



A CRH COMPANY

STRONG FOUNDATIONS. STRONG FUTURE.

Durkee Plant  
Mill Test Report

Mill Analysis No.: 22-27  
Bin No.: 2, 3, 4, Dome

Cement Type: I II  
Production Period: August 1 thru August 31, 2022

Date: 09-12-2022

STANDARD REQUIREMENTS  
ASTM C150

CHEMICAL			
Item	(C114)	Spec. Limit	Test Result
SiO2 (%)		A	21.6
Al2O3 (%)		6.0 max.	3.6
Fe2O3 (%)		6.0 max.	3.2
CaO (%)		A	64.1
MgO (%)		6.0 max.	1.6
SO3 (%)		3.0 max.	2.7
Loss On Ignition (%)		3.5 max.	2.4
Na2O (%)		A	0.21
K2O (%)		A	0.46
TiO2 (%)		A	0.27
P2O5 (%)		A	0.12
Mn2O3 (%)		A	0.07
Insoluble Residue (%)		1.5 max.	0.82
CO2 (%)		A	1.48
Limestone %		5.0 max.	4.4
CaCO3 in Limestone		70 min.	76
C3S + 4.75(C3A)		100 max.	78
Potential Compounds (%)		C	
C3S		A	59
C2S		A	16
C3A		8 max.	4
C4AF		A	9
C4AF+2(C3A)		A	17

Tested by A.M.

PHYSICAL			
Item		Spec. Limit	Test Result
Air Content of Mortar (volume %)			
C185		12 max.	5.0
Fineness (m <sup>2</sup> /kg)			
C204 (Air permeability)		260 min.	373
Autoclave Expansion (%)		0.80 max.	-0.01
C151			
Compressive Strength psi (Mpa)		Min.:	
C109	1 Day	A	1930 (13.3)
	3 Days		1740 (12.0) 3770 (26.0)
	7 Days		2760 (19.0) 4790 (33.0)
Time of Setting (minutes)			
C191 (Vicat)			
	Initial	Not less than 45	111
		Not more than 375	

Tested by S.B.

OPTIONAL REQUIREMENTS  
ASTM C150, (other)

CHEMICAL		
Item	Spec. Limit	Test Result
Equivalent Alkalies (%)	0.60 max.	0.51
Chloride (%)	B	0.006

A = not applicable  
B = Test results represents most recent value and is provided for informational purposes only.  
C = Adjusted per A 1.6.  
D = Test results represents the previous production period.

PHYSICAL			
Item		Spec. Limit	Test Result
Time of Set - Final (minutes) C191		B	200
False Set (%) C451		50 min.	87
Heat of Hydration cal/g (kj/kg)			
C1702	7 days	B	84 (351)
Compressive Strength psi (Mpa)			
C109	28 Days	4060 (28.0)	6320 (43.6) D
Sulfate Resistance (%)	C452	0.040	0.017 B
Water Expansion (%)	C1038	0.020	0.010
% retain on 45µm sieve		B	3.54

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirement of the ASTM C150-21 or AASHTO M-85 -12 Type I-II specification also will meet CSA A3000-18 Type GU, MS and HS.

Signature: *Christopher M. Patterson*

Title: Quality Control Manager



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