



Suwannee American Cement Branford Plant

Portland Cement Type IL (10)

Silos: 4

Production Period : 4/1/2019 To 4/30/2019

STANDARD REQUIREMENTS

Chemical Data			Physical Data		
Item	Spec. Limit	Results	Item	Spec. Limit	Results
SiO ₂ (%)	A	19.8	Air Content of mortar (volume %)	12 max	6
Al ₂ O ₃ (%)	A	5.1	Blaine fineness (m ² /kg)**	A	416
Fe ₂ O ₃ (%)	A	3.3	Autoclave expansion (%)	-0.20 min/0.80 max	0.05
CaO (%)	A	64.2	Fineness, retained in #325	A	3.3
MgO (%)	A	0.6	Compressive strength (MPa/[psi]):		
SO ₃ (%)*	3.0 max	3.2	1 day		12.8 [1850]
Loss of ignition (%)	10.0 max	4.6	3 days	13.0[1890] min	24 [3470]
Na ₂ O (%)	A	0.11	7 days	200[2900] min	31.3 [4540]
K ₂ O (%)	A	0.22	28 days (previous month)	28.0[4060] min	46 [6670]
Insoluble residue (%)	A	0.32	Time of setting (minutes)		
CO ₂ (%)	A	3.5	(Vicat) Initial	45 min	83
Limestone (%)	15.0 max	8.8	(Vicat) Final	375 max	210
CaCO ₃ in limestone (%)	70 min	90	Sulfate Resistance (ASTM C1012 180d) (%)	0.10 max	0.05
Inorganic process addition (%)	5.0 max	--	Heat of hydration (ASTM C1702 3d)	B	263
Sum of C ₃ S + 4.75C ₃ A	A	85	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.010
Potential phase composition			Base Cement Phase Composition		
C ₃ S (%)	A	48	C ₃ S (%)		53
C ₂ S (%)	A	19	C ₂ S (%)		21
C ₃ A (%)	A	8	C ₃ A (%)		8
C ₄ AF (%)	A	10	C ₄ AF (%)		11

OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.25	False Set (%)	50 min	93
Chloride (%)	B	0.02	Density (ASTM C188) (g/cm ³)	B	3.15

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	8.8	--
SiO ₂ (%)	5.0	--
Al ₂ O ₃ (%)	0.5	--
Fe ₂ O ₃ (%)	0.2	--
CaO (%)	51.9	--
SO ₃ (%)	0.1	--

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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