



GCC Rio Grande

Manufacturing Plant:
Samalayuca, Chih., Mex.

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CEMENT MILL TEST REPORT

Report No.:	III-181231
Date produced:	12 / 1-31 /2018
Test date:	12 / 1-31 /2018
Mfg. Plant:	SAMALAYUCA
Cement Type:	III Low Alkalie
Shipping No.:	III-181231

STANDARD CHEMICAL REQUIREMENTS	SPECIFICATIONS ASTM	III	TEST RESULTS
Silicon Dioxide (SiO ₂) - Percent		A	19.8
Aluminum Oxide (Al ₂ O ₃) - Percent		A	4.94
Ferric Oxide (Fe ₂ O ₃) - Percent		A	3.30
Calcium Oxide (CaO) - Percent		A	63.7
Magnesium Oxide (MgO) - Percent	Maximum >	6.0	1.8
Sulfur Trioxide (SO ₃) - Percent	Maximum >	3.5	3.31
Loss on Ignition - Percent	Maximum >	3.0	1.62
Insoluble Residue - Percent	Maximum >	0.75	0.34
Carbon dioxide (CO ₂) - Percent		A	0.42
Limestone content --Percent	Maximum >	5.0	1.01
Corrected Limestone -Percent	Maximum >	5.0	0.00
CaCO ₃ in Limestone - Percent	Minimum >	70.0	94.0
Tricalcium Silicate (C ₃ S) - Percent		A	61
Dicalcium Silicate (C ₂ S) - Percent		A	11
Tricalcium Aluminate (C ₃ A) * - Percent	Maximum >	8.0	7.5
Tetracalcium Aluminoferrite (C ₄ AF) - Percent		A	10
C ₄ AF + 2 (C ₃ A) or C ₄ AF + C ₂ F - Percent		A	25
Alkalies (Sodium Oxide Equivalent) - Percent *	Maximum >	0.60	0.56
STANDARD PHYSICAL REQUIREMENTS			
Specific Surface , Blaine ,m ² /kg		A	580
- 325 Mesh - Percent		A	99.5
Compressive Strengths,psi (MPa)(C 109 cubes)			
psi (MPa)		psi (Mpa)	
1 DAY	Minimum >	1740 (12.0)	3930 (27.1)
3 DAYS	Minimum >	3480 (24.0)	5870 (40.5)
7 DAYS		A	6475 (44.6)
28 DAYS		A	7640 (52.7)
Time of Setting (Vicat)			
Initial ,minutes	Minimum >	45	106
Final ,minutes	Maximum >	375	242
False Set - Percent	Minimum >	50	74
Air Content of Mortar - Percent	Maximum >	12	6.9
Autoclave Expansion - Percent	Maximum >	0.80	0.02
Mortar Bar Expansion (ASTM C -1038) - Percent	Maximum >	0.020	

A= Not applicable

Samples will be retained by 3 months.

RIO GRANDE PORTLAND CEMENT IS WARRANTED TO CONFORM AT THE TIME OF SHIPMENT WITH ASTM C -150 NO OTHER WARRANTY IS MADE OR IMPLIED. HAVING NO CONTROL OVER THE USE OF IT'S CEMENTS , RIO GRANDE PORTLAND DOES NOT GUARANTEE FINISHED WORK.

p.a.

SAMALAYUCA PLANT - TECHNICAL MANAGER