



# Suwannee American Cement Sumterville Plant

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

Production Period : 10/1/2018 To 10/31/2018

### STANDARD REQUIREMENTS

Chemical Data			Physical Data			
Item	Spec. Limit	Results	Item	Spec. Limit	Results	
SiO <sub>2</sub> (%)	A	19.8	Air Content of mortar (volume %)	12 max	8	
Al <sub>2</sub> O <sub>3</sub> (%)	6.0 max	4.9	Blaine fineness (m <sup>2</sup> /kg)**	260 min / 430 max	414	
Fe <sub>2</sub> O <sub>3</sub> (%)	6.0 max	3.5	Autoclave expansion (%)	0.80 max	-0.01	
CaO (%)	A	63.7	Compressive strength (MPa/[psi]):			
MgO (%)	6.0 max	1.0		1 day		14 [ 2029 ]
SO <sub>3</sub> (%)*	3.0 max	3.2		3 days	12 [1740] min	23 [ 3406 ]
Loss of ignition (%)	3.5 max	2.9		7 days	19 [2760] min	30 [ 4405 ]
Na <sub>2</sub> O (%)	A	0.31	28 days (previous month)	28 [4060] min	40 [ 5774 ]	
K <sub>2</sub> O (%)	A	0.43	Time of setting (minutes)			
Insoluble residue (%)	1.5 max	0.60	(Vicat) Initial	45 min	84	
CO <sub>2</sub> (%)	A	1.4	(Vicat) Final	375 max	202	
Limestone (%)	5.0 max	4.5	Heat of hydration (ASTM C1702 3d)	B	66cal/g-276.6J/g	
CaCO <sub>3</sub> in limestone (%)	70 min	95	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.011	
Inorganic process addition (%)	5.0 max	3.0				
Sum of C <sub>3</sub> S + 4.75C <sub>3</sub> A	100 max	86				
Potential phase composition			Base Cement Phase Composition			
C <sub>3</sub> S (%)	A	57	C <sub>3</sub> S (%)		62	
C <sub>2</sub> S (%)	A	13	C <sub>2</sub> S (%)		14	
C <sub>3</sub> A (%)	8 max	6	C <sub>3</sub> A (%)		7	
C <sub>4</sub> AF (%)	A	10	C <sub>4</sub> AF (%)		11	

### OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.59	False Set (%)	50 min	67
Chloride (%)	B	0.00	Density (ASTM C188) (g/cm <sup>3</sup> )	B	3.18

#### Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	4.5	3.0
SiO <sub>2</sub> (%)	2.0	14.0
Al <sub>2</sub> O <sub>3</sub> (%)	0.4	6.4
Fe <sub>2</sub> O <sub>3</sub> (%)	0.2	2.2
CaO (%)	92.4	73.0
SO <sub>3</sub> (%)	0.6	0.4

*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 SO<sub>3</sub> 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 C<sub>3</sub>S + 4.75C<sub>3</sub>A 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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