Beyond the Pits: Avoiding Costly Downtime Using Novocoat™ Metal Repair Products

LOCATION
Memphis, Tennessee

COMPLETION
August 2019

OPERATION
Asphalt Emulsion Mixing Tank

PRODUCTS
Novocoat™ EP3300 Paste/Caulk
Novocoat™ SC3300 Novolac Epoxy Lining

Challenge: Restoration of metal mixing blades and protection of steel mixing tank interior while achieving minimal downtime and monetary expenditure

Solution:

1. Mixing Blade Restoration – Novocoat EP3300 Paste/Caulk to fill in pits and extend corroded blades, Novocoat SC3300 Novolac Epoxy Lining as a protective overcoat

2. Mixing Tank Restoration & Lining – Novocoat EP3300 Paste/Caulk to fill in holes in tank wall, Novocoat SC3300 Novolac Epoxy Lining with fiberglass reinforcement as protective tank lining

Asphalt emulsion manufacturers depend on quality materials that are made without delay. To do so requires structurally and mechanically sound equipment, most importantly mixing tanks and ancillary equipment including the mixing blades. When a tank is leaking, or the blades are not dispersing the raw materials uniformly, product quality control issues may occur leading to costs of wasted raw materials, product performance and complaints. None of which a respectable, quality-conscious company desires. That is why an asphalt emulsion manufacturer chose ErgonArmor's Novocoat solutions to refurbish one of its asphalt emulsion mixing tanks.

The customer is a global manufacturer, and seller of asphalt solutions for construction and industrial applications. The tank, located in Memphis, Tennessee, needed repair after years of steady usage. After cleaning, inspection crews noticed severe wear on the mixing blades and interior of the tank. The combined asset, installation and downtime costs affected the consideration of purchasing new equipment versus refurbishing existing equipment. Ultimately, it was determined to be more economical to refurbish the tank and mixing blades instead of replacing them.

Novocoat EP3300 Paste/Caulk was selected to restore the mixing blades and repair damage to the steel structure of the

1. Interior of asphalt emulsion tank showing holes from corrosion. Corroded metal mixing blades showing deep pits and missing edges.
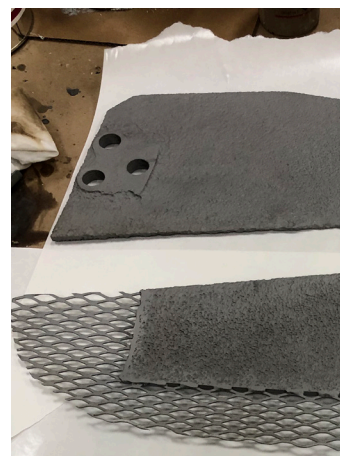
tank. Novocoat EP3300 is a two-component, 100% solids trowel grade epoxy Novolac paste used as a multipurpose, durable repair composite. It quickly cures at room temperature, with no shrinkage, expansion or distortion, and is fully machinable using standard tools. Being well suited to resurface pitted metal, it proved to be an ideal repair solution in conjunction with expandable metal mesh for the mixing blades. The holes in the tank walls were also repaired using Novocoat EP3300 paste with 1.5 oz chopped strand fiberglass mesh as a reinforcement medium.

2. Corroded edges of mixing blades being replaced with metal mesh and filled in with Novocoat EP3300 Paste/Caulk.

Two coats of Novocoat SC3300 Novolac Epoxy Lining were then applied to the blades and the interior of the tank, with a sheet of 1.5 oz chopped strand fiberglass embedded in between coats of the tank lining. Novocoat SC3300 is a solvent free, 100% solids novolac epoxy lining that possesses a low permeation rate, which is ideally suited for internal tank lining due to superior chemical and heat resistance in immersion service.

3. Mixing blades coated with Novocoat SC3300 Novolac Epoxy Lining.

The tank became operational approximately one month after completion of the work in August 2019, which was much sooner than replacing the tank altogether, and at a lower cost. Two years after completing the tank refurbishment, the tank was reinspected and observed to be mixing asphalt materials flawlessly, with initial examinations indicating that the lining looked brand new.

When industrial settings demand quick repair solutions of key assets, ErgonArmor delivers with its Novocoat™ line of repair products that saves both time and money.

4. Finished interior of mixing tank with restored mixing blades.