



# Suwannee American Cement

## Sumterville Plant

### Portland Cement Type IL (13) - Silo 2,3

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

#### STANDARD REQUIREMENTS

Chemical Data			Physical Data			
Item	Spec. Limit	Results	Item	Spec. Limit	Results	
SiO <sub>2</sub> (%)	A	19.2	Air Content of mortar (volume %)	12 max	7	
Al <sub>2</sub> O <sub>3</sub> (%)	A	4.5	Blaine fineness (m <sup>2</sup> /kg)**	A	514	
Fe <sub>2</sub> O <sub>3</sub> (%)	A	3.3	Autoclave expansion (%)	-0.20 min/0.80 max	-0.01	
CaO (%)	A	65.8	Fineness, retained in #325	A	3.5	
MgO (%)	A	1.1	Compressive strength (MPa/[psi]):			
SO <sub>3</sub> (%)*	3.0 max	3.2		1 day		13.3 [ 1928 ]
Loss of ignition (%)	10.0 max	6.9		3 days	13.0[1890] min	25.7 [ 3726 ]
Na <sub>2</sub> O (%)	A	0.18		7 days	20.0[2900] min	32.4 [ 4694 ]
K <sub>2</sub> O (%)	A	0.43	28 days (previous month)	28.0[4060] min	39.3 [ 5694 ]	
Insoluble residue (%)	A	0.75	Time of setting (minutes)			
CO <sub>2</sub> (%)	A	5.2	(Vicat) Initial	45 min	109	
Limestone (%)	15.0 max	13.0	(Vicat) Final	375 max	248	
CaCO <sub>3</sub> in limestone (%)	70 min	91	Sulfate Resistance (ASTM C1012 180d) (%)	0.10 max	0.05	
Inorganic process addition (%)	5.0 max	0.0	Heat of hydration (ASTM C1702 3d)	B	66cal/g-278J/g	
Sum of C <sub>3</sub> S + 4.75C <sub>3</sub> A	A	94	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.003	
Potential phase composition			Base Cement Phase Composition			
C <sub>3</sub> S (%)	A	67	C <sub>3</sub> S (%)		77	
C <sub>2</sub> S (%)	A	4	C <sub>2</sub> S (%)		4	
C <sub>3</sub> A (%)	8 max	6	C <sub>3</sub> A (%)		6	
C <sub>4</sub> AF (%)	A	9	C <sub>4</sub> AF (%)		10	

#### OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.46	False Set (%)	50 min	53
Chloride (%)	B	0.001	Density (ASTM C188) (g/cm <sup>3</sup> )	B	3.05

#### Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	13.0	--
SiO <sub>2</sub> (%)	6.1	--
Al <sub>2</sub> O <sub>3</sub> (%)	1.0	--
Fe <sub>2</sub> O <sub>3</sub> (%)	0.2	--
CaO (%)	50.0	--
SO <sub>3</sub> (%)	0.1	--

This cement meets ASTM C595 and AASHTO M240 Specification for Type IL (MS) Portland Cement.

This cement also meets all applicable FDOT (Facility ID: CMT 40) specifications for Type IL 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.

A Not applicable.

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

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

**Tammy Martin**  
 Quality Control Manager