Central Plains Cement Company

Type IS (38) Mill Test Report

Month of Issue: Mar-19

Plant:	**Sugar Creek Plant**
Product:	**Type IS (38)**
Manufactured:	**Oct-18**

The current version of ASTM C 595 and AASHTO M 240 Standard Requirements

CHEMICAL ANALYSIS

Item	Spec limit	Test Result
Rapid Method, X-Ray *(C 114)*		
SiO2 (%)	---	27.6
Al2O3 (%)	---	6.0
Fe2O3 (%)	---	2.0
CaO (%)	---	54.3
MgO (%)	6.0 max	4.8
Sulfur as SO3 (%)	3.0 max*	2.9
Sulfur as Sulfide (%)	2.0 max	0.38
Loss on ignition (%)**	3.0 max	2.2
Insoluble residue (%)	1.0 max	0.12
Total Alkalis	---	0.53

PHYSICAL ANALYSIS

Item	Spec limit	Test Result
Air content of mortar (%) *(C 185)*	12 max	9
Blaine Fineness (m2/kg) *(C 204)*	---	441
Fineness, Residue retained on a 45 um sieve (%)	---	2.5
Autoclave expansion (%) *(C 151)*	0.80 max -0.20 min	0.02
Compressive strength (PSI) *(C 109)*		
1 days		1350
3 days	1890 min	2680
7 days	2900 min	4130
28 days	3620 min	6840
Time of setting (minutes)		
Vicat Initial (C191)	45 - 420	140
Mortar Bar Expansion (%) *(C 1038)**	.02 max	0.007

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

** Corrected for loss in S^{-2} at 950 °C for 15 min.

We certify that the above described cement meets the chemical and physical requirements of the current version of ASTM C 595 and AASHTO M 240.

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Certified By:

Paul Engel

Paul Engel - Quality Coordinator

3/15/2019