



Suwannee American Cement

Sumterville Plant

Portland Cement Type I-II (MH) - Silo 1,5

Production Period : 7/1/2020 To 7/31/2020

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	4.7	Blaine fineness (m ² /kg)**	260 min / 430 max	405	
Fe ₂ O ₃ (%)	6.0 max	3.5	Autoclave expansion (%)	0.80 max	0.00	
CaO (%)	A	63.9	Compressive strength (MPa/[psi]):			
MgO (%)	6.0 max	1.1		1 day		14.4 [2084]
SO ₃ (%)*	3.0 max	3.2		3 days	12.0 [1740] min	25.9 [3758]
Loss of ignition (%)	3.5 max	2.4		7 days	19.0 [2760] min	34.3 [4974]
Na ₂ O (%)	A	0.20		28 days (previous month)	28.0 [4060] min	43.9 [6364]
K ₂ O (%)	A	0.45	Time of setting (minutes)			
Insoluble residue (%)	1.5 max	0.50	(Vicat) Initial	45 min	91	
CO ₂ (%)	A	0.9	(Vicat) Final	375 max	229	
Limestone (%)	5.0 max	2.2	Heat of hydration (ASTM C1702 3d)	B	71cal/g-295J/g	
CaCO ₃ in limestone (%)	70 min	91	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.000	
Inorganic process addition (%)	5.0 max	0.0				
Sum of C ₃ S + 4.75C ₃ A	100 max	91				
Potential Phase Composition			Base Cement Phase Composition			
C ₃ S (%)	A	62	C ₃ S (%)		63	
C ₂ S (%)	A	10	C ₂ S (%)		11	
C ₃ A (%)	8 max	6	C ₃ A (%)		6	
C ₄ AF (%)	A	11	C ₄ AF (%)		11	

OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.50	False Set (%)	50 min	69
Chloride (%)	B	0.002	Density (ASTM C188) (g/cm ³)	B	3.15

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	2.2	--
SiO ₂ (%)	6.1	--
Al ₂ O ₃ (%)	1.0	--
Fe ₂ O ₃ (%)	0.2	--
CaO (%)	50.0	--
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 40) and GADOT(Source code 17) 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.

August 5, 2020

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