STANDARD FLY ASH CERTIFICATE



FINAL

Prior Reports: None

Certificate Number: CERT200424

Issued: 27 February 2020

C/- Lindfield Corporate Centre Suite 18, 12 Tryon Road Lindfield NSW 2070

Flyash Australia Pty Ltd

ABN 68 002 840 271 Head Office

Lindfield NSW 2070 Tel: (02) 9413 8422 Fax: (02) 9413 84.32

Product being certified: Bayswater - Microash Monthly Grab Fly Ash

Product sample date: 04-Feb-2020

Sample Identification: Sample Code: 20020367 Source Power Station: Bayswater Power Station

Sample Condition: Tested as Received. Testing Commenced on 11-Feb-2020

Certifying Laboratory: Cement Australia - Darra Laboratory,

18 Station Avenue, Darra Queensland 4076 Australia.

Test Results

| Test | Moisture | Fineness @ 45 micron | Loss on Ignition | Sulfuric Anhydride | Available Alkali | Chloride Ion | Chemical Composition |
|-------------|--------------|-------------------------|---------------------|-----------------------|---------------------|-----------------|-------------------------|
| | % | % Passed | % | % | % | % | % |
| Result | 0.1 | 96 | 0.5 | 0.1 | n/a | 0.002 | 96.8 |
| Test Method | AS3583.2 | AS3583.1 | AS3583.3 | AS2350.2 | AS3583.12 | AS3583.13 | AS2350.2 |
| AS 3582.1 | 0.5% Maximum | 85% Minimum | 3.0 % Maximum | 3.0% Maximum | - | 0.1 % Maximum | 70% Minimum |

| Test | Relative Density | Relative Water Requirement | Strength Index 7 Day Acc. | Reference Cement Details | |
|-------------|---------------------|-------------------------------|------------------------------|---------------------------|--|
| | | % | % | Identification:: 20020406 | |
| Result | 2.34 | 90 | 137 | Source: Goliath GP | |
| Test Method | AS3583.5 | AS3583.6 | AS3583.6 | Product Type: Type GP | |
| AS 3582.1 | - | - | Exceeds 105% | Sample Date: 11-Feb-20 | |

Additional Testing - Oxides

| Test | CaO by XRF % | SiO ₂ by XRF | Al ₂ O ₃ by XRF | Fe ₂ O ₃ by XRF | SO ₃ by XRF % | MgO by XRF % | Na₂O by XRF % |
|-------------|--------------------|----------------------------|--|--|--------------------------------|--------------------|---------------------|
| Result | 0.5 | 78.0 | 15.4 | 3.4 | 0.1 | 0.3 | 0.14 |
| Test Method | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 |

| Test | K₂O by XRF | SrO by XRF | TiO2 by XRF | P ₂ O ₅ by XRF | Mn ₂ O ₃ by XRF | Total Alkali (NaEQ) |
|-------------|---------------|---------------|----------------|---|--|------------------------|
| | % | % | % | % | % | % |
| Result | 0.78 | <0.1 | 0.5 | 0.3 | < 0.1 | 0.65 |
| Test Method | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 | AS2350.2 |

This sample grade conforms to the following requirements of AS 3582.1:2016

| Special | Grade 1 | Grade 2 |
|---------|---------|---------|
| X | X | |

Approved Signatory

A Prem

Signatory - Cement Australia Chemical Testing

Construction Materials Testing

in this document are traceable to Australian/national standards.

Accredited for compliance with ISO/IEC 17025 - Testing. The results of the tests,

calibrations and/or measurements included

Cement Australia - Darra Laboratory NATA Accredited Laboratory Numbers 187 188



Notes:

