



Cement Mill Test Report

Month of Issue: July 2024

Plant:	Roberta Plant - Calera, AL
Product:	EcoStrong PLC Type IL (10) MS
Silo:	17, 18J, 19, 20
Manufactured:	June 2024

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	7
SiO ₂ (%)	---	18.1	Blaine Fineness (m ² /kg) (C204)	---	434
Al ₂ O ₃ (%)	---	4.3	Fineness, No. 325 sieve, (% retained) (C430)	---	4.1
Fe ₂ O ₃ (%)	---	3.0	Density of Cement (g/cm ³) (C188)	---	3.13
CaO (%)	---	62.1	Compressive strength (MPa, [PSI]) (C109)		
MgO (%)	---	2.9	1 day	---	14.9 [2160]
SO ₃ (%)	3.0 max *	2.9	3 days	13.0 [1890] min	26.9 [3900]
Loss on ignition (%)	10.0 max	6.0	7 days	20.0 [2900] min	35.1 [5090]
Na ₂ O _{Eq} of Base Cement(%)	---	0.45 §	28 days (previous month's data)	25.0 [3620] min	44.6 [6470]
CO ₂ (%)	---	5.1	Time of setting (minutes)		
Limestone (%)	5 to 15	11.0	Vicat Initial (C191)	45 - 420	116
CaCO ₃ in Limestone (%)	70 min	91	3 Days Heat of Hydration (kJ/kg, [cal/g]) (C1702)		198 [47]
Inorganic Process Addition	---	1.1	Mortar Bar Expansion (%) (C1038)	0.020 max	0.005
Baghouse Dust			(previous month's data)		
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, PennDOT, SCDOT, TDOT, VDOT

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Certified By:

Paul Cunningham - Quality Manager
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