



**New Braunfels, Texas
Hunter Cement**

Cement: Type IL (13) HS Date: March 10, 2023

Production Period: February 2023
STANDARD REQUIREMENTS
ASTM C 595-21

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
SiO ₂ (%)	^A	18.4	Air content of mortar (volume %)	12 max	8
Al ₂ O ₃ (%)	^A	4.1	Average Fineness (Blaine), (m ² /kg)	^A	423
Fe ₂ O ₃ (%)	^A	3.5	325 (%) Mesh Retained	^A	2.7
CaO (%)	^A	65.9	Density (g/cm ³)	^A	3.06
MgO (%)	^A	1.1	Autoclave expansion (%)	-0.20 - 0.80	0.02
SO ₃ (%) ^B	3.0 max	2.8	Mortar Bar Expansion (C1038) ^C	0.020 max	-0.005
K ₂ O (%)	^A	0.46	Time of setting (minutes)		
Na ₂ O (%)	^A	0.16	Vicat Initial set, minutes	45 min 420 max	115
Equivalent alkalies (%)	^A	0.46	Compressive strength (Mpa)		
Ignition loss (%)	10 max	6.7	1 day	^A	14.6
CO ₂ (%)	^A	5.6	3 days	13 min	24.5
Limestone (%) ^C	5.0 - 15.0	13.1	7 days (January 2023)	20 min	33.4
CaCO ₃ in Limestone (%)	70 min	91	28 days	25 min	42.4
Potential phase composition (%)			Compressive strength (psi)		
C ₃ S	^A	62	1 day	^A	2110
C ₂ S	^A	6	3 days	1890 min	3550
C ₃ A	^A	5	7 days (January 2023)	2900 min	4850
C ₄ AF	^A	11	28 days	3620 min	6150

^A Not applicable

^B It is permissible to exceed the SO₃ limit provided that C1038 expansion does not exceed 0.020%

^C Test result represents most recent result available

Signature: 
 Title: Kevin Hanna
Area Quality Control Manager

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirement of ASTM C595 specifications.