



Central Plains Cement Company

Cement Mill Test Report

Month of Issue: January-18

Plant: Sugar Creek Plant
 Product: Portland Cement Type I-II (MH)
 Shipped: Dec-17
 Manufactured: Dec-17

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

CHEMICAL ANALYSIS

Item	Spec limit	Test Result
Rapid Method, X-Ray (C 114)		
SiO2 (%)	---	20.3
Al2O3 (%)	6.0 max	4.7
Fe2O3 (%)	6.0 max	3.1
CaO (%)	---	64.0
MgO (%)	6.0 max	1.2
SO3 (%)	3.0 max *	3.0
Loss on ignition (%)	3.5 max	2.6
Insoluble residue (%)	1.5 max	0.41
CO2 (%)	---	1.7
Limestone (%)	5.0 max	4.3
CaCO3 in Limestone (%)	70 min	93
Adjusted Potential Phase Composition (C 150)		
C3S (%)	---	54
C2S (%)	---	18
C3A (%)	8 max	7
C4AF (%)	---	9
C3S+4.75*C3A (%)	100 max	89

PHYSICAL ANALYSIS

Item	Spec limit	Test Result
Air content of mortar (%) (C 185)	12 max	8
Blaine Fineness (m2/kg) (C 204)	260 - 430	355
-325 (%) (C 430)	---	95.9
Autoclave expansion (%) (C 151)	0.80 max	-0.01
Compressive strength (PSI) (C 109)		
3 days	1740 min	3790
7 days	2760 min	5060
28 days (Reflects previous month's data)	---	6730
Time of setting (minutes)		
Vicat Initial (C 191)	45 - 375	100
Mortar Bar Expansion (%) (C 1038)*	0.020 max	0.004
Heat of hydration, 3 Day (C1702) Cal/g	---	71.7

ASTM C 150-16 and AASHTO M 85-16 Optional Chemical Requirements:

NaEq (%)	0.60 max	0.55
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* 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

1/10/2018



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Base Cement Phase Composition

<u>Item</u>	<u>Test Result</u>
C3S (%)	57
C2S (%)	19
C3A (%)	8
C4AF (%)	10

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