



3250 Linebaugh Rd.
 Xenia, OH 45385
 Telephone (800) 762-0040
 FAX (937) 879-8425

**CEMENT
MILL
TEST**

Cement Identified as: Type IA **Date:** 08/30/21
Production Dates: July, 2021 **Silo:** 7

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE IA	AASHTO M85 Type IA	RESULTS
Silicon Dioxide (SiO ₂), %		----		19.2
Aluminum Oxide (Al ₂ O ₃), %		----		4.4
Ferric Oxide (Fe ₂ O ₃), %		----		3.0
Calcium Oxide (CaO), %		----		61.9
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.7
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.0	3.0	3.1
Loss on Ignition (LOI), %	Maximum	3.0	3.0	2.9
Insoluble Residue, %	Maximum	0.75	0.75	0.56
Alkalies (Na ₂ O equivalent), %		----		0.81
Tricalcium Silicate (C ₃ S), Potential %		----		63
Dicalcium Silicate (C ₂ S), Potential %		----		7
Tricalcium Aluminate (C ₃ A), Potential %		----		6
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		----		9
CO ₂ , %				1.9
Limestone, %	Maximum	5	5	1.9
CaCO ₃ in Limestone, %	Minimum	70	70	98
PHYSICAL REQUIREMENTS				
(ASTM C 204) Blaine Fineness, m ² /kg	Minimum	260	260	427
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	113
Final Set, minutes	Maximum	375	375	210
(ASTM C 185) Air Content, %	Range	16-22	16-22	20
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.15
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	
(ASTM C 187) Normal Consistency, %		----		26.5
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day				1890 (13.0)
3 Day	Minimum	1450 (10.0)	1450 (10.0)	2900 (20.0)
7 Day	Minimum	2320 (16.0)	2320 (16.0)	3300 (22.8)
28 Day	Minimum	3190 (22.0)	3190 (22.0)	4090 (28.2)

^A Per ASTM C150 Table 1 footnote D

We hereby certify that this cement conforms to all of the standard requirements for portland cement in the above specification for the type specified.

By: Rusty Strader

Physical Testing completed by: DG, MS
 Chemical Testing completed by: TA, NC, KL, NM

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company



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Additional Data

Type	Inorganic Processing	
	Addition Data	Limestone
Amount (%)	Baghouse Dust	---
SiO2 (%)	0.0	4.4
Al2O3 (%)	12.3	2.6
Fe2O3 (%)	4.3	1.1
CaO (%)	1.6	0.6
SO3 (%)	42.6	50.4
	1.0	0.4

Base cement Phase Composition

C3S (%)	60
C2S (%)	7
C3A (%)	6
C4AF (%)	9

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By: *Rusty Strader*

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company