

FEATURED PROJECT

Abrasion-Resistant Coatings

INTERNAL COATING FOR MUD MIXING TANK

CUSTOMER

Major Drilling Rig Manufacturer

LOCATION

Houston, TX

APPLICATION TEAM

G&C Coatings and Industrial Services

DATE OF APPLICATION

Feb. 2021

SYSTEM

Ceramic Repair Putty and HP-400 Novo

SUBSTRATE

Carbon Steel

PROBLEM

A carbon steel mud mixing tank was removed from a drilling rig and sent out for refurbishment. The tank had a through-wall failure where the supports had been removed and had significant pitting on the base and sidewalls. The pitting was likely due to corrosion while the tank was out of service. When in service, the mud mixing tank is exposed to a slurry with a very high level of suspended solids as well as liquid hydrocarbons like diesel fuel. The coating system had to be both chemically resistant and abrasion resistant in order to extend the life of the mud mixing tank.

SOLUTION

A high build, novolac epoxy coating system was used to protect this tank from corrosion, erosion, and chemical attack during the operation. The entire tank interior was blasted, repaired, and coated in a single shift. The humidity in Houston was over 90% during the application but the moisture-tolerant epoxy was installed and cured without any issues or delays.

INSTALLATION STEPS:

1. The tank was grit blasted to an SSPC SP-10, near the white metal finish with a 3 mil angular profile.
2. The through-wall failure was repaired with a ¼ inch thick application of Ceramic Repair Putty HT.
3. Existing pitting and weld seams were also covered in Ceramic Repair Putty HT to aid in providing a seamless final coat.
4. HP-400 Novo, a hard and highly chemically resistant epoxy novolac coating system, was applied at 20 – 30 mils via airless spray application in a single coat.
5. The coating was allowed to cure 24 hours prior to being ready for service.

BENEFITS

- The entire project was finished in one shift without any delays.
- All materials were applied wet-on-wet, eliminating any downtime between steps. This included the areas with pitting and the through-wall failure.
- Spray application of the HP-400 Novo was done without any thinners or VOC's.
- The HP-400 Novo can be applied via single-component, airless spray equipment.



Figure 1 Mud Mix Tank after Grit Blasting of Surface



Figure 2 Stripe Coating of Weld Seams and Pitting



Figure 3 Spray application of the HP-400 Novo via 70:1 Airless Pump