



Suwannee American Cement

Sumterville Plant

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

Production Period : 2/1/2020 To 2/29/2020

STANDARD REQUIREMENTS

Chemical Data			Physical Data		
Item	Spec. Limit	Results	Item	Spec. Limit	Results
SiO ₂ (%)	<i>A</i>	19.3	Air Content of mortar (volume %)	<i>12 max</i>	7
Al ₂ O ₃ (%)	<i>6.0 max</i>	4.7	Blaine fineness (m ² /kg)**	<i>260 min / 430 max</i>	416
Fe ₂ O ₃ (%)	<i>6.0 max</i>	3.6	Autoclave expansion (%)	<i>0.80 max</i>	0.02
CaO (%)	<i>A</i>	62.9			
MgO (%)	<i>6.0 max</i>	1.1	Compressive strength (MPa/[psi]):		
SO ₃ (%)*	<i>3.0 max</i>	3.1	1 day		15.5 [2254]
Loss of ignition (%)	<i>3.5 max</i>	2.6	3 days	<i>12.0 [1740] min</i>	27.2 [3938]
Na ₂ O (%)	<i>A</i>	0.25	7 days	<i>19.0 [2760] min</i>	34.6 [5024]
K ₂ O (%)	<i>A</i>	0.52	28 days (<i>previous month</i>)	<i>28.0 [4060] min</i>	41.0 [5949]
Insoluble residue (%)	<i>1.5 max</i>	0.26	Time of setting (minutes)		
CO ₂ (%)	<i>A</i>	1.2	(Vicat) Initial	<i>45 min</i>	81
Limestone (%)	<i>5.0 max</i>	2.8	(Vicat) Final	<i>375 max</i>	184
CaCO ₃ in limestone (%)	<i>70 min</i>	97			
Inorganic process addition (%)	<i>5.0 max</i>	1.7	Heat of hydration (ASTM C1702 3d)	<i>B</i>	54cal/g-226J/g
Sum of C ₃ S + 4.75C ₃ A	<i>100 max</i>	90	Mortar Bar Expansion (ASTM C1038) (%)*	<i>0.020 max</i>	0.009
Potential phase composition			Base Cement Phase Composition		
C ₃ S (%)	<i>A</i>	61	C ₃ S (%)		64
C ₂ S (%)	<i>A</i>	9	C ₂ S (%)		10
C ₃ A (%)	<i>8 max</i>	6	C ₃ A (%)		6
C ₄ AF (%)	<i>A</i>	10	C ₄ AF (%)		11

OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	<i>0.60 max</i>	0.59	False Set (%)	<i>50 min</i>	77
Chloride (%)	<i>B</i>	0.003	Density (ASTM C188) (g/cm ³)	<i>B</i>	3.15

Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	2.8	1.7
SiO ₂ (%)	0.4	10.9
Al ₂ O ₃ (%)	0.1	4.6
Fe ₂ O ₃ (%)	0.1	1.5
CaO (%)	54.9	44.1
SO ₃ (%)	0.1	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.

March 5, 2020

Suwannee American Cement
 Sumterville Cement Plant
 4750 E County Rd 470
 Sumterville FL 33585
 Tel: (352) 569-5393 - Fax: (352) 569-5397

Tammy Martin
 Quality Control Manager