



ABN 29 075 095 822

Cement Test Certificate

Final

Gate 7 Foreshore Road, Port Kembla
NSW 2505
PO Box 230, Port Kembla NSW 2505
T: +61 2 4276 4888
F: +61 2 4276 4399
www.adbri.com.au

Product Certified: Type GL General Purpose Limestone Cement
Test Certificate Number: 230261
Customer: Morgan Cement, Port Kembla Plant, NSW
Sample Code: B09a5d9
Sample Date: 13/04/2023

| Nominal Blend | Requirements | Result |
|---|--------------|--------|
| Clinker | | >80 % |
| Ground Granulated Iron Blast-Furnace Slag | | Nil |
| Mineral Addition | Max 20 % | <15 % |
| Calcium Sulphate | | <7 % |
| Minor Additional Constituents | Max 5 % | Nil |

| Reportable Property | Test Method | Requirements of AS3972 | Result |
|---|---------------|------------------------|----------|
| 3 Day Strength | AS/NZS2350.11 | N/R | 39.1 MPa |
| 7 Day Strength | AS/NZS2350.11 | Min 20.0 MPa | 55.5 MPa |
| 28 Day Strength | AS/NZS2350.11 | Min 35.0 MPa | 66.9 MPa |
| Initial Set Time | AS/NZS2350.4 | Min 45 min | 135 min |
| Final Set Time | AS/NZS2350.4 | Max 600 min | 180 min |
| Soundness | AS/NZS2350.5 | Max 5 mm | 1 mm |
| Sulfuric Anhydride content (SO ₃) | AS2350.2 | Max 3.5 % | 2.9 % |
| Chloride Ion | BH-TM-0507 | Max 0.10 % | 0.019 % |

Other Properties

| | | | |
|--------------------------------|--------------|-----|------------------------|
| SiO ₂ | AS2350.2 | N/R | 17.8 % |
| Al ₂ O ₃ | AS2350.2 | N/R | 4.9 % |
| Fe ₂ O ₃ | AS2350.2 | N/R | 3.0 % |
| CaO | AS2350.2 | N/R | 62.5 % |
| MgO | AS2350.2 | N/R | 1.6 % |
| Na ₂ O Equivalent | AS2350.2 | N/R | 0.4 % |
| Loss on Ignition | AS2350.2 | N/R | 6.2 % |
| Fineness Index | AS/NZS2350.8 | N/R | 395 m ² /kg |
| Normal Consistency | AS/NZS2350.3 | N/R | 28.6 % |

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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 GL Cement.

N/R = No Requirement



Accredited for compliance with ISO/IEC
17025 - Testing.

Approved Signatory

M. Wythe

Issue Date: 06/07/2023