

Cape Lambert Port A-Dolphin (Australia)



Project description

Rio Tinto owns an integrated portfolio of iron ore assets in the Pilbara region of Western Australia including 16 mines, 4 independent port terminals, a 1,700 km rail network and other related infrastructure.

One of its facilities is the Cape Lambert iron-ore port which is located about 1,250 km north of the Western Australian capital of Perth.

The Cape Lambert “A” wharf has been in operation since 1972, but its original 17 dolphins were either demolished or decommissioned in 1999. The existing and still operational dolphins were installed between 2001 and 2002.

During a recent structural integrity inspections of the entire system, structural defects were identified. With some of these defects reportedly reducing the structural capacity of the existing dolphins, the replacement of the deteriorated dolphins was proposed.

The wharf is located approx. 2.5 km northeast offshore of Cape Lambert at Port Walcott



mageba scope

For this project in total 36 RESTON® SPHERICAL bearings with uplift restraint were produced and installed.

The bearings were designed to perform in harsh environment, therefore their fabrication had to follow a strict quality control process.

In order to ensure that the quality of the steel used for the production of the bearings is the highest, at the procurement stage, each steel plate’s mechanical and chemical properties were tested in a third party ILAC accredited Lab to ensure their compliance to the AS3678 requirements.

In addition, mageba also commissioned the same lab to perform an ultrasonic testing on each steel plate to meet with AS 1710 – Level 2.

After their fabrication was completed, the bearings were tested to the designed load in mageba’s NATA accredited lab in Sydney as per MRWA Spec 861 & AS5100.4.

A bearing is prepared for testing in mageba’s NATA certified lab



Highlights & facts

mageba products:

Type: RESTON®SPHERICAL bearings
 Feature: Uplift restraint
 Installed: 2020

Structure:

City: Port Walcott (WA)
 Country: Australia
 Type: Wharf
 Owner: Rio Tinto
 Contractor: Austral Construction Pty Ltd
 Structural designer: Aurecon

Installation of RESTON®SPHERICAL bearings on the superstructure manufactured in Shanghai

