

Concrete stitching to damaged Gearbox plinth

ID: 9875

Industry: General Industry
Application: FPA-Floor Problem Areas
Substrate: Concrete
Products: Belzona 4111 (Magma-Quartz), Belzona 4151 (Magma-Quartz Resin), Belzona 4911 (Magma TX Conditioner)

Customer Location: Leicester
Application Date: December 2024

Problem

Following the stalling of a very large Ball Mill, the kinetic energy was transferred back to the gear box through the drive assembly. One this energy hit the gearbox, the gearbox kicked back and broke the 10" concrete plinth which the gearbox and drive motor were bolted to, some 30' in the air, above the ground floor

Structural engineers were consulted, following the advice from the Belzona Area engineer and it was decided that Concrete stitching would provide the solution



Showing crack to plinth



Showing crack on opposite side of plinth



Cracks from above



Part way through repairs and concrete stitching, using experienced contractors and Belzona 4151 resins

Application Situation

A specialist concrete repair company were engaged by the client

They demanded the highest performance resins from Belzona

Belzona 4151 was specified and all supporting literature was sent to the Structural Engineer and the Contractor, along with the client

Cross-stitching was carried out to spec and the repair was carried out to all Belzona's Instructions for use and specification sheets

The only other way to make the plinth safe would have been to remove the drive motor and gearbox and cast a new plinth. The downtime alone would have closed the facility. Belzona were able to offer a solution in under 2 days

Application Method

Rake out any loose and friable and vacuum.

All target areas to have Belzona 4911 applied as per Belzona 4000 series "Instruction for Use" sheets

Seal the end of the crack with Belzona 4111

Seal the horizontal cracks at distances of 8" to 10", leaving small gaps for the installation of injection ports

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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Bond the injection ports on to the gaps between the repairs

Using Belzona 4151 in a cartridge, start at the sealed end of the crack and inject the Belzona 4151 into the first port until it appears at the next port in line

Continue this process until all the crack has been completely filled

Remove the ports and complete the seal over the gaps to complete the injection repair

Belzona Facts

Belzona provided durable materials to the client and contractor, enabling rapid repairs and a quick return to operations

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