

Cement Test Certificate

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Final

| Reportable | Property T | est Method | Requirements of AS3972 | Result | | |
|---------------------------------|---------------------------|--------------------------------------------|------------------------------------------------------|---------|--|--|
| Minor Additional Constituents | | | Max 5 % | Nil | | |
| Calcium Sulphate | | | | <5 % | | |
| Mineral Addition | | | Max 7.5 % | <5 % | | |
| Ground Granulated Iron Blast-Fu | nace Slag | | | Nil | | |
| Clinker | | | | >86.5 % | | |
| Nominal | Blend | | Requirements | Result | | |
| | Sample Date: | 3/06/2020 | | | | |
| | Sample Code: | B078585 | | | | |
| | Produced At: | ced At: Cockburn Cement, Kwinana Plant, WA | | | | |
| | Test Certificate Numbe | r: 200250 | Type HE High Early Strength Cement (Creme) 200250 | | | |
| | Product Certified: | Type HE H | | | | |
| ABN 50 006 673 470 | | | | | | |

| Reportable Property | Test Method | AS3972 | Result |
|-----------------------------------------------|-------------|--------------|-----------|
| 3 Day Strength | AS2350.11 | Min 25.0 MPa | 38.8 MPa |
| 7 Day Strength | AS2350.11 | Min 40.0 MPa | 49.6 MPa |
| 28 Day Strength | AS2350.11 | N/R | 58.3 MPa |
| Initial Set Time | AS2350.4 | Min 45 min | 105 min |
| Final Set Time | AS2350.4 | Max 360 min | 180 min |
| Soundness | AS2350.5 | Max 5 mm | 0 mm |
| Sulfuric Anhydride content (SO ₃) | AS2350.2 | Max 3.5 % | 3.1 % |
| Chloride Ion | BH-TM-0507 | Max 0.10 % | 0.008 % |
| Other Properties | | | |
| 5iO ₂ | AS2350.2 | N/R | 21.5 % |
| Al ₂ O ₃ | AS2350.2 | N/R | 3.7 % |
| Fe ₂ O ₃ | AS2350.2 | N/R | 0.4 % |
| CaO | AS2350.2 | N/R | 64.8 % |
| MgO | AS2350.2 | N/R | 1.4 % |
| Na₂O Equivalent | AS2350.2 | N/R | 0.5 % |
| Loss on Ignition | AS2350.2 | N/R | 4.5 % |
| Fineness Index | AS2350.8 | N/R | 440 m²/kg |
| Normal Consistency | AS2350.3 | N/R | 28.5 % |
| Brightness (L)* | MU-TM-2614 | N/R | 88 |

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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



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.

Marchife

Approved Signatory M. Wythe

Issue Date:

13/07/2020