



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

**CEMENT  
MILL  
TEST**

**Cement Identified as:** Type IA **Date:** 12/28/20  
**Production Dates:** November, 2020 **Silo:** 7

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE IA	AASHTO M85 Type IA	RESULTS
Silicon Dioxide (SiO <sub>2</sub> ), %		----		18.8
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ), %		----		4.6
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ), %		----		3.1
Calcium Oxide (CaO), %		----		62.2
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.6
Sulfur Trioxide (SO <sub>3</sub> ), % <sup>A</sup>	Maximum	3.0	3.0	3.3
Loss on Ignition (LOI), %	Maximum	3.0	3.0	2.6
Insoluble Residue, %	Maximum	0.75	0.75	0.30
Alkalies (Na <sub>2</sub> O equivalent), %		----		0.88
Tricalcium Silicate (C <sub>3</sub> S), Potential %		----		66
Dicalcium Silicate (C <sub>2</sub> S), Potential %		----		4
Tricalcium Aluminate (C <sub>3</sub> A), Potential %		----		7
Tetracalcium Aluminoferrite (C <sub>4</sub> AF), Potential %		----		9
CO <sub>2</sub> , %				1.7
Limestone, %	Maximum	5	5	1.7
CaCO <sub>3</sub> in Limestone, %	Minimum	70	70	98
<b>PHYSICAL REQUIREMENTS</b>				
(ASTM C 204) Blaine Fineness, m <sup>2</sup> /kg	Minimum	260	260	403
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	107
Final Set, minutes	Maximum	375	375	210
(ASTM C 185) Air Content, %	Range	16-22	16-22	20
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.21
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	
(ASTM C 187) Normal Consistency, %		----		26.2
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day				1960 ( 13.5 )
3 Day	Minimum	1450 ( 10.0 )	1450 (10.0)	2710 ( 18.7 )
7 Day	Minimum	2320 ( 16.0 )	2320 (16.0)	3080 ( 21.2 )
28 Day	Minimum	3190 ( 22.0 )	3190 (22.0)	3740 ( 25.8 )

<sup>A</sup> 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, 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	3.9
Al2O3 (%)	12.4	0.9
Fe2O3 (%)	4.5	0.6
CaO (%)	2.1	0.6
SO3 (%)	42.4	45.9
	0.6	0.2

Base cement Phase Composition

C3S (%)	63
C2S (%)	4
C3A (%)	6
C4AF (%)	9

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By: *Rusty Strader*

Rusty Strader  
 Quality Control Manager  
 Fairborn Cement Company