



TEXAS LEHIGH CEMENT Co. LP
 P.O. Box 610 Buda, Texas 78610
 Sales (512) 295-6111 Customer Service (800) 252 - 5408

Plant: Buda
 701 Cement Plant Road
 Buda, Texas, 78610
Contact: Victor Gonzalez
Phone: (512) 295-9241

Cement Type: III
Report Date: 06/10/19
Production Period: Star 05/01/19
 Ends 05/31/19
Tracking No. TLGBU 0000032

**MILL TEST REPORT
 AASHTO ACREDITED**

Chemical analysis % - ASTM C-114

Item	Spec. Limit	Test Results
MgO (%)	6.0 max.	1.1
SO ₃ (%)	4.5 max. ^E	4.3
Loss on Ignition (%)	3.5 max.	1.3
Insoluble Residue (%)	1.5 max.	0.1
CO ₂ (%)	^A	0.45
Limestone (%)	5.0 max.	0.0
CaCO ₃ in Limestone (%)	70 min	80.7
Total Alkali as Na ₂ O (OPTIONAL)	^A	0.78
	Minimum	0.797
	Maximum	0.807

Physical Test ASTM C-150

Item		Spec. Limit	Test Result
Air content of mortar (volume %)	ASTM C-185	12 max	8
Blaine fineness (m ² /kg)	ASTM C-204	260 min.	607
Mesh 325 (45 microns) % through	ASTM C-430	^{A - B}	99.9
Autoclave expansion (%)	ASTM C-151	0.80 max.	-0.01
Time of setting - Vicat test (minutes)			
Initial - Not less than or More than	ASTM C - 191	45 - 375	70
Compressive strength			
1 day, Minimum MPa (psi)	ASTM C-109	12 (1740)	34.7 (5040)
3 day, Minimum MPa (psi)	ASTM C-109	24 (3480)	42.0 (6090)
7 day, Minimum MPa (psi)	ASTM C -109	^{A - B}	48.9 (7090)
False Set (OPTIONAL)	ASTM - C451	50 min.	61
Mortar Expansion Bars	ASTM C-1038	0.020% Max ^E	A

Inorganic processing additions & Limestone

Type		Slag	Limestone
% Addition	5% Max	0.0	0.0
SiO ₂ (%)	^A	39.88	10.47
Al ₂ O ₃ (%)	^A	9.37	2.86
Fe ₂ O ₃ (%)	^A	5.05	0.95
CaO (%)	^A	28.75	46.90
SO ₃ (%)	^A	1.81	1.86

Potential Compounds (%) ^C

ASTM C - 150 Annex A1	Finished cement	Base cement
C ₃ S	^A 55	C ₃ S 55
C ₂ S	^A 16	C ₂ S 16
C ₃ A	15 max 11	C ₃ A 11
C ₄ AF	^A 6	C ₄ AF 6
C ₃ S + 4.75 x C ₃ A	^A 109	-----

A Not Applicable
 B Limit not specified by purchaser. Test result provided for information only.
 C Adjusted (ASTM Annex A, point A 1.6)
 D Test Result of prior Month
 E ASTM C-150 Table 1 Note D permits to exceed SO₃ content provided it has been demonstrated to meet what is established under the Test Method ASTM C-1038 at 14 days

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of the current applicable specifications ASTM C150 and AASHTO M85. Cement analysis are reported as oxides, in accordance with ASTM Test Method C114. Silicon dioxide (SiO₂) is present in the combined state as the compounds tricalcium silicate and dicalcium silicate, and not crystalline silica. The above data represents the average of mill samples from the production stream. Inorganic processing additions have been interground in accordance with ASTM C-465. The average composition of this processing addition can be found listed above. We are not responsible for improper use or workmanship.

QC Manager: V Gonzalez-Torres