

Port of Mackay

Surface Type: Engineered Concrete | **Products Used:** DRY-TREAT 100N™ & CONCREME™ | **Completed:** 2004

Applicator: Port Authority

THE PROJECT:

The MacKay Port Authority manages in excess of \$140 million worth of assets each year through its air and seaports. This involves the berth area and handling approximately 160 vessels, processing two million tons of good including grain, sugar, iron concentrates, fertilizer and chemicals. Berths four and five of the port are made of reinforced engineered concrete. Berth four is 509 feet (155m) long, 60 feet (18.3m) apron width and 28 feet (8.5m) above low water. Berth five is 541 feet (165m) long, 66 feet (20m) apron width and 31 feet (9.5m) above



low water. Both berths are capable of handling vessels of 80, 000 tonnes. A suitable treatment was required to protect these valuable reinforced concrete structures from further chloride ion ingress caused by salt water spray and reducing costly maintenance work.

SPECIAL REQUIREMENTS:

- Greatly reduce water ingress and subsequent salt spalling and rebar corrosion
- Long lasting protection to reduce cost of regular maintenance
- Easy and quick application as to not cause lengthy service interruptions
- Sealers applied must stand up to UV and traffic

THE DRY-TREAT SOLUTION:

A long lasting, vapour permeable barrier was required to stop water-borne salts from penetrating the concrete. After washing down the concrete to remove loose surface matter and allowing it to dry, two coats of DRY-TREAT 100N™ were applied to all the exposed areas. For the concrete soffits (located underneath the wharf) CONCRÈME was selected to lessen the chance of the sealer dropping into the water. The work was carried out by staff of the Port Authority and included sealing of the entire deck area and soffits, a total area of 49 212 sq. feet (15, 000 sq.m). Both the sealers used are guaranteed to penetrate a minimum of 0.16 inches (four millimetres) into the surface of the concrete and reduce chloride ion uptake by at least 95 per cent. The treatment can also be applied to old or new concrete and is an excellent chloride ion screen, being equal to over 4 inches (100 mm) of extra concrete cover.