

ONTARIO  
**KNOW-HOW  
IN ACTION**

**BELZONA**<sup>®</sup>  
GREAT LAKES

013/2021

PETROCHEMICAL  
VACUUM DEAERATOR  
INTERNAL LINING

  
**BELZONA**<sup>®</sup>  
Repair • Protect • Improve  
AUTHORIZED DISTRIBUTOR

# THE PROJECT

INTERNAL LINING OF  
VACUUM DEAERATOR  
DECEMBER, 2020

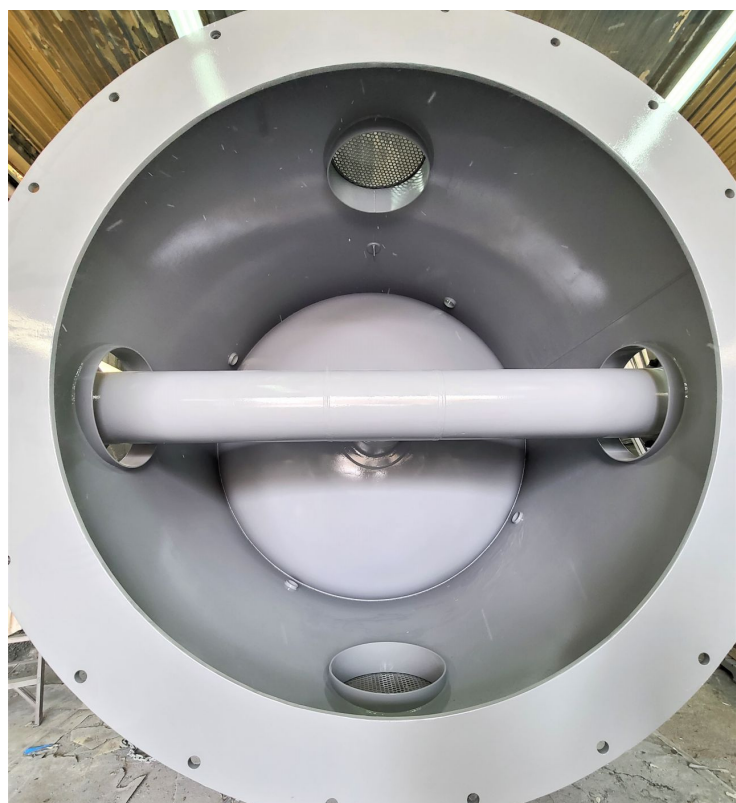
Deaerators are designed to remove oxygen and other dissolved gasses from feedwater to protect boilers, piping and equipment from corrosion. Deaerators are used in fossil and some nuclear plants, industrial steam plants and ship propulsion.

Deaerators use high temperature ( 103 °C to over 180 °C) to reduce solubility of dissolved gases in water and allow these gases to escape the water and be vented to the atmosphere. There are also vacuum deaerators which in which water boils at much lower temperature.

Most deaerator vessels are made of carbon steel and over 30% of deaerators contain cracks which have been assessed as corrosion fatigue and or stress corrosion

## BARRIER PROTECTION

A customer in Ontario was looking to internally line a newly fabricated 54,000 lbs Brine Vacuum Deaerator tank. They wanted to protect their investment by applying a barrier coating that would mitigate corrosion and other related problems.



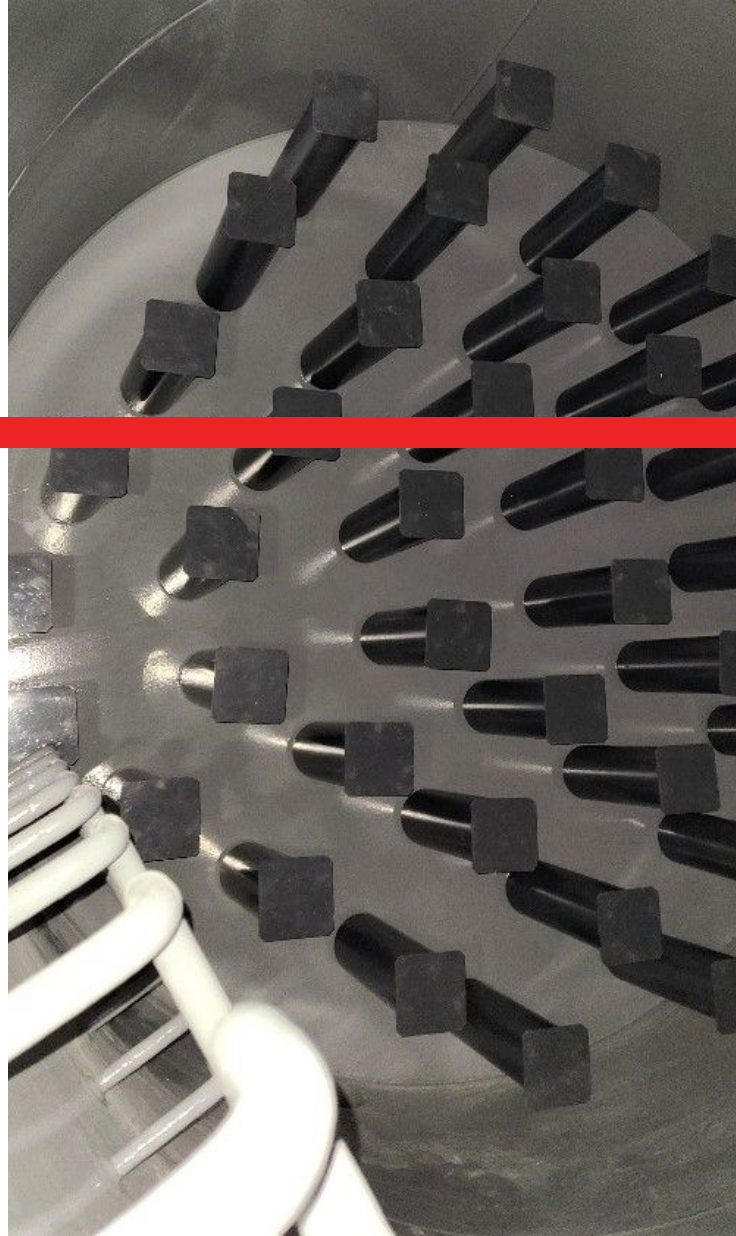


# THE SOLUTION

Belzona 5811 (Immersion Grade) was specified to internally coat the vacuum deaerator. The product was selected because of its excellent barrier properties which make this product ideal for continuous immersion services.

The vacuum deaerator was grit blasted and prepared to SSPC SP10 standard with a surface profile of 3 mils (75 microns). The prepared substrate was then cleaned and degreased with a solvent solution which did not leave any residue. Then 3 coats of Belzona 5811 (Immersion Grade) were brush applied following the product instructions for use (IFU).

## EASY TO APPLY



The product was applied via brush because of the complex internal geometry but the long overcoating time, allowed the applicator to complete the application successfully without the need for additional surface preparation between coats,

**Belzona 5811 (Immersion Grade) is a solvent-free system for the protection of metallic and non-metallic surfaces operating under continuous immersion in aqueous solutions. This coating is very versatile as it can be either brush or sprayed applied and it can also be injected in situations where a structural adhesive is required.**