

## Cement Mill Test Report

Month of Issue: February 2024

Plant: **Richmond, British Columbia**  
 Product: **OneCem**  
 Mill Test Report #: **R-TIL-24-02**  
 Manufactured: **January 2024**

### ASTM C595 - 21 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray (C 114)			Air content of mortar (%) (C 185)	12 max	5.9
SiO <sub>2</sub> (%)	---	18.6	Blaine Fineness (m <sup>2</sup> /kg) (C 204)	---	468
Al <sub>2</sub> O <sub>3</sub> (%)	---	4.5	Passing 325 (%) (C 430)	---	99.0
Fe <sub>2</sub> O <sub>3</sub> (%)	---	3.0	Compressive strength (Mpa [PSI]) (C 109)		
CaO (%)	---	62.4			
MgO (%)	---	1.0			
SO <sub>3</sub> (%)	3.0 max*	2.7			
Loss on ignition @ 950 (%)	10.0 max	6.6			
NaEq (Alkali) (%)	---	0.49	3 days	13.0 min	<u>Mpa</u> 30.7 <u>PSI</u> 4450
Insoluble residue (%)	---	0.56	7 days	20.0 min	37.4 5430
				25.0 min	45.7 6630
			28 days (Reflects previous month's data)		
Inorganic Process Addition (%)		2	Time of setting (minutes)		
			Vicat Initial (C 191)	45-420	104
Adjusted Potential Phase Composition**			Mortar Bar Expansion (C 1038)*		
C3S (%)	---	42	14 days, % max	0.020 max	0.001
C2S (%)	---	21	Cement Density (C186)		3.09
C3A (%)	---	7			
C4AF (%)	---	9			
Sulphate Resistance C1012 (Q2/2023)			0.10 max 0.092		
Sulphate Resistance ASTM C-462 (Q1/2024)			0.05 max 0.04		

\* May exceed 3.0% SO<sub>3</sub> maximum based on our C 1038 results of <0.02% expansion at 14 days.

\*\* Corrected by using ASTM Calculation for Limestone Cement

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of:  
 ASTM C 595-21 & AASHTO M 240-21 STANDARD SPECIFICATIONS FOR TYPE IL(15), TYPE IL(15) MS CEMENT

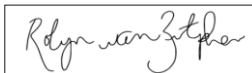
Cement complies with NSF 61

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Certified By:



Robyn van Zutphen  
 Quality Manager  
 2/16/2024