



Case Study: Hudson Foods

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Every day, the Hudson Foods plant in Albert Lea, MN, produced hot dogs. Every day, after the product was cooked, the racks of hot dogs were wheeled into a blast freezer at -40°F.

Every day, the fat dripped off the hot dogs and resulted in a 2-3" ice buildup. Every day, plant employees would use steam to melt the ice as part of their routine cleanup.

This everyday occurrence delivered a beating to the blast freezer floor. The thermal shock conditions resulted in delamination and cracking of the existing epoxy overlayment, as well as the second coating on top. The floor failure was a violation of Hudson Foods' sanitary standards, so it had to be repaired.

It wasn't all that easy, though. The replacement material had to be an epoxy that offered improved thermal shock resistance, but could hold up to mechanical wear. In addition, Hudson Foods required the 100% solid epoxy to be formulated to cure within a relatively short period of time. It had to be installed quickly on the weekend so the freezer could return to the full use by midnight Sunday. Also, there couldn't be any lingering odors.

After contacting several flooring contractors, Hudson Foods selected a resilient material supplied by Milamar Coatings. Milamar's ICO Guard 51 was applied by Commercial Contracting from Melrose, MN.

On a Friday night, the freezer was shut down to allow for removal of the existing epoxy by scarification and hand scrapers. After a thorough degreasing and rinse, the floor was primed with the solid epoxy primer. The ¼" epoxy was hand-trowelled on a Saturday at a temperature of approximately 40°-50°F. Silica quartz was broadcast into the still-wet floor to achieve an anti-slip texture. Because of the epoxy's resin-rich formulation, the floor required no top coat and was ready for service by midnight Sunday.

After being subjected to the same thermal shock conditions every day for an entire year, the plant reported no deterioration of the material. Rick Bohonek of plant maintenance stated, "It was the only flooring system I had seen that could hold up to the intense thermal shock conditions in the blast freezer."

