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**CEMENT
MILL
TEST**

Cement Identified as: **Type IL (10)** **Date:** 01/02/24
Production Period: **November, 2023** **Silos:** 2,5,9

STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	SPECIFICATIONS	ASTM C595 Type IL	RESULTS
Sulfur Trioxide (SO ₃), % ^A	Maximum	3.0	3.4
Alkalies (Na ₂ O equivalent), %			0.78
Loss on Ignition (LOI), %	Maximum	10.0	5.4
CaCO ₃ in Limestone, %	Minimum	70	76
Limestone, %	Maximum	7.5 - 12.5	11.0
PHYSICAL REQUIREMENTS			
(ASTM C204) Blaine Fineness, m ² /kg			463
(ASTM C430) 45-um sieve, % retained			1.5
(ASTM C191) Time of Setting (Vicat)			
Initial Set, minutes	Range	45 - 420	115
Final Set, minutes			229
(ASTM C185) Air Content, %	Maximum	12	7
(ASTM C151) Autoclave Expansion, %	Min / Max	-0.20 / 0.80	0.13
(ASTM C1038) Expansion in Water, %	Maximum	0.02	0.005
(ASTM C452), Sulfate Resistance, %			0.03
(ASTM C187) Normal Consistency, %			26.6
(ASTM C188) Density (g/cm ³)			3.07
Heat of Hydration (ASTM C1702)			
3 day, cal/g	Most Recent Value		79.5
(ASTM C109) Compressive Strength, psi (Mpa)			
1 Day		-----	2820 (19.4)
3 Day	Minimum	1890 (13.0)	4481 (30.9)
7 Day	Minimum	2900 (20.0)	5353 (36.9)
28 Day	Minimum	3620 (25.0)	6539 (45.1)

^A Per ASTM C595 Table 1 footnote B

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