



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

**CEMENT
MILL
TEST**

Cement Identified as: Type IA **Date:** 01/29/20
Production Dates: December, 2019 **Silo:** 7

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE IA	AASHTO M85 Type IA	RESULTS
Silicon Dioxide (SiO ₂), %		----		19.0
Aluminum Oxide (Al ₂ O ₃), %		----		4.5
Ferric Oxide (Fe ₂ O ₃), %		----		3.2
Calcium Oxide (CaO), %		----		62.5
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.5
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.0	3.0	3.5
Loss on Ignition (LOI), %	Maximum	3.0	3.0	2.4
Insoluble Residue, %	Maximum	0.75	0.75	0.56
Alkalies (Na ₂ O equivalent), %		----		0.79
Tricalcium Silicate (C ₃ S), Potential %		----		65
Dicalcium Silicate (C ₂ S), Potential %		----		5
Tricalcium Aluminate (C ₃ A), Potential %		----		6
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		----		10
CO ₂ , %				1.8
Limestone, %	Maximum	5	5	1.8
CaCO ₃ in Limestone, %	Minimum	70	70	98
PHYSICAL REQUIREMENTS				
(ASTM C 204) Blaine Fineness, m ² /kg	Minimum	260	260	4170
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	99
Final Set, minutes	Maximum	375	375	200
(ASTM C 185) Air Content, %	Range	16-22	16-22	19
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.12
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	
(ASTM C 187) Normal Consistency, %		----		25.8
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day				2190 (15.1)
3 Day	Minimum	1450 (10.0)	1450 (10.0)	3260 (22.5)
7 Day	Minimum	2320 (16.0)	2320 (16.0)	3990 (27.5)
28 Day	Minimum	3190 (22.0)	3190 (22.0)	4890 (33.7)

^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	4.1
Al2O3 (%)	11.5	0.9
Fe2O3 (%)	4.0	0.6
CaO (%)	1.8	0.6
SO3 (%)	38.3	45.9
	0.7	0.2

Base cement Phase Composition

C3S (%)	62
C2S (%)	5
C3A (%)	6
C4AF (%)	9

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By: *Rusty Strader*

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company