



# Certificate of Test

ASTM C150 Type I/II Low-Alkali  
AASHTO M85 Type I/II Low-Alkali

May 9, 2018  
Lot 91-120

**C150 Chemical Requirements – Table 1**

Item	Spec Limit	Result
Al <sub>2</sub> O <sub>3</sub>	N/A	3.6
Fe <sub>2</sub> O <sub>3</sub>	N/A	3.2
MgO	6.0 Max	1.0
SO <sub>3</sub>	3.0*	3.4
L.O.I.	3.5 Max	2.2
Insoluble Residue	1.5 Max	0.72

**C150 Physical Requirements – Table 3**

Item	Spec Limit	Result
Blaine Specific Surface, m <sup>2</sup> /kg	260 Min	385
Air Content of Mortar, Vol %	12 Max	7.3
Autoclave Expansion, %	0.80 Max	0.00
Vicat Initial Time of Set, minutes	45 Min	85
Vicat Final Time of Set, minutes	375 Max	180
Compressive Strength, psi:		
	3 Days	1740 Min 3630
	7 Days	2760 Min 4690

\*Does not apply. In compliance with Footnote D, Table 1, ASTM Standard Specification C150 and AASHTO Standard Specification M85.

## Compound Composition

Item	Spec Limit	Result
C <sub>3</sub> A, %	8 Max	4
Equivalent Alkalies, %	0.60 Max	0.55
Inorganic Processing Addt's, %	5.0 Max	0
CaCO <sub>3</sub> in Limestone, %	70 Min	92.1
Limestone Additions	5.0 Max	3.9
C1038 Mortar Bar Expansion, %	0.020% Max	0.007

This cement has been sampled and tested in accordance with ASTM standard methods and procedures. Cement analysis are reported as oxides, in accordance with ASTM Test Method C114. This cement is manufactured at our Laramie, Wyoming facility. All test results are certified to comply with the type and specification designated. We are not responsible for improper use or workmanship.

Bob Kersey, Chief Chemist



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