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Cement Mill Certificate of Analysis

Alaska Basic Industries hereby certify that cement represented by this analysis complies with the current requirements for Type I and Type II of ASTM C150-11 specifications, and AASHTO M85-11.

Portland Cement: Type I/II Low Alkali

Date Shipped: October 16, 2023

Meets: ASTM C150-11 AASHTO M85-18

Lot # / Ship: #0000101620231 MV Kodiak Island

<u>Chemical Composition:</u>	<u>Results:</u>	<u>Type I Requirements</u>	<u>Type II Requirements</u>
Silicon Dioxide (SiO ₂):	20.2%	---	---
Aluminum Oxide (Al ₂ O ₃): %Max	4.7%	---	6.0%
Ferric Oxide (Fe ₂ O ₃):% Max	3.3%	---	6.0%
Calcium Oxide (CaO):	62.3%	---	--
Magnesium Oxide (MgO): % Max	3.7%	6.0%	6.0%
Sulfur Trioxide (SO ₃):% Max	2.7%	3.0%	3.0%
Loss On Ignition% Max:	1.7%	3.5%	3.5%
Insoluble Residue:% Max	0.30%	1.50%	1.50%
Tricalcium Silicate (C ₃ S):	55	--	--
Dicalcium Silicate (C ₂ S):	16	--	--
Tricalcium Aluminate (C ₃ A):% Max	7.0%	--	8.0%
Tetracalcium Aluminoferrite (C ₄ AF):	10.00%	--	--
Total Alkali as NaEq:% Max	0.30%	0.60%	0.60%
Limestone, 5 % max	1.8%	5.0%	5.0%
CaCO ₃ in Limestone, 70% min	87%	70%	70%

Physical Properties:

Blaine (min m ² /kg.):	405	260	260
Vicat, Initial Set (mins.):	72	--	--
Vicat, Final Set (mins.):	139	45-375	45-375
Autoclave Expansion:% Max	0.09%	0.80%	0.80%
False Set:	76%	--	--
Air Content (% Max by vol.):	8.00%	12.00%	12.00%

Mortar Cube Breaks:

Compressive Strength (PSI):			
1 Day _____	1470	--	--
3 Days _____	3760	1740 min	1450 min
7 Days _____	4860	2760 min	2470 min

Notes

1. Test Results: This mill test represents typical data.
2. The percent of Limestone is slowly being increased, which has no effect on the performance of concrete
3. Origination: SsangYong, So. Korea

Patrick Walter

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Type I/II

Terminals in
Anchorage • Fairbanks