



Cement Mill Test Report

Month of Issue: August 2023

Plant:	Martinsburg, West Virginia
Product:	EcoStrong PLC Type IL (10) MS
Silo:	A, B, C, 61, 62, 50, 52, 54, 71, 72
Manufactured:	July 2023

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	7.1
SiO ₂ (%)	---	17.8	Blaine Fineness (m ² /kg) (C204)	---	448
Al ₂ O ₃ (%)	---	4.4	Fineness, No. 325 sieve, (% retained) (C430)	---	2.2
Fe ₂ O ₃ (%)	---	2.8	Autoclave test (%) (C151)	-0.20 to 0.80	0.06
CaO (%)	---	62.5	Density of Cement (g/cm ³) (C188)	---	3.08
MgO (%)	---	2.3	Compressive strength (MPa, [PSI]) (C109)		
SO ₃ (%)	3.0 max *	3.2	1 day	---	15.7 [2280]
Loss on ignition (%)	10.0 max	5.8	3 days	13.0 [1890] min	26.2 [3800]
Na ₂ O _{Eq} of Base Cement(%)	---	0.55 §	7 days	20.0 [2900] min	32.2 [4670]
CO ₂ (%)	---	4.4	28 days (previous month's data)	25.0 [3620] min	40.3 [5840]
Limestone (%)	7.5 to 12.5	11.1	Time of setting (minutes)		
CaCO ₃ in Limestone (%)	70 min	91	Vicat Initial (C191)	45 - 420	112
			Mortar Bar Expansion (%) (C1038)	0.020 max	0.010

Optional Chemical Information:

Physical Requirements for Blended Cements With Special Properties:

Sulfate Resistance (% Expansion) (C1012) 0.10 max 0.07 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

Certified By:

Richard McCorkle - Quality Manager

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