



TEXAS-LEHIGH CEMENT COMPANY



Evaluation tests for:

TLC API Class H Well Cement - Buda, Texas Plant

Typical Performance Data: Grind # 181201 Prod date: 1 - 31 December, 2018 Silo No. 2,6, 8,15

Chemical Analysis%(ASTM C114)

SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	SO ₃	LOI	Na ₂ O	K ₂ O	Na ₂ O Equiv.	Insol. Residue
21.1	3.5	6.0	62.1	1.0	2.8	1.2	0.1	0.5	0.49	0.10
API Spec., max., %				6.0	3.0	3.0			0.75	0.75

Calculated Compounds%(API Spec. 10A, Table 1)

	C ₃ S	C ₂ S	C ₃ A	[C ₄ AF+ 2(C ₃ A)]
	52	21	0	18
API Spec. 10A	48% - 65%		3% Max.	24% Max.

Physical Parameters

<u>Fineness</u>				API Spec.
Blaine-m ² /kg(ASTM C204)	<u>237</u>		% Free Fluid @ 38% H ₂ O	<u>5.5</u> 5.9% Max.
-325%(ASTM C430)	<u>79.1</u>		% Free Lime	<u>0.33</u>

Thickening Time and Compressive Strength (38% H₂O - neat slurry)

API Schedule 5-Csg Depth ft. 8000 Bottom Hole Circulation Temp 125 Deg F H₂O 4.29 gal/sk

Consistency (Bc)				Thickening Time (Minutes)		Compressive Strength (PSI)	
Initial	15 min.	30 min.	60 min.	70 Bc.	100 Bc.	100° F	140° F
8	9	11	23	87	98	800	1900
API Spec. 30 Bc max. in 15-30 min. stirring period				90 minute min. 120 minute max.		300 PSI min. 1500 PSI min.	

The above Class H cement meets all API specifications for API Class H (HSR)

All well cement tests are performed according to API Spec. 10A

V Gonzalez-Torres
 QC Manager

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