

## MILL TEST REPORT

Cement Type: **Specialty Cement**

Plant: **Delta, BC**

Certificate #: **D4-72**

Production Period:	Oct 01 2011 Oct 31 2011		Test Result	CSA A3002 Specification	ASTM C91 Specification
SO3 (%)		ASTM C114	<b>2.01</b>	-	-
Loss on Ignition (%)		ASTM C114	<b>17.33</b>	-	-
Free Calcium Oxide (%)		ASTM C114	<b>0.11</b>	-	-
Blaine (m2/kg)	ASTM C204	ASTM C204	<b>713</b>	-	-
+325 mesh (%)		ASTM C430	<b>1.3</b>	-	max. 24
<b>Gilmore Setting Time</b>					
Initial (min)	CSA A3004-B3	ASTM C266	<b>208</b>	min. 90	min. 90
Final (min)	CSA A3004-B3	ASTM C266	<b>298</b>	max. 1440	max. 1000
Air Content of Mortar (%)	CSA A3004-C4	ASTM C185	<b>17</b>	min. 8 max. 20	min. 8 max. 19
Autoclave Expansion (%)	CSA A3004-B5	ASTM C151	<b>0.00</b>	max. 1.0	max. 1.0
Water Retention (%)	CSA A3004-C3	ASTM C91	<b>89.2</b>	min. 70	min. 70
<b>Compressive Strength</b>			<b>MPa / psi</b>		
7 Days	CSA A3004-C2	ASTM C109/109M	<b>16.9 / 2451</b>	min. 9.0	min. 9.0
28 Days	CSA A3004-C2	ASTM C109/109M	<b>19.5 / 2828</b>	min. 14.5 max. 25.0	min. 14.5

This will certify that the above described cement meets the standard chemical and physical requirements of CSA Specification A3002 for Type S Masonry Cement, and ASTM Specification C91 for Masonry Cement Type S.

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 Plant Chemist



December 8, 2011