



Certified to  
NSF/ANSI/CAN 61

## Cement Mill Test Report

Month of Issue: JUNE 2023

Plant: **Richmond, British Columbia**  
 Product: **Portland Cement Type GU / MS**  
 Mill Test Report #: **C-GU-23-06**  
 Manufactured: **MAY 2023**

### 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)	---	5.7
SiO <sub>2</sub> (%)	---	18.5	Blaine Fineness (m <sup>2</sup> /kg)	---	460
Al <sub>2</sub> O <sub>3</sub> (%)	---	4.5	Passing 45 um (%) (C 430)	72 min	99.2
Fe <sub>2</sub> O <sub>3</sub> (%)	---	3.0	Autoclave Expansion		0.03
CaO (%)	---	63.1	Compressive strength (Mpa)		
MgO (%)	5.0 max	0.7	3 days	14.5 min	30.8
SO <sub>3</sub> (%)	3.0 max*	2.8	7 days	20.0 min	38.6
Loss on ignition @ 950 (%)	3.5 max	6.3	28 days (Reflects previous month's data)	26.5 min	49.1
Loss on ignition @ 550 (%)	3.0 max	0.6	Time of setting (minutes)		
Insoluble residue (%)	1.5 Max	0.6	Vicat Initial (C 191)	45 - 375	109
Potential Phase Composition			Colour (L*)		64
C3S (%)	---	47	Mortar Bar Expansion C5 (%)**	0.020 max	-0.001
C2S (%)	---	17	Mortar Bar Resistance C6 (%)**	0.050 max	0.036
C3A (%)	8	7			
C4AF (%)	---	9			
CSA A3001-18 Optimal Chemical Requirements					
NaEq (Alkali) (%)	0.60 max	0.46			

\* May exceed 3.0% SO<sub>3</sub> maximum based on our A3004-C5 results of <0.02% expansion at 14 days

\*\* Current Production run not available - most recent provided

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of applicable specifications for Type GU & Type MS

CSA A3001-18 STANDARD SPECIFICATIONS FOR TYPE GU / MS CEMENT;

CSA A3001-18 OPTIONAL CHEMICAL REQUIREMENTS FOR TYPES GU / MS LOW ALKALI CEMENT.

Cement complies with NSF 61

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