



Suwannee American Cement Sumterville Plant

Portland Cement Type I-II (MH) - Silo 1,2,5

Production Period : 12/1/2018 To 12/31/2018

STANDARD REQUIREMENTS

Chemical Data			Physical Data			
Item	Spec. Limit	Results	Item	Spec. Limit	Results	
SiO ₂ (%)	A	20.5	Air Content of mortar (volume %)	12 max	9	
Al ₂ O ₃ (%)	6.0 max	5.2	Blaine fineness (m ² /kg)**	260 min / 430 max	413	
Fe ₂ O ₃ (%)	6.0 max	3.4	Autoclave expansion (%)	0.80 max	-0.10	
CaO (%)	A	64.3	Compressive strength (MPa/[psi]):			
MgO (%)	6.0 max	1.0		1 day		13 [1931]
SO ₃ (%)*	3.0 max	3.1		3 days	12 [1740] min	21 [2988]
Loss of ignition (%)	3.5 max	2.4	7 days	19 [2760] min	28 [4102]	
Na ₂ O (%)	A	0.21	28 days (previous month)	28 [4060] min	40 [5774]	
K ₂ O (%)	A	0.45	Time of setting (minutes)			
Insoluble residue (%)	1.5 max	0.32	(Vicat) Initial	45 min	79	
CO ₂ (%)	A	1.7	(Vicat) Final	375 max	190	
Limestone (%)	5.0 max	3.1	Heat of hydration (ASTM C1702 3d)	B	66cal/g-276.6J/g	
CaCO ₃ in limestone (%)	70 min	93	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.004	
Inorganic process addition (%)	5.0 max	3.0				
Sum of C ₃ S + 4.75C ₃ A	100 max	87				
Potential phase composition			Base Cement Phase Composition			
C ₃ S (%)	A	54	C ₃ S (%)		58	
C ₂ S (%)	A	17	C ₂ S (%)		18	
C ₃ A (%)	8 max	7	C ₃ A (%)		8	
C ₄ AF (%)	A	10	C ₄ AF (%)		10	

OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.51	False Set (%)	50 min	71
Chloride (%)	B	0.00	Density (ASTM C188) (g/cm ³)	B	3.18

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	3.8	3.0
SiO ₂ (%)	2.0	14.0
Al ₂ O ₃ (%)	0.4	5.6
Fe ₂ O ₃ (%)	0.1	1.9
CaO (%)	92.1	73.3
SO ₃ (%)	0.3	0.3

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.

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