



# Central Plains Cement Company

## Cement Mill Test Report

Month of Issue: **September-18**

Plant: **Sugar Creek Plant**  
 Product: **Portland Cement Type I-II (MH)**  
 Shipped: **Aug-18**  
 Manufactured: **Aug-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
<b>Rapid Method, X-Ray (C 114)</b>			<b>Air content of mortar (%) (C 185)</b>		
SiO2 (%)	---	20.5		12 max	8
Al2O3 (%)	6.0 max	4.8	<b>Blaine Fineness (m2/kg) (C 204)</b>		
Fe2O3 (%)	6.0 max	3.1		260 - 430	358
CaO (%)	---	64.2	<b>-325 (%) (C 430)</b>		
MgO (%)	6.0 max	1.1		---	95.9
SO3 (%)	3.0 max *	3.1	<b>Autoclave expansion (%) (C 151)</b>		
Loss on ignition (%)	3.5 max	2.4		0.80 max	0.01
Insoluble residue (%)	1.5 max	0.42	<b>Compressive strength (PSI) (C 109)</b>		
CO2 (%)	---	1.5			
Limestone (%)	5.0 max	3.8	3 days	1740 min	3670
CaCO3 in Limestone (%)	70 min	91	7 days	2760 min	4960
<b>Adjusted Potential Phase Composition (C 150)</b>			28 days (Reflects previous month's data)	---	6940
C3S (%)	---	54	<b>Time of setting (minutes)</b>		
C2S (%)	---	18	<b>Vicat Initial (C 191)</b>		
C3A (%)	8 max	7		45 - 375	98
C4AF (%)	---	10	<b>Mortar Bar Expansion (%) (C 1038)*</b>		
C3S+4.75*C3A (%)	100 max	89		0.020 max	0.004
<b>Heat of hydration, 3 Day (C1702) Cal/g</b>				---	3.15
	---	68.9	<b>Specific Gravity (C188)</b>		
<b>ASTM C 150-16 and AASHTO M 85-16 Optional Chemical Requirements:</b>					
NaEq (%)	0.60 max	0.52			

\* 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

9/14/2018



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### Base Cement Phase Composition

<u>Item</u>	<u>Test Result</u>
C3S (%)	56
C2S (%)	19
C3A (%)	8
C4AF (%)	10

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