



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

**CEMENT
MILL
TEST**

Cement Identified as: **Type III** **Date:** 09/02/22
Production Dates: **July, 2022** **Silo:** 3

STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	SPECIFICATIONS	ASTM C 150 TYPE III	AASHTO M85 Type III	RESULTS
Silicon Dioxide (SiO ₂), %		----		19.4
Aluminum Oxide (Al ₂ O ₃), %		----		4.5
Ferric Oxide (Fe ₂ O ₃), %		----		3.0
Calcium Oxide (CaO), %		----		61.1
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	4.3
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.5	3.5	4.2
Loss on Ignition (LOI), %	Maximum	3.5	3.5	2.0
Insoluble Residue, %	Maximum	1.50	1.5	0.49
Free Calcium Oxide, %				0.6
Alkalies (Na ₂ O equivalent), %		----		0.84
Tricalcium Silicate (C ₃ S), Potential %		----		55
Dicalcium Silicate (C ₂ S), Potential %		----		15
Tricalcium Aluminate (C ₃ A), Potential %	Maximum	15	15	7
Tetracalcium Aluminoferrite (C ₄ AF), Potential %		----		9
CO ₂ , %				0.8
Limestone, %	Maximum	5.0	5.0	1.9
CaCO ₃ in Limestone, %	Minimum	70	70	97
PHYSICAL REQUIREMENTS				
(ASTM C204) Blaine Fineness, m ² /kg		----		622
(ASTM C191) Time of Setting (Vicat)				
Initial Set, minutes	Minimum	45	45	109
Final Set, minutes	Maximum	375	375	206
(ASTM C185) Air Content, %	Maximum	12	12	8
(ASTM C151) Autoclave Expansion, %	Maximum	0.80	0.80	0.12
(ASTM C1038) Expansion in Water, %	Maximum	0.02	0.02	0.013
(ASTM C187) Normal Consistency, %		----		27.8
(ASTM C109) Compressive Strength, psi (Mpa)				
1 Day	Minimum	1740 (12.0)	1740 (12.0)	4406 (30.4)
3 Day	Minimum	3480 (24.0)	3480 (24.0)	5378 (37.1)
7 Day		----		6040 (41.6)
28 Day		----		6930 (47.8)

^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: TL, JT
 Chemical Testing completed by: CA, 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	1.9
SiO ₂ (%)	12.8	2.6
Al ₂ O ₃ (%)	4.4	1.1
Fe ₂ O ₃ (%)	1.4	0.6
CaO (%)	43.4	50.4
SO ₃ (%)	1.0	0.4

Base cement Phase Composition

C3S (%)	51
C2S (%)	17
C3A (%)	7
C4AF (%)	9

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*

Rusty Strader
 Quality Control Manager
 Fairborn Cement Company