



ABN 50 006 673 470

# Cement Test Certificate

Final

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**Product Certified:** Type GP General Purpose Cement  
**Test Certificate Number:** 180393  
**Produced At:** Cockburn Cement, Munster Plant, WA  
**Sample Code:** B06261d  
**Sample Date:** 27/03/2018

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

| Reportable Property                           | Test Method | Requirements of AS3972 | Result   |
|---|-------------|------------------------|----------|
| 3 Day Strength                                | AS2350.11   | N/R                    | 43.5 MPa |
| 7 Day Strength                                | AS2350.11   | Min 35.0 MPa           | 50.6 MPa |
| 28 Day Strength                               | AS2350.11   | Min 45.0 MPa           | 68.8 MPa |
| Initial Set Time                              | AS2350.4    | Min 45 min             | 135 min  |
| Final Set Time                                | AS2350.4    | Max 360 min            | 210 min  |
| Soundness                                     | AS2350.5    | Max 5 mm               | 1 mm     |
| Sulfuric Anhydride content (SO <sub>3</sub> ) | AS2350.2    | Max 3.5 %              | 3.1 %    |
| Chloride Ion                                  | BH-TM-0507  | Max 0.10 %             | 0.010 %  |

| <b>Other Properties</b>        |          |     |                        |
|--------------------------------|----------|-----|------------------------|
| SiO <sub>2</sub>               | AS2350.2 | N/R | 19.1 %                 |
| Al <sub>2</sub> O <sub>3</sub> | AS2350.2 | N/R | 5.1 %                  |
| Fe <sub>2</sub> O <sub>3</sub> | AS2350.2 | N/R | 2.8 %                  |
| CaO                            | AS2350.2 | N/R | 63.4 %                 |
| MgO                            | AS2350.2 | N/R | 1.5 %                  |
| Na <sub>2</sub> O Equivalent   | AS2350.2 | N/R | 0.5 %                  |
| Loss on Ignition               | AS2350.2 | N/R | 3.8 %                  |
| Fineness Index                 | AS2350.8 | N/R | 380 m <sup>2</sup> /kg |
| Normal Consistency             | AS2350.3 | N/R | 28.3 %                 |

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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 GP Cement.

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.

Approved Signatory

F. Pope

**Issue Date:** 14/05/2018