



# Cement Mill Test Report

Date of Issue: July 16, 2025

Plant: Exshaw AB  
Product: Portland Cement Type I/II  
Mill Test Report Number: ESW\_Type I-II 2025-06  
Manufactured during the month of: June 2025

## ASTM C 150-24 and AASHTO M 85-24 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray (C114)			Air content of mortar (%) (C185)		
SiO <sub>2</sub> (%)	---	19.0		12 max	7
Al <sub>2</sub> O <sub>3</sub> (%)	6.0 max	3.9	Blaine Fineness (m <sup>2</sup> /kg) (C204)		
Fe <sub>2</sub> O <sub>3</sub> (%)	6.0 max	3.5		260 min	402
CaO (%)	---	61.4	Passing 45 µm (%) (C430)		
MgO (%)	6.0 max	4.6		---	98.5
SO <sub>3</sub> (%)*	3.0 max *	3.4	Compressive strength (MPa, [psi]) (C 109)		
Loss on Ignition (%)	3.5 max	2.6	3 days	12.0 [1740] min	27.2 [3945]
Insoluble Residue (%)	1.5 max	0.4	7 days	19.0 [2760] min	33.6 [4866]
CO <sub>2</sub> (%)	---	1.8	28 days (Previous Month's Result)		43.3 [6273]
Limestone (%)	5.0 max	4.2	Time of setting (minutes)		
CaCO <sub>3</sub> in Limestone (%)	70 min	96.0	Vicat Initial (C191)	45 - 375	102
Inorganic Process Addition (Lafarge Cement Kiln Dust)	5.0 max		Mortar Bar Expansion (%) (C1038)**		
Adjusted Potential Phase Composition (C50)				0.020 max	0.013
C <sub>3</sub> S (%)	---	57			
C <sub>2</sub> S (%)	---	11			
C <sub>3</sub> A (%)	8 max	4			
C <sub>4</sub> AF (%)	---	11			
C <sub>3</sub> S+4.75*C <sub>3</sub> A (%)	100 max	78			

### ASTM C 150-17 and AASHTO M 85-17 Optional Requirements:

Na <sub>2</sub> Oeq	0.60 max	0.54	False set (%) (C451)	50 min	82
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\* May exceed the SO<sub>3</sub> maximum based on C 1038 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:

ASTM C 150-24 & AASHTO M 85-24 STANDARD SPECIFICATIONS FOR TYPES I / II CEMENTS; and

ASTM C 150-24 & AASHTO M 85-24 OPTIONAL CHEMICAL REQUIREMENTS FOR TYPES I / II LOW ALKALI CEMENT.

AASHTO Accreditation Exceptions: C430

Western Canada BU - Exshaw Plant  
P.O. Box 160, Highway 1A, Exshaw AB, T0L 2C0  
Phone: 403-673-3815

Certified By:

John W Blair  
Quality Manager



Certified to  
NSF/ANSI/CAN 61



AASHTO  
ACCREDITED



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#### Additional Data

Item	Test Result	
	Limestone	Inorganic Process Addition Lafarge Cement Kiln Dust
Amount (%)	4.2	--
SiO <sub>2</sub> (%)	2.0	14.2
Al <sub>2</sub> O <sub>3</sub> (%)	0.5	3.6
Fe <sub>2</sub> O <sub>3</sub> (%)	0.3	2.1
CaO (%)	49.3	48.7
SO <sub>3</sub> (%)	0.3	2.2
CO <sub>2</sub> (%)	42.4	n/a

#### Base Cement Phase Composition

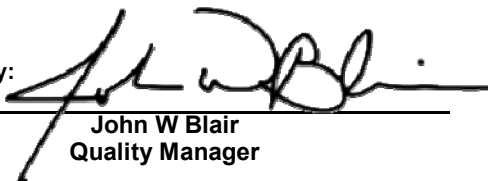
Item	Test Result
C <sub>3</sub> S (%)	59
C <sub>2</sub> S (%)	12
C <sub>3</sub> A (%)	5
C <sub>4</sub> AF (%)	11

Specific Gravity: 3.16 For information purposes only.

We certify that the data above reflects the materials used in cement manufacture during the production period indicated.

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