



Boral Construction Materials

Materials Technical Services

Unit 4, 3-5 Gibbon Road
Baulkham Hills NSW 2153
PO Box 400,
Winston Hills NSW 2153

T: +61 2 9624 9900
F: +61 2 9624 9999

www.boral.com.au

Test Report

CLIENT: XYPEX AUSTRALIA
9/177 Arthur Street, Homebush west, NSW 2140.

FILE No.:256/12

PROJECT: Testing of Silica Fume Sample for June 2012.

REQUEST No.: 48393

TEST PROCEDURE: Boral Chemical Method 2 – Determination of metal oxides by Lithium Meta Borate Fusion and analysed using ICP

Laboratory Sample No.: 130021
Date Sampled: Unknown
Date Received: 21/06/12
Sample Description: Ecotec Silica
Fume Sample for
June 2012.

Field No.: 1

TEST RESULTS

Silicon as SiO₂ (%) 90.8

Sample submitted by the client.

Nalini S
Nanthini Selvadurai
Analytical Chemist
30th July 2012.
D. Rowley, File



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TEST REPORT

CLIENT: XYPEX AUSTRALIA
Address: 9/177 Arthur Street Homebush West NSW 2140

FILE NO: 256/12

SOURCE OF SAMPLE: Unknown

LAB SAMPLE NO: 130021

REQUEST NO: 48393

SAMPLE IDENTIFICATION: Ecotec Silica Fume – Monthly Sample for June 2012.

IDENTIFICATION OF CEMENT USED: Boral Cement SL Berrima – ID # 87223

TEST METHOD: ASTM C-1240-05 Use of Silica Fume as a Mineral Admixture in Hydraulic-Cement Concrete, Mortar & Grout

Accelerated Pozzolanic Strength Activity Index With Portland Cement - ASTM C1240-05

Date Cast: 21-06-12

Date Crushed: 28-06-12 @ 7 Days

Results:	Accelerated Pozzolanic Strength Activity Index:	114% @ 7 Days
	Control Mix Strength:	35.4 MPa
	Test Mix Strength:	40.4 MPa

Note:
Test mix used 242 mls of water and 6.10 grams of Water Reducer (Rheobuild 1000 from BASF) to obtain a flow of 105%.

Daniel Rowley, Mat. File, File

Muans Abdulnebe



Approved Signatory: _____
Date: 29/06/12 Serial No. 107199

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Number: 547



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TEST REPORT

CLIENT: XYPEX AUSTRALIA
Address: 9/177 Arthur Street Homebush West NSW 2140

FILE NO: 256/12

REQUEST NO: 48393

LAB. SAMPLE NO: 130021

SOURCE OF SAMPLE: Unknown

SAMPLE IDENTIFICATION: Ecotec Silica Fume – Monthly Sample for June 2012.

TEST METHOD: AS3583: Methods of test for supplementary cementitious materials for use with Portland Cement

PROPERTY	DATE TESTED	RESULT	TEST METHOD	AS3582 SPEC.
Moisture content	21-06-12	0.9%	AS3583.2	Max. 3.0%
Loss on ignition	21-06-12	1.9 %	AS3583.3	Max. 6.0%
Relative Density	21-06-12	2.25	AS3583.5	

Sample submitted by the client.

Daniel Rowley, Mat. File, File

Safwan Fawal



Approved Signatory _____
Date 29/06/2012 Serial No. 107200

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Number: 547



MATERIALS TECHNICAL SERVICES
BORAL RESOURCES (NSW) PTY LTD
ABN 51 000 756 507
Unit 4, 3-5 Gibbon Road
Baulkham Hills NSW 2153 Australia
PO Box 400, Winston Hills NSW 2153.
Telephone 61 2 9624 9900
Facsimile 61 2 9624 9999

Test Report

CLIENT: XYPEX AUSTRALIA
9/177 Arthur Street, Homebush west, NSW 2140.

FILE No.:256/12

PROJECT: Testing of Silica Fume Sample.

REQUEST No.: 48393

TEST PROCEDURE:

AS3583.12 – 1991 – Determination of Available Alkali

Laboratory Sample No.: 130021
Date Sampled: Unknown
Date Received: 21/06/12
Sample Description: Ecotec Silica Fume
sample for June 2012.

Field No.: 1

TEST RESULTS

Sodium as Na₂O (%) 0.11
Potassium as K₂O (%) 0.19
Available Alkali (%) 0.2

Available Alkali (%) = Na₂O (%) + (0.658 x K₂O %)

Samples submitted by the Client.

D. Rowley, File



ACCREDITED FOR
TECHNICAL
COMPETENCE

Approved Signatory Nanthini Selvadurai
Date 30-07-12 Serial No. 107202

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Number: 9968



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PO Box 400, Winston Hills NSW 2153
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Test Report

CLIENT: XYPEX AUSTRALIA
9/177 Arthur Street, Homebush west, NSW 2140.

FILE No.:256/12

PROJECT: Testing of Silica Fume Sample for June 2012.

REQUEST No.: 48393

TEST PROCEDURE: AS3583.13 – Determination of Chloride Ion Content
AS3583.8 – Determination of Sulfuric Anhydride content

Laboratory Sample No.: 130021
Date Sampled: Unknown
Date Received: 21/06/12
Sample Description: Ecotec Silica Fume
Sample for June 2012

Field No.: 1

TEST RESULTS

Chloride as Cl⁻ (%) 0.111
Sulphate as SO₃ (%) 0.6

Samples submitted by the Client

D. Rowley , File



Approved Signatory Nanthini Selvadurai
Date 30-07-12 Serial No. 107201

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TEST REPORT

CLIENT: XYPEX AUSTRALIA

Address: 9/177 Arthur Street Homebush West NSW 2140

FILE NO: 256/12

REQUEST NO: 48393

LAB. SAMPLE NO: 130021

SOURCE OF SAMPLE: Unknown

SAMPLE IDENTIFICATION: Ecotec Silica Fume – Monthly Sample for June 2012

Bulk Density - AS3582.3.6.5

Result: 615 Kg/m³

Daniel Rowley, Mat. File, File


Hussam Abdulrazzag
28-06-2012

Sample ID: Silica Fume Ecotec-June2012-LSN-130021
Setup ID: None
Converted from:: L:/GEMINI/DATA/L192/4360/130321.MGD
File: L:\...4360\130321.DMT

Started: 16/07/2012 4:19:36PM	Analysis Adsorptive: N2
Completed: 16/07/2012 5:45:48PM	Analysis Bath Temp.: 77.150 K
Report Time: 19/07/2012 9:20:29PM	Thermal Correction: No
Sample Mass: 0.7031 g	Warm Free Space: -1.1517 cm ³ Measured
Equilibration Interval: 10 s	Low Pressure Dose: None
Sample Density: 1.000 g/cm ³	Automatic Degas: No

Summary Report

Surface Area

Single point surface area at $p/p^{\circ} = 0.200616647$: 20.7368 m²/g

BET Surface Area: 21.5945 m²/g

Langmuir Surface Area: 29.4989 m²/g

Sample ID: Silica Fume Ecotec-June2012-LSN-130021
 Setup ID: None
 Converted from: L:/GEMINI/DATA/L192/4360/130321.MGD
 File: L:\...4360\130321.DMT

Started: 16/07/2012 4:19:36PM	Analysis Adsorptive: N2
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Report Time: 19/07/2012 9:20:29PM	Thermal Correction: No
Sample Mass: 0.7031 g	Warm Free Space: -1.1517 cm ³ Measured
Equilibration Interval: 10 s	Low Pressure Dose: None
Sample Density: 1.000 g/cm ³	Automatic Degas: No

BET Surface Area Report

BET Surface Area: 21.5945 ± 0.0510 m²/g
 Slope: 0.199644 ± 0.000472 g/cm³ STP
 Y-Intercept: 0.001945 ± 0.000064 g/cm³ STP
 C: 103.663303
 Qm: 4.9606 cm³/g STP
 Correlation Coefficient: 0.9999804
 Molecular Cross-Sectional Area: 0.1620 nm²

Relative Pressure (p/p ^o)	Quantity Adsorbed (cm ³ /g STP)	1/[Q(p ^o /p - 1)]
0.050221892	4.4201	0.011963
0.069030910	4.6997	0.015777
0.087917338	4.9310	0.019548
0.106732808	5.1388	0.023252
0.125432178	5.3260	0.026928
0.144370204	5.4958	0.030702
0.163205024	5.6615	0.034449
0.182033387	5.8140	0.038277
0.200616647	5.9591	0.042115



Particle & Surface Sciences Pty. Limited

PO Box 1926, Gosford, NSW, Australia 2250. Tel: (61) 02 43 237822 Fax: (61) 02 43 237629 Email: info@pss.aus.net

DataMaster V4.03.01

Unit 0

Serial #: 909

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Sample ID: Silica Fume Ecotec-June2012-LSN-130021

Setup ID: None

Converted from: L:/GEMINI/DATA/L192/4360/130321.MGD

File: L:\...4360\130321.DMT

Started: 16/07/2012 4:19:36PM

Completed: 16/07/2012 5:45:48PM

Report Time: 19/07/2012 9:20:29PM

Sample Mass: 0.7031 g

Equilibration Interval: 10 s

Sample Density: 1.000 g/cm³

Analysis Adsorptive: N2

Analysis Bath Temp.: 77.150 K

Thermal Correction: No

Warm Free Space: -1.1517 cm³ Measured

Low Pressure Dose: None

Automatic Degas: No

Langmuir Surface Area Report

Langmuir Surface Area: 29.4989 ± 0.5980 m²/g

Slope: 0.147572 ± 0.002992 g/cm³ STP

Y-Intercept: 3.581365 ± 0.312102 mmHg·g/cm³ STP

b: 0.041205 1/mmHg

Qm: 6.7764 cm³/g STP

Correlation Coefficient: 0.998565

Molecular Cross-Sectional Area: 0.1620 nm²

Pressure (mmHg)	Quantity Adsorbed (cm ³ /g STP)	p/Q (mmHg·g/cm ³ STP)
38.930000	4.4201	8.807
53.509998	4.6997	11.386
68.150002	4.9310	13.821
82.735001	5.1388	16.100
97.230003	5.3260	18.256
111.910004	5.4958	20.363
126.510002	5.6615	22.346
141.104996	5.8140	24.270
155.509995	5.9591	26.096