



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

**CEMENT  
MILL  
TEST**

**Cement Identified as:** **Type III** **Date:** **06/01/21**  
**Production Dates:** **April, 2021** **Silo:** **3**

STANDARD CHEMICAL REQUIREMENTS (ASTM C 114)	SPECIFICATIONS	ASTM C 150 TYPE III	AASHTO M85 Type III	RESULTS
Silicon Dioxide (SiO <sub>2</sub> ), %		----		19.0
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ), %		----		4.4
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ), %		----		3.0
Calcium Oxide (CaO), %		----		62.3
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.6
Sulfur Trioxide (SO <sub>3</sub> ), % <sup>A</sup>	Maximum	3.5	3.5	4.2
Loss on Ignition (LOI), %	Maximum	3.5	3.5	2.2
Insoluble Residue, %	Maximum	1.50	1.5	0.61
Free Calcium Oxide, %				0.8
Alkalies (Na <sub>2</sub> O equivalent), %		----		0.82
Tricalcium Silicate (C <sub>3</sub> S), Potential %		----		63
Dicalcium Silicate (C <sub>2</sub> S), Potential %		----		7
Tricalcium Aluminate (C <sub>3</sub> A), Potential %	Maximum	15	15	6
Tetracalcium Aluminoferrite (C <sub>4</sub> AF), Potential %		----		9
CO <sub>2</sub> , %				0.8
Limestone, %	Maximum	5.0	5.0	2.0
CaCO <sub>3</sub> in Limestone, %	Minimum	70	70	97
<b>PHYSICAL REQUIREMENTS</b>				
(ASTM C 204) Blaine Fineness, m <sup>2</sup> /kg		----		620
(ASTM C 191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	77
Final Set, minutes	Maximum	375	375	176
(ASTM C 185) Air Content, %	Maximum	12	12	7
(ASTM C 151) Autoclave Expansion, %	Maximum	0.80	0.80	0.16
(ASTM C 1038) Expansion in Water, %	Maximum	0.02	0.02	0.014
(ASTM C 187) Normal Consistency, %		----		29.3
(ASTM C 109) Compressive Strength, psi (Mpa)				
1 Day	Minimum	1740 ( 12.0 )	1740 (12.0)	4415 ( 30.4 )
3 Day	Minimum	3480 ( 24.0 )	3480 (24.0)	5445 ( 37.5 )
7 Day		----		6095 ( 42.0 )
28 Day		----		6700 ( 46.2 )

<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, KL, NM

Rusty Strader  
 Quality Control Manager  
 Fairborn Cement Company



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**Additional Data**

Type	Inorganic Processing Addition Data	
	Baghouse Dust	Limestone
Amount (%)	0.0	2.0
SiO <sub>2</sub> (%)	12.2	0.9
Al <sub>2</sub> O <sub>3</sub> (%)	4.4	0.6
Fe <sub>2</sub> O <sub>3</sub> (%)	1.7	0.6
CaO (%)	42.3	45.9
SO <sub>3</sub> (%)	0.9	0.2

<u>Base cement Phase Composition</u>	
C3S (%)	60
C2S (%)	10
C3A (%)	6
C4AF (%)	9

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By: *Rusty Strader*

Rusty Strader  
Quality Control Manager  
Fairborn Cement Company