



GCC Rio Grande

Manufacturing Plant:
Samalayuca, Chih., Mex.

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CEMENT MILL TEST REPORT

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

STANDARD CHEMICAL REQUIREMENTS	SPECIFICATIONS ASTM	II	TEST RESULTS
Silicon Dioxide (SiO ₂) - Percent			19.6
Aluminum Oxide (Al ₂ O ₃) - Percent	Maximum >	6.0	5.07
Ferric Oxide (Fe ₂ O ₃) - Percent	Maximum >	6.0	3.36
Calcium Oxide (CaO) - Percent		*	63.7
Magnesium Oxide (MgO) - Percent	Maximum >	6.0	1.7
Sulfur Trioxide (SO ₃) - Percent	Maximum >	3.0	2.90
Loss on Ignition - Percent	Maximum >	3.5	2.78
Insoluble Residue - Percent	Maximum >	1.50	0.50
Carbon dioxide (CO ₂) - Percent			1.96
Limestone content --Percent			4.72
Corrected Limestone -Percent			4.05
CaCO ₃ in Limestone - Percent	Minimum >	70.0	94.0
Tricalcium Silicate (C ₃ S) - Percent		*	53
Dicalcium Silicate (C ₂ S) - Percent		*	18
Tricalcium Aluminate (C ₃ A) - Percent	Maximum >	8.0	7.8
Tetracalcium Aluminoferrite (C ₄ AF) - Percent		*	10
C ₄ AF + 2 (C ₃ A) or C ₄ AF + C ₂ F - Percent		*	26
Alkalies (Sodium Oxide Equivalent) - Percent *	Maximum >	0.60	0.56
STANDARD PHYSICAL REQUIREMENTS			
Specific Surface , Blaine ,m ² /kg	Minimum >	260	394
- 325 Mesh - Percent		*	94.8
Compressive Strengths,psi (MPa)(C 109 cubes)			
psi (MPa)		psi (Mpa)	
1 DAY		*	2195 (15.1)
3 DAYS	Minimum >	1500 (10.0)	3900 (26.9)
7 DAYS	Minimum >	2500 (17.0)	4800 (33.1)
28 DAYS	Minimum >	*	6050 (41.7)
Time of Setting (Vicat)			
Initial ,minutes	Minimum >	45	150
Final ,minutes	Maximum >	375	251
False Set - Percent *	Minimum >	50	70
Air Content of Mortar - Percent	Maximum >	12	6.9
Autoclave Expansion - Percent	Maximum >	0.80	0.01
Mortar Bar Expansion (ASTM C -1038) Only for T-V - Percent	Maximum >	0.020	

*Optional (Sodium Oxide Equivalent) MIN. 0.53 MAX 0.59

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