



Kosmos Cement Company, LLC
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CEMENT MILL TEST REPORT

Source: Kosmos Cement Plant, Louisville, KY

Date of Report: 02/13/2023

Product Type: IL(10) Blended Portland-Limestone Cement

Production: January 2023

Standard Chemical Requirements (ASTM C114)	Specifications	ASTM C595 / AASHTO M-240		Test Results
		Type IL	Type IL(MS)	
Sulfur Trioxide (SO ₃), % **	Maximum	3.0	3.0	3.65 ^A
Loss on Ignition (LOI), % **	Maximum	10	10	4.10 ^B
Equivalent Alkali Content (Na ₂ O Eq), Reported %		----	----	0.58
Limestone %	Maximum	15	15	8.9
CaCO ₃ % in Limestone	Minimum	70	70	82

Standard Physical Requirements

(ASTM C204) Blaine Fineness, m ² /kg					426
(ASTM C430) Passing No. 325 Sieve, %			----	----	95.4
(ASTM C191) Time of Setting; Vicat test:					
Initial Set, minutes	Minimum	45			114
Final Set, minutes	Maximum	420			240
(ASTM C185) Air Content of Mortar, %	Maximum	12	12		7.2
(ASTM C151) Autoclave Expansion, %	Maximum	0.80	0.80		0.230
Contraction, %	Maximum	0.20	0.20		0.000
(ASTM C187) Normal Consistency, %		----	----		27.9
(ASTM C188) Density		----	----		3.06
(ASTM C1012) Sulfate Resistance, %					
Expansion at 180 days	Maximum	----	0.10 (MS)		
Expansion at 1 year ^B	Maximum	----	.010 (HS)		
(ASTM C1038) Mortar Bar Expansion, % ^D	Maximum	0.020			
(ASTM C109) Compressive Strength:					
3 Days	Minimum	13.0 (1890)	13.0 (1890)	28.6 (4146)	
7 Days	Minimum	20.0 (2900)	20.0 (2900)	37.0 (5370)	
28 Days	Minimum	25.0 (3620)	---- (3620)	43.1 (6255)	

^A Kosmos Type IL cement has successfully demonstrated by Test Method C1038 that cement with values exceeding the limits in ASTM C595, Table 1 for SO₃ content has not developed expansion exceeding 0.020% at 14 days. Supporting data is available upon request.

^B Testing at one year shall not be required when the cement meets the 180-day requirement for a cement designated as Type IL(HS). A cement failing the 180-day limit shall not be rejected unless it also fails the one-year limit.

^D Required only if the percent SO₃ exceeds the limit in Table 1.

Kosmos Cement Company, LLC hereby certifies that the above described cement meets the chemical and physical specifications of ASTM C595 and AASHTO M-240 for the type identified.

Kosmos Cement Company, LLC is not responsible for the improper use or workmanship that may be associated with the use of this cement.

Tom Kyser
 Quality Control Manager