



# Cement Mill Test Report

Month of Issue: April 2022

Plant: Newberry Plant, Fl.  
 Product: Portland Limestone Cement - IL (10) MS  
 Silo: 2, 4, 6  
 Manufactured: March 2022

## ASTM C595 and AASHTO M 240

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray (C114)			Air content of mortar (%) (C185)		
SiO <sub>2</sub> (%)	---	18.0		12 max	7.2
Al <sub>2</sub> O <sub>3</sub> (%)	---	4.3	Blaine Fineness (m <sup>2</sup> /kg) (C204)		
Fe <sub>2</sub> O <sub>3</sub> (%)	---	3.1		---	472
CaO (%)	---	63.2	-325 (%) (C430)		
MgO (%)	---	0.9		---	98.1
SO <sub>3</sub> (%)	3.0 max *	2.5	Autoclave expansion (%) (C151)		
Loss on ignition (%)	10.0 max	6.4		0.80 max	0.00
Insoluble residue (%)	---	0.90	Density of Cement (g/cm <sup>3</sup> ) (C188) **		
Na <sub>2</sub> O <sub>Eq</sub> (%)	---	0.34		---	3.09
CO <sub>2</sub> (%)	---	5.0	Compressive strength (MPa, [PSI]) (C109)		
Limestone (%)	15.0 max	9.5	1 day	---	15.0 [2180]
CaCO <sub>3</sub> in Limestone (%)	70 min	95	3 days	13.0 [1890] min	26.5 [3850]
Inorganic Process Addition (Baghouse Dust)	---	3.5	7 days	20.0 [2900] min	33.6 [4870]
			28 days	25.0 [3620] min	43.7 [6340]
			Time of setting (minutes)		
			Vicat Initial (C191)	45 - 420	139
			3 Days Heat of Hydration (KJ/Kg, [cal/g]) (C1702)		
					282 [67]
			Mortar Bar Expansion (%) (C1038)		
				0.020 max	0.004

\* May exceed 3.0% SO3 maximum based on our Test Method C1038 results of < 0.020 % expansion at 14 days.

\*\* Average of 12 month data

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of ASTM C595 and AASHTO M 240.

§ Please refer to ASTM C1778 for guidance on reducing the risk of alkali aggregate reaction in concrete

This product also meets the requirements of ASTM C1157 Type GU and Type MS

Certified By:

Oscar Echavarría - Quality Manager

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