Suwannee American Cement
Branford Plant

Portland Cement Type IL (10) **Silos: 4**

Production Period : 4/1/2020 To 4/30/2020

STANDARD REQUIREMENTS

Chemical Data

Item	Spec. Limit	Results
SiO_2 (%)	*A*	19.1
Al_2O_3 (%)	*A*	4.8
Fe_2O_3 (%)	*A*	3.1
CaO (%)	*A*	63.2
MgO (%)	*A*	0.6
SO_3 (%)*	*3.0 max*	3.1
Loss of ignition (%)	*10.0 max*	5.5
Na2O (%)	*A*	0.14
K2O (%)	*A*	0.21
Insoluble residue (%)	*A*	0.51
CO_2 (%)	*A*	4.0
Limestone (%)	*15.0 max*	10.4
$CaCO_3$ in limestone (%)	*70 min*	87
Inorganic process addition (%)	*5.0 max*	--
Sum of $C_3S + 4.75C_3A$	*A*	85
Potential phase composition		
C_3S (%)	*A*	50
C_2S (%)	*A*	15
C_3A (%)	*A*	7
C_4AF (%)	*A*	9

Physical Data

Item	Spec. Limit	Results
Air Content of mortar (volume %)	*12 max*	6
Blaine fineness (m^2/kg)**	*A*	437
Autoclave expansion (%)	*-0.20 min/0.80 max*	0.08
Fineness, retained in #325	*A*	1.5
Compressive strength (MPa/[psi]):		
1 day		15.5 [2250]
3 days	*13.0[1890] min*	27.4 [3980]
7 days	*20.0[2900] min*	35 [5080]
28 days *(previous month)*	*28.0[4060] min*	44.0 [6380]
Time of setting (minutes)		
(Vicat) Initial	*45 min*	105
(Vicat) Final	*375 max*	240
Sulfate Resistance (ASTM C1012 180d) (%)	*0.10 max*	0.05
Heat of hydration (ASTM C1702 3d)	*B*	273
Mortar Bar Expansion (ASTM C1038) (%)*	*0.020 max*	0.010
Base Cement Phase Composition		
C_3S (%)		56
C_2S (%)		17
C_3A (%)		8
C_4AF (%)		11

OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results
Equiv. Alkalies (%)	*0.60 max*	0.28
Chloride (%)	*B*	0.01

Item	Spec. Limit	Results
False Set (%)	*50 min*	83
Density (ASTM C188) (g/cm^3)	*B*	3.15

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	10.4	--
SiO_2 (%)	5.9	--
Al_2O_3 (%)	0.6	--
Fe_2O_3 (%)	0.2	--
CaO (%)	51.8	--
SO_3 (%)	1.1	--

This cement meets ASTM C595 and AASHTO M240 Specification for Type IL (MS) Portland Cement

This cement also meets all applicable FDOT (Facility ID: CMT 29), SCDOT, and NCDOT (Plant ID: CM69) specifications for Type IL cement

*It is permissible to exceed the max value for SO3 content, provided it is demonstrated by ASTM C1038 that the cement will not develop expansion exceeding 0.020% in 14 Days

A Not applicable.
B Test result represents most recent value and is provided for information only.
C Test result is not yet available

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Brandford Cement Plant
Suwannee American Cement
5117 U.S. Hwy 27
Brandford, FL 32008
Tel: (386) 935-5013 - Fax: (386) 935-5080

Claudia Urrutia
Quality Manager