



Central Plains Cement Company

Cement Mill Test Report

Month of Issue: May-18

Plant: Sugar Creek Plant
 Product: Portland Cement Type I-II (MH)
 Shipped: Apr-18
 Manufactured: Apr-18

The current version of ASTM C 150 and AASHTO M 85 Standard Requirements

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec limit	Test Result	Item	Spec limit	Test Result
Rapid Method, X-Ray (C 114)			Air content of mortar (%) (C 185)		
SiO ₂ (%)	---	20.5		12 max	8
Al ₂ O ₃ (%)	6.0 max	4.7	Blaine Fineness (m ² /kg) (C 204)		
Fe ₂ O ₃ (%)	6.0 max	3.1		260 - 430	358
CaO (%)	---	63.9	-325 (%) (C 430)		
MgO (%)	6.0 max	1.1		---	96.0
SO ₃ (%)	3.0 max *	3.0	Autoclave expansion (%) (C 151)		
Loss on ignition (%)	3.5 max	2.6		0.80 max	-0.01
Insoluble residue (%)	1.5 max	0.70	Compressive strength (PSI) (C 109)		
CO ₂ (%)	---	1.8			
Limestone (%)	5.0 max	4.3	3 days	1740 min	3770
CaCO ₃ in Limestone (%)	70 min	92	7 days	2760 min	5130
Adjusted Potential Phase Composition (C 150)			28 days (Reflects previous month's data)	---	6700
C ₃ S (%)	---	53	Time of setting (minutes)		
C ₂ S (%)	---	19	Vicat Initial (C 191)		
C ₃ A (%)	8 max	7		45 - 375	100
C ₄ AF (%)	---	9	Mortar Bar Expansion (%) (C 1038)*		
C ₃ S+4.75*C ₃ A (%)	100 max	87		0.020 max	0.005
Heat of hydration, 3 Day (C1702) Cal/g				---	3.15
	---	71.2	Specific Gravity (C188)		
ASTM C 150-16 and AASHTO M 85-16 Optional Chemical Requirements:					
NaEq (%)	0.60 max	0.53			

* May exceed 3.0% SO₃ maximum based on our C 1038 results of <0.02% expansion at 14 days.

We certify that the above described cement meets the chemical and physical requirements of Type I and Type II (MH) for the current version of ASTM C 150 & AASHTO M 85 STANDARD.

Sugar Creek Plant
 2200 N Courtney Rd.
 Sugar Creek, MO 64050
 816-257-3608

Certified By:

Paul Engel - Quality Coordinator

5/8/2018



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Base Cement Phase Composition

<u>Item</u>	<u>Test Result</u>
C3S (%)	55
C2S (%)	20
C3A (%)	8
C4AF (%)	10

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