

## Cement Mill Test Report

Month of Issue: June 2024

Plant: **Richmond, British Columbia**  
 Product: **OneCem**  
 Mill Test Report #: **R-TIL-24-06**  
 Manufactured: **May 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	6.2
SiO <sub>2</sub> (%)	---	18.3	Blaine Fineness (m <sup>2</sup> /kg)	---	436
Al <sub>2</sub> O <sub>3</sub> (%)	---	4.5	Passing 325 (%)	---	99.1
Fe <sub>2</sub> O <sub>3</sub> (%)	---	2.9	Compressive strength (Mpa [PSI]) (C 109)		
CaO (%)	---	63.0			
MgO (%)	---	0.9	3 days	13.0 min	Mpa 28.7 PSI 4160
SO <sub>3</sub> (%)	3.0 max*	2.7	7 days	20.0 min	36.2 5250
Loss on ignition @ 950 (%)	10.0 max	6.9	28 days (Reflects previous month's data)	25.0 min	45.4 6590
NaEq (Alkali) (%)	---	0.46	Time of setting (minutes)		
Insoluble residue (%)	---	0.30	Vicat Initial (C 191)	45-420	109
Inorganic Process Addition (%)		3	Mortar Bar Expansion (C 1038)*		
Adjusted Potential Phase Composition**			14 days, % max	0.020 max	0.002
C3S (%)	---	44	Cement Density (C186)		3.09
C2S (%)	---	19			
C3A (%)	---	7			
C4AF (%)	---	9			
Sulphate Resistance ASTM C-452 (Q1/2024)	0.05 max	0.033			

\* 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

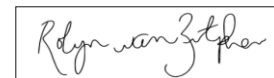
Cement complies with NSF 61

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Questions or enquiries can be directed to Rob Shogren

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Certified By:



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 Quality Manager  
 6/10/2024