



Cement Mill Test Report

Month of Issue: October 2022

Plant:	Roberta Plant - Calera, AL
Product:	EcoStrong PLC Type IL (10) MS
Silo:	17, 18J, 19, 20
Manufactured:	September 2022

ASTM C595 and AASHTO M 240 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS			
Item	Spec limit	Test Result	Item	Spec limit	Test Result	
Rapid Method, X-Ray (C114)			Air content of mortar (%) (C185)	12 max	8	
SiO ₂ (%)	---	18.2	Blaine Fineness (m ² /kg) (C204)	---	440	
Al ₂ O ₃ (%)	---	4.4	Fineness, No. 325 sieve, (% retained) (C430)	---	2.7	
Fe ₂ O ₃ (%)	---	3.0	Autoclave test (%) (C151)	-0.20 to 0.80	0.05	
CaO (%)	---	61.9	Density of Cement (g/cm ³) (C188)	---	3.12	
MgO (%)	---	3.2	Compressive strength (MPa, [PSI]) (C109)			
SO ₃ (%)	3.0 max *	3.0	1 day	---	15.3 [2220]	
Loss on ignition (%)	10.0 max	5.7	3 days	13.0 [1890] min	27.3 [3950]	
Na ₂ O _{Eq} of Base Cement(%)	---	0.34 §	7 days	20.0 [2900] min	33.5 [4850]	
CO ₂ (%)	---	4.8	28 days (previous month's data)	25.0 [3620] min	42.2 [6120]	
Limestone (%)	5 to 15	10.2	Time of setting (minutes)			
CaCO ₃ in Limestone (%)	70 min	85	Vicat Initial (C191)	45 - 420	108	
Inorganic Process Addition	---	0.9	3 Days Heat of Hydration (kJ/kg, [cal/g]) (C1702)		282 [67]	
Baghouse Dust			Mortar Bar Expansion (%) (C1038) (previous month's data)	0.020 max	0.007	
Optional Chemical Information:			Physical Requirements for Blended Cements With Special Properties:			
Sulfate Resistance (% Expansion) (C1012)			0.10 max	0.06 at 180 days		

--- Not applicable

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

§ Please refer to ASTM C1778 or AASHTO R 80 for guidance on reducing the risk of alkali aggregate reaction in concrete.

We certify that the above described cement at the time of shipment meets the chemical and physical requirements of applicable standards of ASTM C595, AASHTO M 240, ALDOT, AHTD, FDOT Section 921, GDOT, KYTC, LaDOTD, MDOT, NCDOT Specifications for Type IL, ODOT, SCDOT, TDOT, VDOT

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Certified By:

Paul Cunningham - Quality Manager
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