

# Belzona Saves Automobile Plant Shutdown by Repairing Damaged Fan Shaft In Situ within 20 hours

ID: 10088

Industry: General Industry

Customer Location: Bangalore

Application: MPT-Mechanical Power Transmission

Application Date: March 2025

Substrate: Cast Iron

Products: Belzona 1111 (Super Metal), Belzona 9111 (Cleaner Degreaser), Belzona 9411 (Release Agent)

## Problem

The fan shaft of the air supply machine in the paint shop has worn at the bearing journal area, causing the machine to malfunction. As a result, dust accumulation on the painted vehicles now exceeds the allowable limit.

Replacing the shaft will require approximately 72 hours, which may lead to a production loss of around 250 cars per day.



The fan shaft of the air supply machine was prepared manually.

Applied Belzona 1111 (Super Metal) using a template with Belzona 9411 release agent.

The application was completed to the desired dimensions.

The bearing was fitted onto the repaired area.

## Application Situation

Changing the worn-out shaft of the air fan machine normally takes 72 hours, which could result in a production loss of 750 cars.

Using Belzona 1111 (Super Metal) and applying the forming technique in situ, provided an effective solution. The job was completed within 20 hours.

This saved the customer 2 days and 4 hours, preventing a production loss of 541 cars.d.

## Application Method

The repair was executed as per Belzona leaflet MPT-02:

1. Burn the damaged area of the shaft using an oxy-acetylene flame.

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

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2. Clean the area with Belzona 9111 Cleaner/Degreaser.
3. Roughen the surface using a conical Totem cutter.
4. Clean the surface again with Belzona 9111 Cleaner/Degreaser.
5. Apply Belzona 9411 (Release Agent) on the prefabricated form/template, including all bolts, and allow it to dry.
6. Apply Belzona 1111 (Super Metal) to the prepared area of the shaft, and also apply a layer on the inner side of the form/template.
7. Fix the form/template onto the shaft, insert the bolts, and tighten to the desired dimension.

Remove the form/template after 4 hours and finish the surface using smooth emery paper.

Install the bearing onto the repaired area.

### Belzona Facts

A production loss of 541 cars was avoided.

The customer would have had no alternative but to shut down for 72 hours to replace the shaft.

The repair has been in service for the past 8 months, with repeat inspections conducted every 2 months.

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