

NICKEL SMELTER INTERCOOLER REFURBISHMENT

ID: 10316



PROBLEM

Two intercoolers at a nickel smelter had suffered severe corrosion, resulting in a near-total loss of coating integrity and requiring refurbishment. The corrosion assessment identified extensive coating failure and significant corrosion of the main shell and internal components, including the cooling system support rails.

APPLICATION SITUATION

The refurbishment works were undertaken in collaboration with local contractors, with continuous operations maintained throughout a tight shutdown window. Careful planning, efficient execution, and close coordination ensured the repairs were completed safely, on schedule, and with minimal disruption to plant operations.

APPLICATION METHOD

First, pit filling and metal rebuilding were undertaken using Belzona 1511 (Super HT-Metal), a high-temperature repair composite for metal restoration and corrosion protection, applied extensively to the intercooler shells to address widespread pitting and substrate loss. Once the substrate was adequately prepared and all significant metal loss rebuilt, all welds and hard-to-reach areas were stripe coated. This was followed by the spray application of two coats of Belzona 1523, a high-temperature, corrosion- and chemical-resistant coating, to a minimum dry film thickness (DFT) of 500 µm using a heated-line mobile spray unit.

BELZONA FACTS

The project was successfully completed, with the result a high-quality refurbishment, delivering extended service life under the protection of Belzona's coating systems.

INDUSTRY

Mining & Quarrying

LOCATION

WA, Australia

APPLICATION DATE

November 2022

PRODUCTS

Belzona 1511 (Super HT-Metal)
Belzona 1523

SUBSTRATE

Carbon steel

PHOTOS

1. Nickel smelter intercoolers in need of repair
2. Significant corrosion of the main shell and internal components.
3. Pit filling and metal repairs undertaken with Belzona 1511.
4. Final application of Belzona 1523 applied to the intercoolers.

For more examples of Belzona Know-How in Action, please visit khia.belzona.com

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