

# Application Focus

## Abrasive Attack - *Rotating Equipment*

Rotating equipment such as slurry pumps are highly susceptible to abrasive attack. This abrasive service causes structural loss leading ultimately to replacement. This abrasion when combined with erosion can result in accelerated erosion and reduced life of the equipment.

Few materials are totally immune to abrasion and material selection is a compromise between service life and capital outlay. Abrasive environments will lead to:

- High operating costs
- Unplanned outages
- Shorter working life
- Increased outage frequency

The running costs of such equipment can be reduced and service life extended by the use of a **Belzona® Abrasion Resistant Solution**.

Worn and damaged equipment can be repaired and protected to resist future abrasive attack by utilizing a cold applied cost effective ceramic filled Belzona material.

Belzona can provide the answer to abrasion in rotating equipment which will:

- Increase life expectancy
- Minimize downtime
- Reduce expensive replacement costs
- Avoid the dangers of repairs involving hot work
- Reduce the need of exotic alloy



# Application Case Study

“A routine maintenance inspection of a centrifugal pump handling highly abrasive fly ash sludge was found to have severe erosion damage to its impeller and casing. Following further inspection, the impeller had approximately 10-15mm missing from the leading edge and the volute casing had cavities approximately 20mm in depth.”



## Belzona Abrasion Resistant Solution

The component parts were rebuilt with a Belzona composite repair system back to the original profile and machined with diamond cutting tips. The impeller and volute case were coated with a ceramic filled Belzona material, combining extremely hard, closely packed abrasion resistant materials in a polymeric binder in order to resist future abrasive attack.

The full supply and fixed costs for this Belzona solution were only half the cost of a replacement unit.

The work undertaken enabled a prompt return to service of the pump ensuring minimal downtime and disruption to the power station operations team.

For more information, please contact your local Belzona representative.



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ISO 9001:2008  
Q 09335  
ISO 14001:2004  
EMS 509612

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