

## CERTIFICATE OF ANALYSIS

**CERTIFICATE No.** 0340-18

**TEST CERTIFICATE FOR:** GP Portland Cement

**PRODUCED AT:** Sunstate Cement Ltd, Port of Brisbane

**SAMPLE IDENTIFICATION:** Spot Despatch Sample sample A6P-001929 sampled on 28/2/2018

**SAMPLE TESTED AT:** Sunstate Cement Ltd, Port of Brisbane

| SPECIFIED PROPERTY                     | TEST METHOD          | AS3972 REQUIREMENTS |          | RESULT   |
|----------------------------------------|----------------------|---------------------|----------|----------|
| Compressive strength                   | AS2350.11, AS2350.12 |                     |          |          |
| 3 day                                  |                      |                     |          | 37.4 MPa |
| 7 day                                  |                      | Minimum             | 35 MPa   | 47.8 MPa |
| 28 day                                 |                      | Minimum             | 45 MPa   | 58.4 MPa |
| Setting time                           | AS2350.4             |                     |          |          |
| Initial                                |                      | Minimum             | 45 mins  | 105 mins |
| Final                                  |                      | Maximum             | 360 mins | 195 mins |
| Soundness                              | AS2350.5             | Maximum             | 5 mm     | 1 mm     |
| Sulphuric anhydride (SO <sub>3</sub> ) | In House             | Maximum             | 3.5 %    | 2.9 %    |
| Chloride                               | AS3583.13            | Maximum             | 0.1 %    | 0.013 %  |

| REPORTABLE PROPERTY                             | TEST METHOD |  |  | RESULT                 |
|-------------------------------------------------|-------------|--|--|------------------------|
| Loss on ignition                                | AS2350.2    |  |  | 3.3 %                  |
| Fineness                                        | AS2350.8    |  |  | 370 m <sup>2</sup> /kg |
| Total Alkali (Na <sub>2</sub> O <sub>eq</sub> ) | AS2350.2    |  |  | 0.6 %                  |

| OTHER PROPERTIES   | TEST METHOD |  |  | RESULT |
|--------------------|-------------|--|--|--------|
| Normal Consistency | In House    |  |  | 28.7 % |

**SAMPLING PROCEDURE:**

- The results of the above tests relate only to the sample as described above.
- Total Alkali determined at Australian Laboratory Services by ICP -AES using ME -ICP 91, Corporate Accreditation No 825, Corporate Site 818.

**REMARKS:**

**G Santaguiliana**  
**Approved Signatory**  
**9-Apr-2018**

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A.B.N. 58 010 421 879  
 POSTAL ADDRESS: PO BOX 350, WYNNUM, QLD. 4178  
 PHONE: (07) 3895 9800 FAX: (07) 3895 9801



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