

Cement Mill Test Report

Month of Issue: APRIL 2021

Plant:	Richmond, British Columbia
Product:	Portland Cement Type GUL
Mill Test Report #	C-GUL-21-04
Manufactured:	MARCH 2021

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
SiO2 (%)	---	18.7	Blaine Fineness (m2/kg)	---	478
Al2O3 (%)	---	4.5	Passing 45 um (%)	72 min	99.3
Fe2O3 (%)	---	3.0	Autoclave expansion (%)	1.0 max	0.02
CaO (%)	---	63.5	Compressive strength (MPa)		
MgO (%)	---	1.0	3 days	14.5 min	31.9
SO3 (%)	3.0 max*	2.7	7 days	20.0 min	38.2
Loss on ignition @ 950 (%)	10.0 max	5.3	28 days (Reflects previous month's data)	26.5 min	-
Insoluble residue (%)	---	0.20	Time of setting (minutes)		
Free Lime (%)	---	1.1	Vicat Initial	45-375	91
Potential Phase Composition			Colour (L*)	---	60
C3S (%)	---	74	Cement Density		3.09
C2S*** (%)	---	16			
C3A (%)	---	7			
C4AF (%)	---	9			

CSA A3001-18 Optional Chemical Requirements:

NaEq (Alkali) (%)	0.60 max	0.52
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* May exceed 3.0% SO3 maximum based on our A3004-C5 results of <0.020% 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 applicable specifications for Type GUL

CSA A3001-18 STANDARD SPECIFICATIONS FOR TYPE GUL CEMENT;

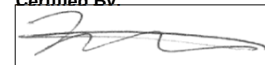
Cement complies with NSF 61

Western BU - Richmond
7611 No 9 Rd Richmond, BC
604 244 4300

Questions or enquiries can be directed to Matt Dalkie

Matt Dalkie, P.Eng., LEED AP BD+C
Lafarge - Technical Services Engineer
7591 #9 Road, Richmond, BC, V6W 0A6 Canada
P +1 604 233 9516, C +1 604 328 7793, F +1 604 270 1731
E matt.dalkie@lafargeholcim.com

Certified By:



Harold Ptachyk B.Sc., PChem
Quality Manager
4/8/2021