



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

**CEMENT
MILL
TEST**

Cement Identified as: Type IA **Date:** 05/28/20
Production Dates: April, 2020 **Silo:** 7

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE IA	AASHTO M85 Type IA	RESULTS
Silicon Dioxide (SiO ₂), %		----		18.9
Aluminum Oxide (Al ₂ O ₃), %		----		4.6
Ferric Oxide (Fe ₂ O ₃), %		----		3.3
Calcium Oxide (CaO), %		----		62.4
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.4
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.0	3.0	3.2
Loss on Ignition (LOI), %	Maximum	3.0	3.0	2.2
Insoluble Residue, %	Maximum	0.75	0.75	0.46
Alkalies (Na ₂ O equivalent), %		----		0.78
Tricalcium Silicate (C ₃ S), Potential %		----		66
Dicalcium Silicate (C ₂ S), Potential %		----		5
Tricalcium Aluminate (C ₃ A), Potential %		----		6
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		----		10
CO ₂ , %				1.2
Limestone, %	Maximum	5	5	1.2
CaCO ₃ in Limestone, %	Minimum	70	70	98
PHYSICAL REQUIREMENTS				
(ASTM C 204) Blaine Fineness, m ² /kg	Minimum	260	260	407
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	103
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	0.11
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	0.009
(ASTM C 187) Normal Consistency, %		----		25.7
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day				2030 (14.0)
3 Day	Minimum	1450 (10.0)	1450 (10.0)	2960 (20.4)
7 Day	Minimum	2320 (16.0)	2320 (16.0)	3600 (24.8)
28 Day	Minimum	3190 (22.0)	3190 (22.0)	4220 (29.1)

^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	2.7
Al2O3 (%)	11.4	0.9
Fe2O3 (%)	3.9	0.6
CaO (%)	1.5	0.6
SO3 (%)	38.4	45.9
	0.8	0.2

Base cement Phase Composition

C3S (%)	64
C2S (%)	5
C3A (%)	6
C4AF (%)	10

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By: Rusty Strader

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company