



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

**CEMENT
MILL
TEST**

Cement Identified as: Type III **Date:** 01/29/20
Production Dates: December, 2019 **Silo:** 3

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE III	AASHTO M85 Type III	RESULTS
Silicon Dioxide (SiO ₂), %		---		19.1
Aluminum Oxide (Al ₂ O ₃), %		---		4.6
Ferric Oxide (Fe ₂ O ₃), %		---		3.3
Calcium Oxide (CaO), %		---		61.9
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.8
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.5	3.5	3.9
Loss on Ignition (LOI), %	Maximum	3.5	3.5	2.0
Insoluble Residue, %	Maximum	1.50	1.5	0.46
Free Calcium Oxide, %				0.8
Alkalies (Na ₂ O equivalent), %		---		0.78
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 %		---		10
CO ₂ , %				1.0
Limestone, %	Maximum	5.0	5.0	2.3
CaCO ₃ in Limestone, %	Minimum	70	70	97
PHYSICAL REQUIREMENTS				
(ASTM C 204) Blaine Fineness, m ² /kg		---		632
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	84
Final Set, minutes	Maximum	375	375	180
(ASTM C 185) Air Content, %	Maximum	12	12	7
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.14
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	0.001
(ASTM C 187) Normal Consistency, %		---		28.9
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day	Minimum	1740 (12.0)	1740 (12.0)	4313 (29.7)
3 Day	Minimum	3480 (24.0)	3480 (24.0)	5590 (38.5)
7 Day		---		6357 (43.8)
28 Day		---		7000 (48.3)

^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, JD, 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	2.3
Al2O3 (%)	11.5	0.9
Fe2O3 (%)	4.0	0.6
CaO (%)	1.8	0.6
SO3 (%)	38.3	45.9
	1.9	0.2

Base cement Phase Composition

C3S (%)	58
C2S (%)	10
C3A (%)	7
C4AF (%)	10

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By: Rusty Strader

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company