



Suwannee American Cement Branford Plant

Portland Cement Type I-II (MH)

Silos: 2, 5

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	19.9	Air Content of mortar (volume %)	12 max	7
Al ₂ O ₃ (%)	6.0 max	5.2	Blaine fineness (m ² /kg)**	260 min / 430 max	398
Fe ₂ O ₃ (%)	6.0 max	3.4	Autoclave expansion (%)	0.80 max	0.08
CaO (%)	A	64.5			
MgO (%)	6.0 max	0.6	Compressive strength (MPa/[psi]):		
SO ₃ (%)*	3.0 max	3.1	1 day		15.8 [2300]
Loss of ignition (%)	3.5 max	3.0	3 days	12.0[1740] min	27.3 [3950]
Na ₂ O (%)	A	0.14	7 days	19.0[2760] min	35.6 [5160]
K ₂ O (%)	A	0.23	28 days (previous month)	28.0[4060] min	48.4 [7010]
Insoluble residue (%)	1.5 max	0.29	Time of setting (minutes)		
CO ₂ (%)	A	1.8	(Vicat) Initial	45 min	78
Limestone (%)	5.0 max	4.5	(Vicat) Final	375 max	235
CaCO ₃ in limestone (%)	70 min	90			
Inorganic process addition (%)	5.0 max	--	Heat of hydration (ASTM C1702 3d)	B	269
Sum of C ₃ S + 4.75C ₃ A	100 max	93	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.009
Potential phase composition			Base Cement Phase Composition		
C ₃ S (%)	A	55	C ₃ S (%)		58
C ₂ S (%)	A	14	C ₂ S (%)		15
C ₃ A (%)	8 max	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	0.29	False Set (%)	50 min	87
Chloride (%)	B	0.02	Density (ASTM C188) (g/cm ³)	B	3.15

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	4.5	--
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 C150-18 and AASHTO M 85-18 Specification for Type I-II Portland Cement

This cement also meets all applicable FDOT (Facility ID: CMT 29), GADOT (Source Code: 53), ALDOT (CAMMS ID: 10146), SCDOT,

and NCDOT (Plant ID: CM69) specifications for Type I-II 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

** Maximum fineness limits do not apply if the sum of C₃S + 4.75C₃A is less than or equal to 90.

A Not applicable.

B Test result represents most recent value and is provided for information only.

May 16, 2019

Brandford Cement Plant

Suwannee American Cement

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