



**Cement**

**TS100 - Natural Pozzolan TEST REPORT**

Analysis by: Lafarge Seattle  
Sample from : Kamloops Grinding Plant  
Average Analysis: November 2021  
Test Report Number 12-21 Natural Pozzolan

**Chemical Analysis**

		Limits
Silicon Dioxide (SiO <sub>2</sub> )	<b>62.5</b> %	
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	<b>18.0</b> %	
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	<b>6.3</b> %	
Total (SiO <sub>2</sub> ) + (Al <sub>2</sub> O <sub>3</sub> ) + (Fe <sub>2</sub> O <sub>3</sub> )	<b>86.8</b> %	70% Min - ASTM
Sulphur Trioxide (SO <sub>3</sub> )	<b>0.1</b> %	4% Max - ASTM
Calcium Oxide (CaO)	<b>6.7</b> %	
Magnesium Oxide	<b>2.1</b> %	
Moisture Content	<b>1.13</b> %	3% Max - ASTM
Loss on Ignition	<b>5.73</b> %	10% Max
Available Alkalies as Equivalent Na <sub>2</sub> O	<b>0.50</b> %	1.5% Max
Total Alkalies as Equivalent Na <sub>2</sub> O	<b>2.57</b> %	

**Physical Analysis**

Fineness Retained on 45 um (No. 325 Sieve)	<b>8.2</b> %	34% Max - ASTM
Strength Activity Index with Portland Cement		
% of Control at 7 Days	<b>97</b> %	75% Min - ASTM
% of Control at 28 Days ( <i>previous month's result</i> )	<b>99</b> %	75% Min - ASTM
Water Requirement, Percent of Control	<b>104</b> %	115% Max- ASTM
Autoclave Expansion	<b>0.01</b> %	0.8% Max - ASTM
Density	<b>2.57</b> g/cm <sup>3</sup>	

**Uniformity Requirements**

Density, Variation from Average	<b>0.00</b> %	5% Max - ASTM
Fineness 45um Sieve, Variation from Average	<b>0.50</b> %	5% Max - ASTM

We hereby certify that the composite natural pozzolan sample above meets the chemical and physical requirements of CAN/CSA A3001 for Type N and ASTM C-618 Class N.

Certified : Robert S. Sheggen

**WESTERN REGION**

5400 West Marginal Way SW, Seattle, Washington 98106-1517  
Office: 206.923.0098 or 800.477.0100 Fax: 206.923.0388