LAFARGE CEMENT

NSF Certified to NSF/ANSI/CAN 61

Cement Mill Test Report

Month of Issue: OCTOBER 2022

Plant:	**Richmond, British Columbia**
Product:	**Portland Cement Type GUL \ MSL**
Mill Test Report #	**C-GUL-22-10**
Manufactured:	**SEPTEMBER 2022**

CSA A3001- 18 Standard Requirements

CHEMICAL ANALYSIS

Item	Spec limit	Test Result
Rapid Method, X-Ray		
SiO2 (%)	---	18.4
Al2O3 (%)	---	4.4
Fe2O3 (%)	---	3.0
CaO (%)	---	63.4
MgO (%)	---	0.7
SO3 (%)	3.0 max*	2.7
Loss on ignition @ 950 (%)	10.0 max	6.4
Insoluble residue (%)	---	0.43
Free Lime (%)	---	1.0
Potential Phase Composition		
C3S (%)	---	77
C2S*** (%)	---	16
C3A (%)	---	7
C4AF (%)	---	9

PHYSICAL ANALYSIS

Item	Spec limit	Test Result
Air content of mortar (%) (C 185)	---	5.9
Blaine Fineness (m2/kg)	---	449
Passing 45 um (%)	72 min	98.9
Compressive strength (MPa)		
3 days	14.5 min	28.6
7 days	20.0 min	35.9
28 days (Reflects previous month's data)	26.5 min	45.4
Time of setting (minutes)		
Vicat Initial	45-375	109
Sulphate Resistance (C8)	0.10	0.091
Colour (L*)	---	64
Cement Density		3.09

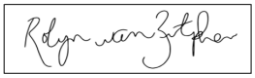
CSA A3001-18 Optional Chemical Requirements:

NaEq (Alkali) (%)	0.60 max	0.48

* 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

Certified By:



Robyn van Zutphen
Quality Supervisor
10/13/2022

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