



constructive solutions

High-performance waterproofing for extreme industrial conditions

BlueScope Steel, Port Kembla | NSW, Australia

PROJECT ENGINEERS: Stantec Australia

APPLICATOR: Central West Waterproofing

SECTOR: Manufacturing

DATE: 2026

PRODUCTS

- Proofex Engage



Durable below-ground protection in a highly corrosive marine-industrial environment

A \$206 million upgrade at BlueScope Steel's Port Kembla facility is enhancing Australia's steel manufacturing capability—improving production capacity, quality and emissions performance.

THE PROJECT

The Plate Mill Modernisation Project centres on the installation of a new Walking Beam Furnace and heavy plate processing infrastructure, requiring extensive below-ground construction within an existing industrial site.

Site conditions presented a major durability challenge. Located adjacent to a marine environment, the site is exposed to saline groundwater, fluctuating water tables and operating temperatures up to 200°C—creating a highly corrosive environment for reinforced concrete.

THE SOLUTION

A robust waterproofing system was required to ensure long-term structural protection under extreme environmental and construction conditions.

Key challenges included hydrostatic pressure from saline groundwater, heavy reinforcement placement, thick concrete pours and irregular steel sheet piling with a 'dog tooth' profile.

Proofex Engage was selected for its durability and adaptability. Installed beneath the slab on a prepared blinding layer, it provides a continuous waterproof barrier below groundwater level.

To address uneven substrates, a foam-based lost formwork system was used to create a stable, fully supported surface for the

membrane—ensuring consistent performance during concrete placement.

Fosroc worked closely with designers and engineers to refine the solution, ensuring it met both construction and long-term performance requirements.

THE BENEFITS

Proofex Engage delivered a reliable waterproofing solution for one of Australia's most demanding industrial environments.

Key benefits include:

- Resistance to hydrostatic pressure and saline groundwater
- Protection against chloride ingress and reinforcement corrosion
- Reliable performance under high-load conditions
- Durability in temperatures up to 200°C
- Adaptability to complex substrates and construction methods
- Repairability during installation
- Full tanking capability across slabs and walls

With waterproofing works nearing completion, the structure is ready to support heavy furnace equipment—protected from groundwater ingress.

The result is a durable foundation supporting a major national investment in Australia's steel manufacturing future.

AU 1800 812 864
fosroc.com.au

NZ 0800 657 156
fosroc.co.nz

Parchem Construction Supplies Pty Ltd
1956 Dandenong Rd, Clayton VIC AUS 3168

Concrete Plus Ltd
150 Hutt Park Road, Gracefield NZ 5010

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