Continental Cement Company
10107 Highway 79
Hannibal, MO 63401

Mill Test Report

HANNIBAL PLANT
TYPE I / II CEMENT
MAY, 2016

STANDARD REQUIREMENTS

CHEMICAL

	Result	Specification
SiO2	19.6	
Al2O3	4.60	6.0 Max.
Fe2O3	3.06	6.0 Max.
CaO	62.2	
MgO	3.39	6.0 Max.
SO3	3.15	3.0 Max.
Loss On Ignition	2.77	3.5 Max.
Insoluble Residue	0.40	1.5 Max.
CO2 (%)	1.59	
Limestone (%)	3.7	5.0 Max.
CaCO3 in Limestone (%)	97.9	70 Min.
Potential Phase Composition (4):		
C3S	53	
C3A	7	8 Max.
C3S + 4.75(C3A)	86	100 Max.

Note (4): Adjusted as per A1.6

PHYSICAL

	Result	Specification
Blaine Fineness	3762	2600 - 4300 (1)
Autoclave Exp., %	0.07	0.80 Max.
Time of Setting, Minutes		
Initial Vicat	107	45 Min.
Final Vicat	208	375 Max.
Air Content, %	9	12 Max.
Compressive Strength, psi		
1 Day	1978	
3 Day	3515	1740 Min.
7 Day	4462	2760 Min.
28 Day	6041	
C 1038 Mortar Bar Expansion, %	0.015	0.020 (3)

Note (1): Maximum Blaine limit does not apply if C3S + 4.75(C3A) ≤ 90.
Note (3): Required only if %SO3 > 3.0%. The data provided represents the most recent result.

OPTIONAL REQUIREMENTS

CHEMICAL

Equivalent Alkalies	0.48	0.60 Max.

PHYSICAL

False Set	90	50 Min.
Heat of Hydration, kJ/kg		
7-Day	330 (2)	
Finesness, %Passing 325 Mesh	97.6	

Note (2): Test result represents the most recent value and is reported for information only.

This cement complies with ASTM C 150 and AASHTO M 85 specifications.
This cement meets the standard requirements of the ASTM C150/C150M - 16 Type II(MH) specification.
This cement meets the standard requirements of the AASHTO M 85 - 16 Type II(MH) specification.

Date: 07/13/16

By: Chris Leonard
Chris Leonard
Quality Control Manager

ADDITIONAL DATA

	Limestone	Base Cement Phase Composition	
Amount, %	3.7		
SiO_2	1.81	C_3S	55
Al_2O_3	0.44	C_2S	16
Fe_2O_3	0.47	C_3A	7
CaO	51.08	C_4AF	10
SO_3	0.35		
CO_2	43.04		