

Reverse Osmosis RO Membrane Housing End Cap repairs

ID: 9864

Industry: General Industry
Application: VPF-Valves, Pipes and Fittings
Substrate: GFRP
Products: Belzona 1212

Customer Location: Nottinghamshire
Application Date: July 2025

Problem

Two of the end caps on a large industrial reverse osmosis membrane housing had split, leading to a drop in pressure, big leaks and an efficiency drop in the process. The cracks needed to be fixed.

This was attempted by gluing collars of the outlets on the endcaps, which was a vain attempt and simply didn't work. Whilst on site with the Senior engineer, the Belzona Sales Engineer offered to rectify the issue there and then



Showing porosity to glued collar, still allowing system pressure drop



End cap receptor in RO Membrane housing



Applying Belzona 1212 to the 2 interfaces around the repair collar, previously glued, leading to a failed repair



Both interfaces to the end cap fully sealed and ready to be refitted into the membrane housing

Application Situation

A substandard repair was attempted on site by contractors, leading to frustration from the engineering team and site staff when the endcaps were refitted and still leaked.

Coincidentally, the local Belzona Senior Sales Engineer was walking the site with the Senior engineer in order to familiarise himself with possible issues that the Senior Engineer was interested in discussing with Belzona.

The Belzona engineer was shown the end caps and immediately offered help, donning overalls and safety PPE to carry out the repair alongside one of the site's staff, in order to train him up at the same time as offering a repair

Application Method

All the previous "fix" was removed or scraped back, removing glue and other debris

The interfaces were cleaned and prepared with 80 grit emery and a rotating wire brush, prior to being de-greased and cleaned. Belzona 1212 was mixed as per the IFU and the interfaces were "wetted" out using a short bristled brush.

A Belzona applicator was cut to shape to help create a chamfer to the interfaces

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The mixed Belzona was applied with the applicator and shaped to suit, after which all excess was removed and cleaned off

Belzona Facts

A lead time of 3 weeks was stated by the supplier for the new end caps. Belzona had the equipment back up and working within 1 hour, thanks to the surface tolerance and rapid curing Belzona 1212. Around half a 450g unit was used making the cost of each repair exceptionally low. The remainder of the unmixed unit was resealed and put back into stores for further use

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