

Glass Lined Steel Shaft Repair

ID: 9046

Industry: Chemical & Petrochemical
Application: FBC-Fans, Blowers and Compressors

Customer Location: Pasadena, TX, USA
Application Date: April 2023

Substrate: Carbon steel
Products: Belzona 1511 (Super HT-Metal), Belzona 1593, Belzona 9111 (Cleaner Degreaser)

Problem

The customer had a glass lined carbon steel agitator that was inside of a reactor. The reactor contained Benzyl Chloride, Farmin DM2407N, A-95 and water. Maximum temperature was 300 deg F. As the agitator spun the bearing seal came loose, which caused the shaft to become damaged. The glass lined coating was removed and the carbon steel was gouged. The customer needed a quick efficient solution until the agitator could be replaced.



Close up on defect area of the shaft.

After surface preparation was completed on the defect area.

Shaft rebuilt with Belzona 1511 (high temperature paste grade system).

Belzona 1593 (high temperature coating) applied to seal the area.

Application Situation

The customer chose Belzona for a few reasons. 1. Our timely response time and ability to be onsite to solve the problem. 2. Our materials are in town and easily accessible. 3. Our product data sheets provided all the information the engineers needed to give the green light on this application. 4. Our internal labor team was able to completely this job efficiently and effectively within a day.

Application Method

For more examples of Belzona Know - How In Action, please visit <https://khia.belzona.com>

ISO 9001:2015
FS 695214
ISO 14001:2015
EMS 695213

Belzona products are
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1. The repair area was not immersed. The shaft was out of service and was able to be repaired in place. Access was achieved by scaffold. The defect area was taped off.
2. We used a grinder with cutting disk to remove a minimum of 1/16" of metal and to roughen the surface. The area was then wiped clean with Belzona 9111 and allowed to dry.
3. Next, we mixed Belzona 1511 and scrubbed it into the profile to rebuild to the original shaft OD as best effort. An applicator was used to make the Belzona 1511 smooth.
4. Belzona 1593 was applied in one coat by brush to seal the damaged area.
5. The following day we came back to look for any pin holes or holidays in the coating, and none were found.

Belzona Facts

Belzona was chosen as a cost effective solution until the agitator could be replaced. A new agitator was ordered but it was months before it would be in. Our solution was completed for a fraction of the cost and much more efficiently.

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