. This was used for the first coat because the DOT wanted minimum downtime and because the morning air was cool. Workers then broadcast Black Beauty aggregate onto the coating.

A crew swept and used an air compressor to blow off loose aggregate after the first coat had cured hard enough for foot traffic (about three hours).

Afternoon temperatures climbed into the high 90s°F, when workers applied the second coat. They used ICO Flexi-Coat MC (medium cure) with a notched squeegee at a rate of about 20 square feet per gallon. The same Black Beauty aggregate was again broadcast.



After the second coat was hard enough for foot traffic, the crew swept up all the loose aggregate. The bridge was then opened to traffic, less than 11 hours after the project was started. The project started in the morning by abrading the surface so the coating system would bond. A worker applied the first coat of epoxy with a squeegee at a rate of 30 square feet per gallon. The

second medium cure coat was applied in the afternoon. On the right, a worker broadcast Black Beauty aggregate onto the surface. The completed bridge deck was ready for traffic 11 hours after the crew started its work.

