

CERTIFICATE OF ANALYSIS

CERTIFICATE No. 1833-18

TEST CERTIFICATE FOR: Slag Blend 30

PRODUCED AT: Sunstate Cement Ltd, Port of Brisbane

SAMPLE IDENTIFICATION: Spot Despatch Sample on 8/10/2018

SAMPLE TESTED AT: Sunstate Cement Ltd, Port of Brisbane

| SPECIFIED PROPERTY                     | TEST METHOD  AS2350.11, AS2350.12 | AS3972 REQUIREMENTS |          | RESULT                      |
|----------------------------------------|-----------------------------------|---------------------|----------|-----------------------------|
| Compressive strength                   |                                   |                     |          |                             |
| 3 day                                  |                                   |                     |          | 28.4 MPa                    |
| 7 day                                  |                                   | Minimum             | 20 MPa   | 41.5 MPa                    |
| 28 day                                 |                                   | Minimum             | 35 MPa   | 59.0 MPa                    |
| Setting time                           | AS2350.4                          |                     |          |                             |
| Initial                                |                                   | Minimum             | 45 mins  | 105 mins                    |
| Final                                  |                                   | Maximum             | 600 mins | 210 mins                    |
| Soundness                              | AS2350.5                          | Maximum             | 5 mm     | 0 mm                        |
| Sulphuric anhydride (SO <sub>3</sub> ) | In house                          | Maximum             | 3.5 %    | 2.2 %                       |
| REPORTABLE PROPERTY                    | TEST METHOD                       |                     |          | RESULT                      |
| oss on ignition                        | AS2350.2                          |                     |          | 2.8 %                       |
| Fineness                               | AS2350.8                          |                     |          | $405 \text{ m}^2/\text{kg}$ |
| Chloride                               | AS3583.13                         |                     |          | 0.0042 %                    |
| OTHER PROPERTIES                       | TEST METHOD                       |                     |          | RESULT                      |
| Normal Consistency                     | In House                          |                     |          | 31.4 %                      |

SAMPLING PROCEDURE: Cement samples obtained according to the requirements of AS2350.1

**REMARKS:** The results of the above tests relate only to the sample as described above. The blended cement is produced with a nominal 30% GBFS content.

G Santaguiliana Approved Signatory 10-Dec-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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Laboratory Number: 2190 / 2191
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