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METAL ROOF RECOATING SYSTEM CHOSEN FOR CINCINNATI'S RIVERFRONT STADIUM

Background: Located between the Ohio River and the heart of downtown Cincinnati, Riverfront Stadium has been a fixture of the city's skyline since its construction began in 1967. Home to both Major League Baseball's Reds and the National Football League's Bengals, the 60,000-seat stadium boasts outstanding views of the playing field and an outdoor concourse that overlooks the Ohio River Valley. After 25 years as the city's primary sports complex, restoration of the facility's roof began in March 1994.

Challenge Presented: Despite its age, the stadium's metal deck still featured its original factory finish consisting of a thick layer of asphalt top coated to provide a white finish. During its life, the surface coating had cracked and delaminated from its asphaltic base. Replacement of the metal deck, itself an expensive proposition, was deemed cost prohibitive when disposal fees linked to the asbestos encapsulated within the asphalt were factored in. Retrofitting the roof was also considered to be too costly.

Issues Identified: As an alternative to replacing or retrofitting the 150,000 sq. ft. roof assembly, city officials opted to resurface the roof panels.

Product Identified: The material specification for a viscous, white elastomeric coating was awarded to Truco Inc., Cleveland, OH, manufacturer of the Eterna-Seal family of synthetic rubber coatings. Insulated Roofing Contractors of Louisville, KY, was awarded the contract to install Truco's Eterna-Seal #7141 recoating formula.

Working with unpredictable weather conditions and facing work interruptions when the Reds were playing at home, IRC was pressed to complete the roof in a timely fashion. Fortunately, the naphthabase, VOC-compliant coating ensured that wash-off or improper cure would not occur when exposed to rain, helping increase the contractor's "window" of available working hours.

While the installation was not complicated, it did require strict attention to detail. Preparation of the metal's factory finish was a key to achieving a satisfactory end result. Prior to wire brushing the entire surface area, a wetting agent was applied to prevent the asbestos from becoming friable. Once all the loose paint was removed, the deck was rinsed lightly with water. Filters were installed along gutters and downspouts to contain the debris removed during the preparation process. As a final step, fasteners were tightened as necessary, with defective fasteners removed prior to the coating's installation.



A second finish coat brought the total thickness of the new monolithic rubber membrane to over 30 dry mils on the field and nearly 45 dry mils on all seams, fasteners, curbs and penetrations.

The roughness of the surface required two field coats of two gallons per square for a total coverage rate of four gallons per 100 sq. ft. Additional material was installed as a thick bead over seams and fasteners to assure long-term waterproofing to areas subject to thermal movement. The new monolithic rubber membrane is more than 30 dry mils thick on the field of the roof and nearly 45 dry mils over all seams, fasteners, curbs and penetrations.

Outcome: Although the Riverfront Stadium job has been completed for only a short period of time, everyone related to the recoating project is confident the new topcoat will stand the test of time based on the results of tests already run on the product.

According to Truco, Eterna-Seal formula #7141 exhibits over 1600 PSI tensile strength, 99% recovery from 580% elongation, and a Shore A or rubber hardness measurement of 65 after 1000 hours of accelerated UV baking. The material also exhibits low moisture permeability and strong adhesive characteristics. Test patches were also installed in early 1993 to monitor the coating's physical properties and ensure its level of aesthetic appeal was commensurate with the facility's high visibility.

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