



TEXAS-LEHIGH CEMENT COMPANY



Evaluation tests for:

TLC API 10A Class H Well Cement - Buda, Texas Plant

Typical Performance Data: Grind # 210708-H Prod date: 8 July, 2021 Silo No. 6,8

Chemical Analysis(%) (ASTM C114)

<u>SiO2</u>	<u>Al2O3</u>	<u>Fe2O3</u>	<u>CaO</u>	<u>MgO</u>	<u>SO3</u>	<u>LOI</u>	<u>Na2O</u>	<u>K2O</u>	<u>Na2O Equiv.</u>	<u>Insol. Residue</u>
21.2	3.5	6.0	63.0	1.9	2.9	1.3	0.1	0.6	0.50	0.12
API Spec., max., %			6.0	3.0	3.0				0.75	0.75

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

	<u>C₃S</u>	<u>C₂S</u>	<u>C₃A</u>	<u>[C₄AF+ 2(C₃A)]</u>
	54	20	0	18
API 10A Spec. (%)	48 - 65		3 Max.	24 Max.

Physical Parameters

<u>Fineness</u>				API Spec.
Blaine-m ² /kg (ASTM C204)	<u>259</u>		% Free Fluid @ 38% H ₂ O	<u>3.8</u> 5.9% Max.
-325%(ASTM C430)	<u>75.7</u>		% Free Lime	<u>0.25</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

	<u>Consistency (Bc)</u>				<u>Thickening Time (Minutes)</u>		<u>Compressive Strength (PSI) 8 hr - atmos. press.</u>	
	<u>Initial</u>	<u>15 min.</u>	<u>30 min.</u>	<u>60 min.</u>	<u>70 Bc.</u>	<u>100 Bc.</u>	<u>100° F</u>	<u>140° F</u>
	9	10	10	11	96	108	600	2180
API 10A Spe			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 current API 10A specifications for Class H (HSR) Cement

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

V Gonzalez-Torres

QC Manager

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