

Shaft Rebuild – Machine Down Repair

ID: 10050

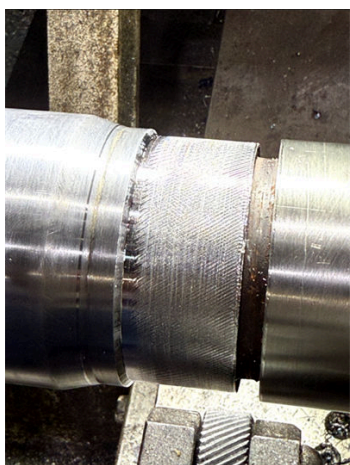
Industry: Power
Application: MPT-Mechanical Power Transmission

Customer Location: Kissimmee, FL
Application Date: October 2025

Substrate: Carbon steel
Products: Belzona 1161 (Super UW-Metal)

Problem

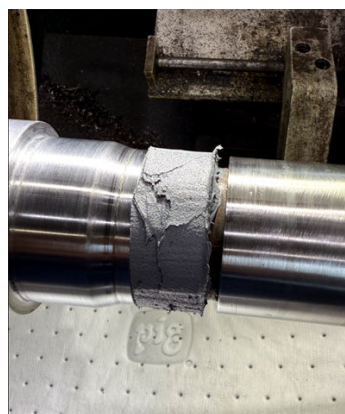
The shaft exhibited surface erosion and loss of geometry due to prolonged mechanical wear. The dimensional inaccuracy affected alignment and fit, requiring immediate repair to restore tolerances and return the equipment to service under Machine Down conditions.



Shaft showing surface erosion and dimensional wear prior to repair.



Application of Belzona 1161 (Super UW-Metal) using a plastic former to rebuild the eroded area and restore original shaft dimensions.



Belzona 1161 (Super UW-Metal) fully applied to the eroded shaft area. Product curing and bonding to the substrate before machining.



Final result after machining. The shaft was rebuilt with Belzona 1161 and restored to its original diameter and smooth finish.

Application Situation

The power plant experienced unexpected shaft wear that caused dimensional loss and improper mechanical alignment. Because the equipment was under Machine Down conditions, a rapid and durable repair was required to avoid replacement and extended downtime.

Using Belzona 1161 (Super UW-Metal) allowed the maintenance team to rebuild the worn area directly on-site, avoiding costly part replacement and minimizing lost production time. The equipment was returned to service within hours instead of days, representing significant cost and time savings.

Application Method

The shaft surface was prepared manually to an SP-11 equivalent finish, followed by degreasing with Belzona 9111 (Cleaner/Degreaser).

A forming technique was used by installing a plastic former around the damaged section, and Belzona 1161 was mixed and applied to rebuild the eroded profile.

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

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FS 695214
ISO 14001:2015
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After full curing, the former was removed and the shaft was machined back to original dimensions, restoring proper fit and alignment.

Belzona Facts

The use of Belzona 1161 (Super UW-Metal) provided a fast and reliable solution without the need for replacement parts or welding. The repair was completed on-site, reducing downtime and labor costs.

Traditional repair methods would have required machining a new shaft, taking several days and significantly higher costs. Belzona cold-applied system allowed immediate return to service with excellent adhesion, mechanical strength, and long-term performance under operational conditions.

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