

## **Cement Test Certificate**

Lot 242 Russell Road East, Munster WA 6166 PO Box 38, Hamilton Hill WA 6963 T: +61 8 9411 1000 F: +61 8 9411 1150

Final

**Product Certified:** Type HE High Early Strength Cement (Creme)

**Test Certificate Number:** 190130

Produced At: Cockburn Cement, Kwinana Plant, WA

Sample Code: B06a08e
Sample Date: 15/01/2019

Nominal Blend	Requirements	Result
Clinker		>86.5 %
Ground Granulated Iron Blast-Furnace Slag		Nil
Mineral Addition	Max 7.5 %	<5 %
Calcium Sulphate		<5 %
Minor Additional Constituents	Max 5 %	Nil

Reportable Property	Test Method	Requirements of AS3972	Result
3 Day Strength	AS2350.11	Min 25.0 MPa	42.8 MPa
7 Day Strength	AS2350.11	Min 40.0 MPa	50.5 MPa
28 Day Strength	AS2350.11	N/R	55.8 MPa
Initial Set Time	AS2350.4	Min 45 min	120 min
Final Set Time	AS2350.4	Max 360 min	180 min
Soundness	AS2350.5	Max 5 mm	2 mm
Sulfuric Anhydride content (SO <sub>3</sub> )	AS2350.2	Max 3.5 %	3.2 %
Chloride Ion	BH-TM-0507	Max 0.10 %	0.012 %
Other Properties			
SiO <sub>2</sub>	AS2350.2	N/R	21.9 %
$Al_2O_3$	AS2350.2	N/R	3.7 %
$Fe_2O_3$	AS2350.2	N/R	0.4 %
CaO	AS2350.2	N/R	64.9 %
MgO	AS2350.2	N/R	1.2 %
Na <sub>2</sub> O Equivalent	AS2350.2	N/R	0.6 %
Loss on Ignition	AS2350.2	N/R	3.9 %
Fineness Index	AS2350.8	N/R	420 m²/kg
Normal Consistency	AS2350.3	N/R	28.0 %
Brightness (L)*	MU-TM-2614	N/R	87

This document shall not be reproduced except in full.

## REMARKS

These test result apply specifically to the sample as received at the Adelaide Brighton Cement Birkenhead Laboratory (Accreditation number: 252), 62 Elder Rd Birkenhead SA 5015.

This despatch grab sample complies to the requirements of AS3972:2010, Type HE Cement.

\*NATA accreditation 252 does not cover the performance of this service.

N/R = No Requirement

NATA
WORLD RECOGNISED

Accredited for compliance with ISO/IEC 17025 - Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory

F. Pope

**Issue Date:** 4/03/2019