

# BELZONA IS THE KEY TO A SOLID KEYWAY

ID: 5248

Industry: General Industry  
Application: MPT-Mechanical Power Transmission

Customer Location: Kettle Falls, WA, USA  
Application Date: May 2014

Substrate: Steel  
Products: \* Belzona 1221 (Super E-Metal) ,  
\* Belzona 9411 (Release Agent) ,

## Problem

This plywood mill had a problem with a damaged keyway on the shaft that runs the log entry system to the plant. They had already been forced to replace the large gear for \$3000 USD because the loose key had damaged it. The new gear was starting to show signs of damage as well. Failure of the keyway on this shaft would result in a total plant outage.



## Photograph Descriptions

- \* Warming up the shaft ,
- \* Damaged shaft ,
- \* Ready for reassembly ,
- \* Completed application ,

## Application Situation

Keyway was damaged and loose.

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  
manufactured under an ISO  
9000 Registered Quality  
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## Application Method

The application was carried out in accordance with a modified version of Belzona Know-How System Leaflet MPT-4. The application was completed in May so the temperatures were a little cool. The area was warmed up using a halogen lamp. A grinder was used to remove the mushroomed area on the shaft and to clean up and cut back the rest of the keyway so a solid amount of Belzona 1221 could be introduced to the damaged area. Belzona 9411 was applied in two layers to the new key and the inside and shoulders of the two-part gear. The Belzona 1221 was then mixed according to the Instructions for Use. The first layer was scrubbed in using a short bristle brush to embed material into the roughened surface. Then the remaining amount of Belzona 1221 was applied carefully to avoid any air pockets. The new key was then pressed in and the excess Belzona 1221 scraped off. The new two-part gear was then set into place and tightened down.

## Belzona Facts

With the potential of a plant shutdown, being able to repair this keyway in-situ was priceless to this mill. Already having had to spend \$3000 USD for a new gear, and being faced with spending another \$3000 USD to replace it again after only 2 weeks, Belzona was a perfect example of saving time and money with a cost of less than \$100 USD to complete this application. Belzona 1221 was chosen for this application based on a 6-hour window to complete the repair. Well over 1 year later the keyway continues to be run everyday with no sign of wear. The customer is very happy with this repair.

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