FAIRBORN CEMENT COMPANY

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CEMENT MILL TEST

Cement Identified as: **Type IL (12)** **Date: 01/05/22**

Production Period: **December, 2021** **Silos: 5**

STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	SPECIFICATIONS		ASTM C595 Type IL		RESULTS
Sulfur Trioxide (SO3), % [A]	Maximum		3.0		**3.1**
Loss on Ignition (LOI), %	Maximum		10.0		**6.5**
CaCO3 in Limestone, %	Minimum		70		**90**
Limestone, %	Maximum		9.5 - 14.5		**12.4**
PHYSICAL REQUIREMENTS					
(ASTM C204) Blaine Fineness, m^2/kg					**469**
(ASTM C430) 45-um sieve, % retained					**1.2**
(ASTM C191) Time of Setting (Vicat)					
Initial Set, minutes	Minimum		45		**125**
Final Set, minutes	Maximum		420		**240**
(ASTM C185) Air Content, %	Maximum		12		**7**
(ASTM C151) Autoclave Expansion, %	Min / Max		-0.20 / 0.80		**0.19**
(ASTM C1038) Expansion in Water, %	Maximum		0.02		**0.003**
(ASTM C187) Normal Consistency, %					**26.5**
(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			------		**2490 (17.2)**
3 Day	Minimum		1890 (13.0)		**4320 (29.8)**
7 Day	Minimum		2900 (20.0)		**4970 (34.3)**
28 Day	Minimum		3620 (25.0)		**5930 (40.9)**

[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: DG, JT
Chemical Testing completed by: TA, NC, KL, NM

Rusty Strader
Quality Control Manager
Fairborn Cement Company