



3250 Linebaugh Rd.
 Xenia, OH 45385
 Telephone (800) 762-0040
 FAX (937) 306-4110

**CEMENT
MILL
TEST
REPORT**

Cement Identified as: Type I, Type II **Date:** 12/01/17
Production Period: October, 2017 **Silos:** 2,3,4

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150		AASHTO	RESULTS
		TYPE I	TYPE II	M85 Type I	
Silicon Dioxide (SiO ₂), %		-----	-----	-----	18.7
Aluminum Oxide (Al ₂ O ₃), %	Maximum	-----	6.0	-----	4.6
Ferric Oxide (Fe ₂ O ₃), %	Maximum	-----	6.0	-----	3.2
Calcium Oxide (CaO), %		-----	-----	-----	61.8
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	6.0	4.7
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.0	3.0	3.0	3.3
Loss on Ignition (LOI), %	Maximum	3.5	3.5	3.5	2.6
Insoluble Residue, %	Maximum	1.50	1.50	1.5	0.47
Alkalies (Na ₂ O equivalent), %		-----	-----	-----	0.85
Tricalcium Silicate (C ₃ S), Potential %		-----	-----	-----	62
Dicalcium Silicate (C ₂ S), Potential %		-----	-----	-----	5
Tricalcium Aluminate (C ₃ A), Potential %	Maximum	-----	8	-----	6
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		-----	-----	-----	9
C ₃ S + 4.75C ₃ A	Maximum		100		93
CO ₂ , %					1.6
Limestone, %	Maximum	5.0	5.0		3.7
CaCO ₃ in Limestone, %	Minimum	70	70		98
PHYSICAL REQUIREMENTS					
(ASTM C 204) Blaine Fineness, m ² /kg	Range	260 Min.	260 - 430	260 Min.	402
(ASTM C 191) Time of Setting (Vicat)					
Initial Set, minutes	Minimum	45	45	45	95
Final Set, minutes	Maximum	375	375	375	186
(ASTM C 185) Air Content, %	Maximum	12	12	12	7.6
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.80	0.23
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	0.02	0.008
(ASTM C 187) Normal Consistency, %		-----	-----	-----	26.5
Heat of Hydration (ASTM C 186)					
7 day, cal/g	Most Recent Value				87
(ASTM C 109) Compressive Strength, psi (Mpa)					
1 Day		-----	-----	-----	2864 (19.7)
3 Day	Minimum	1740 (12.0)	1450 (10.0)	1740 (12.0)	4200 (29.0)
7 Day	Minimum	2760 (19.0)	2470 (17.0)	2760 (19.0)	4940 (34.1)
28 Day	Minimum	4060 (28.0)	4060 (28.0)	4060 (28.0)	5850 (40.3)

^A Per ASTM C563 and ASTM C1038 testing

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: CC, MS
 Chemical Testing completed by: TA, NC, JC, NM

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company



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Additional Data

Inorganic Processing Addition Data

Type	Baghouse Dust
Amount (%)	0.5
SiO ₂ (%)	11.2
Al ₂ O ₃ (%)	3.9
Fe ₂ O ₃ (%)	1.8
CaO (%)	38.6
SO ₃ (%)	0.7

Base cement Phase Composition

C ₃ S (%)	65.1
C ₂ S (%)	4.3
C ₃ A (%)	6.7
C ₄ AF (%)	9.8

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By: *Rusty Strader*

Rusty Strader
Quality Control Manager
Fairborn Cement Company