



# Ash Grove Sumterville Plant

**Portland Cement Type IL (13)**

**Silos: 1, 2, 3, 5**

## November Mill Certificate

Production Period : 10/1/2023 To 10/31/2023

### STANDARD REQUIREMENTS

Chemical Data			Physical Data		
Item	Spec. Limit	Results	Item	Spec. Limit	Results
SiO <sub>2</sub> (%)	A	19.6	Air Content of mortar (volume %)	12 max	4
Al <sub>2</sub> O <sub>3</sub> (%)	A	4.9	Blaine fineness (m <sup>2</sup> /kg)	A	497
Fe <sub>2</sub> O <sub>3</sub> (%)	A	3.3	Fineness, retained in #325	A	1.1
CaO (%)	A	67.1	Compressive strength (MPa/[psi]):		
MgO (%)	A	1.0	1 day		16.5 [ 2396 ]
SO <sub>3</sub> (%)*	3.0 max	3.0	3 days	13.0[1890] min	30.1 [ 4361 ]
Loss of ignition (%)	10.0 max	6.4	7 days	20.0[2900] min	38.3 [ 5548 ]
Na <sub>2</sub> O (%)	A	0.09	28 days (previous month)	28.0[4060] min	45.3 [ 6567 ]
K <sub>2</sub> O (%)	A	0.38	Time of setting (minutes)		
			(Vicat) Initial	45 min	97
CO <sub>2</sub> (%)	A	4.9	(Vicat) Final	375 max	235
Limestone (%)	15.0 max	12.0	Sulfate Resistance (ASTM C1012 180d) (%)	0.10 max	0.05
CaCO <sub>3</sub> in limestone (%)	70 min	93	Heat of hydration (ASTM C1702 3d, J/g [cal/g])	B	286 67
Inorganic process addition (%)	1.0 max	0.6	Mortar Bar Expansion (ASTM C1038) (%)*	0.020 max	0.009

### 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	0.01			

### Additional Data

Type	Limestone	Inorganic Processing Addition
Amount	12.0	0.6
SiO <sub>2</sub> (%)	2.8	9.7
Al <sub>2</sub> O <sub>3</sub> (%)	0.4	1.6
Fe <sub>2</sub> O <sub>3</sub> (%)	0.2	4.8
CaO (%)	52.9	46.5
SO <sub>3</sub> (%)	0.2	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.

C Test result is not yet available.

November 9, 2023

Sumterville Cement Plant

Ash Grove

4750 E County Rd 470

Sumterville, Florida 33585

Tel: (352) 569-5393 - Fax: (352) 569-5397

**Ramon Olivero**  
Quality Control Manager