



Certified to
NSF/ANSI/CAN 61

Cement Mill Test Report

Month of Issue: DECEMBER 2022

Plant: **Richmond, British Columbia**
 Product: **Portland Limestone Cement Type GUL / MSL**
 Mill Test Report #: **C-GUL-22-12**
 Manufactured: **NOVEMBER 2022**

CSA A3001- 18 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray			Air content of mortar (%) (C 185)	---	6.4
SiO ₂ (%)	---	20.3	Blaine Fineness (m ² /kg)	---	414
Al ₂ O ₃ (%)	---	4.9	Passing 45 um (%)	72 min	98.0
Fe ₂ O ₃ (%)	---	3.4			
CaO (%)	---	63.9	Compressive strength (MPa)		
MgO (%)	---	0.7	3 days	14.5 min	28.1
SO ₃ (%)	3.0 max*	3.0	7 days	20.0 min	37.0
Loss on ignition @ 950 (%)	10.0 max	2.7	28 days (Reflects previous month's data)	26.5 min	48.6
			Time of setting (minutes)		
Insoluble residue (%)	---	0.53	Vicat Initial	45-375	92
Free Lime (%)	---	1.1	Sulphate Resistance (C8)	0.10	0.091
Potential Phase Composition			Colour (L*)	---	62
C3S (%)	---	47	Cement Density		3.09
C2S*** (%)	---	30			
C3A (%)	---	7			
C4AF (%)	---	10			

CSA A3001-18 Optional Chemical Requirements:

NaEq (Alkali) (%) **0.60 max** **0.51**

* May exceed 3.0% SO₃ maximum based on our A3004-C5 results of <0.020% expansion at 14 days.

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of applicable specifications for Type GUL / MSL

CSA A3001-18 STANDARD SPECIFICATIONS FOR TYPE GUL / MSL CEMENT;

Cement complies with NSF 61

Western BU - Richmond
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Questions or enquiries can be directed to Matt Dalkie

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Certified By:

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 12/13/2022