



TEXAS-LEHIGH CEMENT COMPANY



Evaluation tests for:

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

Typical Performance Data: Grind # 210907-H Prod date: October 7-16, 2021 Silo No. 2,8

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>
20.6	3.3	5.7	62.5	1.9	2.9	1.4	0.1	0.5	0.46	0.15

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>
API 10A Spec. (%)	58	15	0	17
	48 - 65		3 Max.	24 Max.

Physical Parameters

<u>Fineness</u>			API Spec.
Blaine-m ² /kg (ASTM C204)	<u>266</u>	% Free Fluid @ 38% H ₂ O	<u>4.1</u> 5.9% Max.
-325(%) (ASTM C430)	<u>74.9</u>	% Free Lime	<u>0.31</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

<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>
13	14	16	22	94	106	610	1880

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.

QC Manager

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