

Port Chalmers Container Terminal

BarChip Fibre Reinforced Concrete Track Slab



BarChip Reduced the Carbon Footprint by 900 Tonnes.

Location: Dunedin, New Zealand

Owner: Port Otago Ltd

Contractor: Martinus Rail, with SouthRoads, M3 Concrete and Allied Concrete

Reinforcement: BarChip48 Macro Synthetic Fibre

As part of a \$13.5m redevelopment, the Port Chalmers Container Terminal replaced its 50-year-old railpad with a 340 m long, 4-track rail sliding construction using BarChip fibre reinforced concrete track slab, together with BarChip fibre reinforced external pavements. Covering an area of 6,500 m², the upgrade improves safety and efficiency in container handling while reducing maintenance needs and supporting more sustainable port operations.

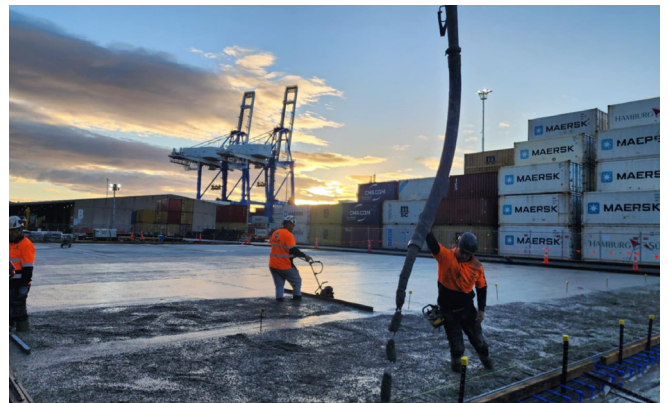
The works demanded high precision, with rail components installed to tolerances of just 3 mm, ensuring a modern system built for long-term reliability.

In total, 550 tonnes of steel reinforcement was replaced with just 19 tonnes of BarChip48 macro synthetic fibre. Along with simplified logistics and faster construction, this change resulted in a direct carbon reduction of 900t CO₂-eq.

Contractors also improved construction efficiency with a fibre reinforced solution. With the original design, all steel and rail tracks needed to be installed before being encased in a single concrete pour. With BarChip, a two stage sequence could be employed. First, a BarChip reinforced base slab is installed, providing structural support and a precise platform for installing rail baseplates. The second stage pour then encases the rails and delivers the final running surface for straddle carriers.

The BarChip fibre reinforced concrete track slab and hardstands provide Port Otago with a modern, corrosion free concrete solution designed for long term durability and reduced maintenance in a harsh coastal environment.

Allied Concrete, together with Martinus, received a **Highly Commended in the Producer - Extra Distance Award** category at the 2025 Concrete NZ Conference for the Port Otago Rail Pad Replacement Project at Port Chalmers.



BarChip Inc.

info@barchip.com

N. America: +1 704 843 8401

Australia: +61 1300 131 158

EMEA: (353) 1 853 7324

Asia: +65 6835 7716

S. America: +56 2 2703 1563

Brazil: +55 19 2121 5417

Distributors are located in other regions. For contact details visit www.barchip.com.

Disclaimer: This information has been provided as a guide to performance only, for specific and supervised conditions. The user is advised to undertake their own evaluation and use the services of professionals to determine the product suitability for any particular project or application prior to commercial use. ISO 9001:2015. PChalmers_2025_3. © BarChip Inc. 2025.



www.barchip.com