

Belzona improves the durability of a brand new Screw Conveyor loader trough

ID: 9860

Industry: Sugar

Application: SHM-Solids Handling Machinery

Customer Location: Newark

Application Date: July 2025

Substrate: Stainless-steel

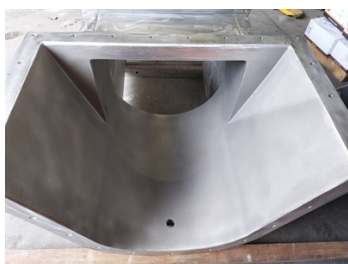
Products: Belzona 1311 (Ceramic R-Metal), Belzona 1321 (Ceramic S-Metal), Belzona 1812 (Ceramic Carbide FP), Belzona 9111 (Cleaner Degreaser), Belzona 9811

Problem

The previous Inlet trough for a screw conveyor had been repeatedly patched by welding, due to constant abrasion and wear. On this particular plant, hot-works has to be requested many weeks in advance and permission is normally only granted as a last resort.

Welding stainless is difficult enough in any situation. Add to this a need for positional welding and the task becomes extremely hard to repair.

A way of slowing down any hot works and repairs to this heavily used asset was the main priority of the client



The new fabrication, following grit blasting to a profile 75 microns and a minimum of Swedish Standard SA2.5

"Wetting out" the blasted substrate using Belzona 1321 as the adhesive.

Applying the Belzona 9811 alumina tiles to a 600 micron coat of Belzona 1321, following wetting out.

Once the Belzona 1321 had cured, Belzona 1812 was used to "grout" the tiles and interfaces of the Belzona 9811 Alumina tiles, leaving a fully protected surface to the filler trough.

Application Situation

Hard facing has been considered to try and extend service time of assets such as this, as has hardened plates. The fabrication cost of the plates were excessive and hot works/uneven finish using hard facing techniques were discounted almost immediately.

The same Belzona 9811 application had been carried out in the same section of the factory some 7 years ago and was still looking

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ISO 9001:2015

FS 695214

ISO 14001:2015

EMS 695213

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like new. The client decided that Belzona was the only real option and asked for materials for this and two other assets for the same department

The local Sales Engineer offered all the time required to fulfill the step-by-step application process, thereby training up the client's own staff to be able to carry out further application in the future

Application Method

Grit blast to SA2.5 and a profile of 75 microns

Offer up the tiles to ensure the plan of pattern is understood and where the start and finish/interlocking of the sheets will go

Clean and degrease using Belzona 9111 Degreaser

Carry out any required pit-filling, using Belzona 1311 (In this instance, it was a new fabrication and pit-filling was not required)

Mix and wet out the target areas with Belzona 1321

Apply 1321 to a minimum of 600 microns, using short bristled brush and Belzona applicators

Offer the Belzona 9811 Alumina tiles to the Belzona 1321 and gently press in, ensuring there's no air entrapment. This application was with backing sheet side face down, but over 60 degrees c, the backing sheet must be face up and removed before grouting

Once cured and mechanically stable, Belzona 1812 can be mixed and applied to fully grout the tiles and interfaces

Belzona Facts

Belzona products were selected on the following points

No hot works

Solvent Free

Premium quality durability

Less cost than fabrication of specialist plate and metals

Free training given at the time of application, removing any future need for unnecessary contractor costs

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