

A

Cement Test Certificate

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BN 22 009 593 515	
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Final

Calcium Sulphate<5 %	Tes Pro San San	oduct Certified: t Certificate Number: duced At: nple Code: nple Date:	180193	neral Purpose Cement nent, Darwin Plant, NT	Devide
NilMineral AdditionMax 7.5 % $< 7.5 %$ Calcium Sulphate $< X 5 \%$ $< %$ Minor Additional ConstituentsMax 5 %NilReportable PropertyResultResult3 Day Strength $AS2350.11$ N/R 38.4 MPa7 Day Strength $AS2350.11$ Min 35.0 MPa 48.3 MPa28 Day Strength $AS2350.11$ Min 45.0 MPa 62.0 MPa10 bit Strength $AS2350.11$ Min 45.0 MPa 62.0 MPa28 Day Strength $AS2350.41$ Min 45 min 105 min11 tital Set Time $AS2350.4$ Min 45 min 105 minSoundness $AS2350.4$ Max 360 min 165 minSouffuric Anhydride content (SO ₃) $AS2350.2$ Max 3.5 % $2.8 %$ Chloride IonBH-TM-0507Max 0.10 % 0.008% SOl2 $AS2350.2$ N/R 9.7% SiQ2 $AS2350.2$ N/R 9.7% A_2Q_3 $AS2350.2$ N/R 5.4% F_2O_3 $AS2350.2$ N/R 5.4%				Requirements	
Mineral Addition Max 7.5 % <7.5 % Calcium Sulphate <					
Calcium Sulphate <	-				
Minor Additional Constituents Max 5 % Nil Reportable Property Result Result 3 Day Strength AS2350.11 N/R 38.4 MPa 7 Day Strength AS2350.11 Min 35.0 MPa 48.3 MPa 28 Day Strength AS2350.11 Min 45.0 MPa 62.0 MPa 101trial Set Time AS2350.11 Min 45.0 MPa 62.0 MPa 11nitial Set Time AS2350.4 Max 360 min 105 min Soundness AS2350.5 Max 5 mm 1 mm Soulfuric Anhydride content (SO ₃) AS2350.2 Max 3.5 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % SiO ₂ AS2350.2 N/R 19.7 % Al ₂ O ₃ AS2350.2 N/R 5.4 %	Mineral Addition			Max 7.5 %	<7.5 %
Reportable Property Test Method Requirements of AS3972 Result 3 Day Strength AS2350.11 N/R 38.4 MPa 7 Day Strength AS2350.11 Min 35.0 MPa 48.3 MPa 28 Day Strength AS2350.11 Min 45.0 MPa 62.0 MPa 101 Initial Set Time AS2350.11 Min 45.0 MPa 62.0 MPa 101 Initial Set Time AS2350.4 Min 45 min 105 min Soundness AS2350.5 Max 360 min 165 min Soulfuric Anhydride content (SO ₃) AS2350.2 Max 3.5 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % SiO ₂ AS2350.2 N/R 19.7 % Al ₂ O ₃ AS2350.2 N/R 5.4 %	Calcium Sulphate				<5 %
Reportable Property Iest Method AS3972 Result 3 Day Strength AS2350.11 N/R 38.4 MPa 7 Day Strength AS2350.11 Min 35.0 MPa 48.3 MPa 28 Day Strength AS2350.11 Min 45.0 MPa 62.0 MPa 1nitial Set Time AS2350.4 Min 45 min 105 min Final Set Time AS2350.4 Max 360 min 165 min Soundness AS2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) AS2350.2 Max 0.10 % 0.008 % Other Properties SiO ₂ AS2350.2 N/R 19.7 % SiO ₂ AS2350.2 N/R 5.4 % Fe ₂ O ₃ AS2350.2 N/R 2.7 %	Minor Additional Constituents			Max 5 %	Nil
7 Day Strength AS2350.11 Min 35.0 MPa 48.3 MPa 28 Day Strength AS2350.11 Min 45.0 MPa 62.0 MPa 1nitial Set Time AS2350.4 Min 45 min 105 min Final Set Time AS2350.4 Max 360 min 165 min Soundness AS2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) AS2350.2 Max 0.10 % 0.008 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % SiO ₂ AS2350.2 N/R 19.7 % Al ₂ O ₃ AS2350.2 N/R 5.4 % Fe ₂ O ₃ AS2350.2 N/R 2.7 %	Reportable Prop	erty Test	Method	-	Result
28 Day Strength AS2350.11 Min 45.0 MPa 62.0 MPa Initial Set Time AS2350.4 Min 45 min 105 min Final Set Time AS2350.4 Max 360 min 165 min Soundness AS2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) AS2350.2 Max 0.10 % 0.008 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % StiO2 AS2350.2 N/R 19.7 % Al ₂ O ₃ AS2350.2 N/R 2.4 %	3 Day Strength	AS	52350.11	N/R	38.4 MPa
Initial Set Time As2350.4 Min 45 min 105 min Final Set Time As2350.4 Max 360 min 165 min Soundness As2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) As2350.2 Max 0.10 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % SiO ₂ As2350.2 N/R 19.7 % Al ₂ O ₃ As2350.2 N/R 2.4 %	7 Day Strength	AS	52350.11	Min 35.0 MPa	48.3 MPa
Final Set Time AS2350.4 Max 360 min 165 min Soundness AS2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) AS2350.2 Max 3.5 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % Other Properties SiO ₂ AS2350.2 N/R 19.7 % SiO ₂ AS2350.2 N/R 5.4 % Fe ₂ O ₃ AS2350.2 N/R 2.7 %	28 Day Strength	AS	52350.11	Min 45.0 MPa	62.0 MPa
Soundness As2350.5 Max 5 mm 1 mm Sulfuric Anhydride content (SO ₃) As2350.2 Max 3.5 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % Other Properties SiO ₂ As2350.2 N/R 19.7 % Al ₂ O ₃ As2350.2 N/R 5.4 % Fe ₂ O ₃ N/R 2.7 %	Initial Set Time	AS	52350.4	Min 45 min	105 min
Sulfuric Anhydride content (SO ₃) AS2350.2 Max 3.5 % 2.8 % Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % Other Properties SiO ₂ AS2350.2 N/R 19.7 % Al ₂ O ₃ AS2350.2 N/R 5.4 % Fe ₂ O ₃ AS2350.2 N/R 2.7 %	Final Set Time	AS	52350.4	Max 360 min	165 min
Chloride Ion BH-TM-0507 Max 0.10 % 0.008 % Other Properties SiO2 AS2350.2 N/R 19.7 % Al2O3 AS2350.2 N/R 5.4 % Fe2O3 AS2350.2 N/R 2.7 %	Soundness	AS	52350.5	Max 5 mm	1 mm
Other Properties SiO2 AS2350.2 N/R 19.7 % Al2O3 AS2350.2 N/R 5.4 % Fe2O3 AS2350.2 N/R 2.7 %	Sulfuric Anhydride content (SO ₃)	AS	52350.2	Max 3.5 %	2.8 %
SiO2 AS2350.2 N/R 19.7 % Al2O3 AS2350.2 N/R 5.4 % Fe2O3 AS2350.2 N/R 2.7 %	Chloride Ion	Bł	H-TM-0507	Max 0.10 %	0.008 %
Al2O3 AS2350.2 N/R 5.4 % Fe2O3 AS2350.2 N/R 2.7 %	Other Properties				
Fe ₂ O ₃ AS2350.2 N/R 2.7 %	SiO ₂	AS	52350.2	N/R	19.7 %
	Al ₂ O ₃	AS	52350.2	N/R	5.4 %
	Fe ₂ O ₃	AS	52350.2	N/R	2.7 %
	CaO	AS	52350.2	N/R	63.9 %

AS2350.3 This document shall not be reproduced except in full.

AS2350.2

AS2350.2

AS2350.2

AS2350.8

REMARKS

MgO

Na₂O Equivalent

Loss on Ignition

Fineness Index

Normal Consistency

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 GP Cement. N/R = No Requirement



Accredited for compliance with ISO/IEC 17025 - Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



Approved Signatory F. Pope

1.5 %

0.6 %

2.6 %

330 m²/kg 28.8 %

Issue Date:

N/R

N/R

N/R

N/R

N/R

19/03/2018