



Certified to
NSF/ANSI/CAN 61

Cement Mill Test Report

Month of Issue: FEBRUARY 2023

Plant: **Richmond, British Columbia**
 Product: **OneCem**
 Mill Test Report #: **R-TIL-23-02**
 Manufactured: **JANUARY 2023**

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	6.5
SiO ₂ (%)	---	20.3	Blaine Fineness (m ² /kg) (C 204)	---	405
Al ₂ O ₃ (%)	---	4.8	Passing 325 (%) (C 430)	---	98.5
Fe ₂ O ₃ (%)	---	3.3	Autoclave expansion (%) (C 151)	[-0.2 - 0.8]	0.01
CaO (%)	---	63.5	Compressive strength (Mpa [PSI]) (C 109)		
MgO (%)	---	0.8			
SO ₃ (%)	3.0 max*	3.1			
Loss on ignition @ 950 (%)	10.0 max	2.6			
NaEq (Alkali) (%)	---	0.51			
Insoluble residue (%)	---	0.56			
Adjusted Potential Phase Composition***					
C3S (%)	---	50	3 days	13.0 [1890] min	28.2 4090
C2S (%)	---	20	7 days	20.0 [2900] min	37.3 5410
C3A (%)	---	7	28 days (Reflects previous month's data)	25.0 [3620] min	48.3 7000
C4AF (%)	---	10	Time of setting (minutes)		
			Vicat Initial (C 191)	45-420	100
			Mortar Bar Expansion (C 1038)*		
			14 days, % max	0.020 max	0.001
			Cement Density (C186)		3.09
Sulphate Resistance C1012 (Q3/2021)		0.091			

* 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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 2/6/2023