



# Ash Grove Sumterville Plant

Portland Cement Type IL (13) - Silo 1,2,3,5

## September Mill Certificate

Production Period : 8/1/2022 To 8/31/2022

### STANDARD REQUIREMENTS

Chemical Data			Physical Data		
Item	Spec. Limit	Results	Item	Spec. Limit	Results
SiO <sub>2</sub> (%)	A	17.5	Air Content of mortar (volume %)	12 max	3
Al <sub>2</sub> O <sub>3</sub> (%)	A	4.6	Blaine fineness (m <sup>2</sup> /kg)**	A	543
Fe <sub>2</sub> O <sub>3</sub> (%)	A	3.2	Autoclave expansion (%)	-0.20 min/0.80 max	0.01
CaO (%)	A	62.9	Fineness, retained in #325	A	1.3
MgO (%)	A	0.9	Compressive strength (MPa/[psi]):		
SO <sub>3</sub> (%)*	3.0 max	2.9	1 day		19.0 [ 2760 ]
Loss of ignition (%)	10.0 max	7.2	3 days	13.0[1890] min	32.9 [ 4770 ]
Na <sub>2</sub> O (%)	A	0.07	7 days	20.0[2900] min	39.2 [ 5690 ]
K <sub>2</sub> O (%)	A	0.42	28 days (previous month)	28.0[4060] min	47.2 [ 6850 ]
Insoluble residue (%)	A	0.52	Time of setting (minutes)		
CO <sub>2</sub> (%)	A	5.8	(Vicat) Initial	45 min	95
Limestone (%)	15.0 max	13.9	(Vicat) Final	375 max	216
CaCO <sub>3</sub> in limestone (%)	70 min	92	Sulfate Resistance (ASTM C1012 180d) (%)	0.10 max	0.05
Inorganic process addition (%)	5.0 max	0.7	Heat of hydration (ASTM C1702 3d, J/g [cal/g])	B	299 [72]
			Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.003

### OPTIONAL REQUIREMENTS

Item	Spec. Limit	Results	Item	Spec. Limit	Results
Equiv. Alkalies (%)	0.60 max	0.34	Density (ASTM C188) (g/cm <sup>3</sup> )	B	3.05
Chloride (%)	B	0.003			

### Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	13.9	0.9
SiO <sub>2</sub> (%)	3.1	10.2
Al <sub>2</sub> O <sub>3</sub> (%)	0.3	4.8
Fe <sub>2</sub> O <sub>3</sub> (%)	0.2	1.7
CaO (%)	51.8	45.6
SO <sub>3</sub> (%)	0.1	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.

September 19, 2022  
Sumterville Cement Plant  
Ash Grove  
4750 E County Rd 470  
Sumterville, Florida 33585  
Tel: (352) 569-5393 - Fax: (352) 569-5397

**Claudia Urrutia**  
Quality Control Manager