

Cement Mill Test Report

Month of Issue: March 2024

Plant: **Richmond, British Columbia**
 Product: **OneCem**
 Mill Test Report #: **R-TIL-24-03**
 Manufactured: **February 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	5.7
SiO ₂ (%)	---	18.5	Blaine Fineness (m ² /kg) (C 204)	---	462
Al ₂ O ₃ (%)	---	4.5	Passing 325 (%) (C 430)	---	99.0
Fe ₂ O ₃ (%)	---	3.0	Compressive strength (Mpa [PSI]) (C 109)		
CaO (%)	---	62.8			
MgO (%)	---	1.1			
SO ₃ (%)	3.0 max*	2.7			
Loss on ignition @ 950 (%)	10.0 max	6.8	3 days	13.0 min	Mpa 31.2 PSI 4530
NaEq (Alkali) (%)	---	0.45	7 days	20.0 min	37.9 5500
Insoluble residue (%)	---	0.41	28 days (Reflects previous month's data)	25.0 min	45.1 6540
Inorganic Process Addition (%)		3	Time of setting (minutes)		
Adjusted Potential Phase Composition**			Vicat Initial (C 191)	45-420	110
C ₃ S (%)	---	44	Mortar Bar Expansion (C 1038)*		
C ₂ S (%)	---	19	14 days, % max	0.020 max	0.001
C ₃ A (%)	---	7	Cement Density (C186)		3.09
C ₄ AF (%)	---	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% SO₃ 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

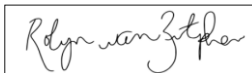
Cement complies with NSF 61

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Certified By:



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 Quality Manager
 3/14/2024