



TEXAS-LEHIGH CEMENT COMPANY



Evaluation tests for:

TLC API Class H Well Cement - Buda, Texas Plant

Typical Performance Data: Grind # 190101 Prod date: 1 - 31 January, 2019 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
21.4	3.6	6.1	63.4	1.0	2.9	1.0	0.1	0.6	0.49	0.09
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)]
	54	21	0	19
API Spec. 10A	48% - 65%		3% Max.	24% Max.

Physical Parameters

<u>Fineness</u>				API Spec.
Blaine-m ² /kg(ASTM C204)	<u>238</u>		% Free Fluid @ 38% H ₂ O	<u>5.3</u> 5.9% Max.
-325%(ASTM C430)	<u>77.8</u>		% Free Lime	<u>0.30</u>

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

API Schedule	Depth ft.	Bottom Hole Circulation	Temp	H ₂ O
5-Csg	8000	125 Deg F		4.29 gal/sk

Consistency (Bc)				Thickening Time (Minutes)		Compressive Strength (PSI) 8 hr - atmos. press.
Initial	15 min.	30 min.	60 min.	70 Bc.	100 Bc.	
8	10	11	17	98	110	100° F 530 140° F 1670

API Spec.	30 Bc max. in 15-30 min. stirring period	90 minute min. 120 minute max.	300 PSI min. 1500 PSI min.
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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

Phone: Lab (512) 295-9241 or 9243, Sales (512) 295-9202, Shipping (512) 295-9222, Fax (512) 295-2431

PO Box 610, Buda, Texas 78610 : 701 Cement Plant Road