



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

**CEMENT
MILL
TEST**

Cement Identified as: **Type III** **Date:** 12/30/21
Production Dates: **November, 2021** **Silo: 3**

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE III	AASHTO M85 Type III	RESULTS
Silicon Dioxide (SiO ₂), %		----		19.2
Aluminum Oxide (Al ₂ O ₃), %		----		4.4
Ferric Oxide (Fe ₂ O ₃), %		----		3.1
Calcium Oxide (CaO), %		----		61.8
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.5
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.5	3.5	4.2
Loss on Ignition (LOI), %	Maximum	3.5	3.5	2.2
Insoluble Residue, %	Maximum	1.50	1.5	0.57
Free Calcium Oxide, %				0.7
Alkalies (Na ₂ O equivalent), %		----		0.71
Tricalcium Silicate (C ₃ S), Potential %		----		60
Dicalcium Silicate (C ₂ S), Potential %		----		10
Tricalcium Aluminate (C ₃ A), Potential %	Maximum	15	15	7
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		----		9
CO ₂ , %				0.9
Limestone, %	Maximum	5.0	5.0	2.1
CaCO ₃ in Limestone, %	Minimum	70	70	97
PHYSICAL REQUIREMENTS				
(ASTM C 204) Blaine Fineness, m ² /kg		----		633
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	89
Final Set, minutes	Maximum	375	375	188
(ASTM C 185) Air Content, %	Maximum	12	12	7
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.13
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	0.012
(ASTM C 187) Normal Consistency, %		----		29.3
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day	Minimum	1740 (12.0)	1740 (12.0)	4605 (31.8)
3 Day	Minimum	3480 (24.0)	3480 (24.0)	5585 (38.5)
7 Day		----		6327 (43.6)
28 Day		----		6960 (48.0)

^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, JT
 Chemical Testing completed by: TA, NC, KL, NM

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company



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Additional Data

Type Amount (%)	Inorganic Processing Addition Data	
	Baghouse Dust	Limestone
SiO2 (%)	0.0	2.1
Al2O3 (%)	12.1	2.6
Fe2O3 (%)	4.2	1.1
CaO (%)	1.5	0.6
SO3 (%)	37.3	50.4
	1.1	0.4

Base cement Phase Composition

C3S (%)	56
C2S (%)	12
C3A (%)	6
C4AF (%)	9

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By: Rusty Strader

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company