

## **High Build, 100% Solids Epoxy - Case Studies and New Applications**

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This presentation will describe a high build epoxy coating and its uses for protecting and rehabilitating critical infrastructure assets. High build or ultra high build epoxy is formulated to provide structural renewal for deteriorated structures. The product can be applied from 100 mils up to 500 mils with the typical specified thickness between 125 mils and 250 mils. The product exhibits tremendous adhesion to various substrates including concrete, brick, and steel. Additional features of the product include proven resistance to H<sub>2</sub>S corrosion found in aggressive sewer environments and treatment chemicals like chlorine and ozone. Therefore, high build epoxy excels in protecting and rebuilding concrete, brick, and steel found in today's collection, conveyance, and treatment systems.

The attributes and physical properties of this product type are described in detail including product uses, compatible substrates, application methods, and available application network. The high build epoxy's properties include structural enhancement, zero volatile organic compounds (VOCs), superior adhesion results, and high chemical resistance.

A number of case studies will be described as examples of common problems that can be solved with high build epoxy coating systems. The project examples include the following:

1. City of Fort Worth, Texas – hundreds of new and existing wastewater structures have been coated since 2017. The coating prolongs the life of existing infrastructure and protects new concrete structures in a system known for high levels of H<sub>2</sub>S gas and concrete corrosion.
2. Lake Arlington Lift Station – protective coating of a new 60-foot x 20-foot x 50-foot-deep trench style wet well in Fort Worth, Texas.
3. Metro Wastewater Reclamation District (MWRD) Northern Treatment plant in Denver, Colorado. 100% solids epoxy protected multiple structure types on a new state-of-the-art wastewater treatment plant (WWTP).
4. Brick Manhole Repair – High build epoxy is much stronger than cement and can rehabilitate aging brick manholes and other brick infrastructure like tunnels and pipes.
5. Holiday Creek Sanitary Sewer Rehab project in Wichita Falls, Texas – A large manhole leak was sealed and a heavily deteriorated diversion box was salvaged using high build epoxy.
6. McAlpine Creek Wastewater Management Facility in Charlotte, North Carolina – A pilot study led to the selection of the best high build epoxy on this plant renewal project. 16 clarifiers and additional plant structures were successfully rehabilitated.

7. Passaic Valley Sewerage Commission WWTP Clarifier Rehabilitation – a 330 million gallon per day (MGD) WWTP project started with a pilot study in New Jersey. The results led to the selection of a proven high build epoxy and the rehabilitation of 12 large clarifiers and several other plant structures.
8. Potable Water Rehabilitation in Providence, Rhode Island – A chlorine contact chamber headworks suffered structural deterioration and was rehabilitated using a high build epoxy coating.