



F20250624-Silo #1-CIP

CERTIFICATE NUMBER

June 24, 2025

DATE

Laboratory Test Certification

Class F Coal Ash*

Source: Qinhuangdao, China

Chemical Analysis: (QUAL-XRF) - %

ASTM C 618-25* Limits Class F

Silicon Oxide (SiO ₂)	41.56	
Aluminum Oxide (Al ₂ O ₃)	43.40	
Iron Oxide (Fe ₂ O ₃)	3.52	
Sum (SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃)	88.48	50 Min.
Calcium Oxide (CaO)	5.83	18 Max
Magnesium Oxide (MgO)	0.75	
Sulfur Trioxide (SO ₃)	0.98	5.0 Max.
Sodium Oxide (Na ₂ O)	0.44	
Potassium Oxide (K ₂ O)	1.07	
NaEq (Na ₂ O + 0.658 K ₂ O)	1.17	
Moisture Content	0.001	3.0 Max.
Loss on Ignition (LOI)	1.01	6.0 Max.

Physical Analysis:

Specific Gravity	2.22	CTL#3923002
Variation, % from Average	0.45	5% Max
Fineness - Retained on No. 325, %	8.8	34% Max
Variation, Points from Average	0.75	5 Max
Water Requirement, % of Control	102.5	105% Max
Strength Activity Index :		
% of Control at 7 Days	85 %	75% Min.
% of Control at 28 Days	90 %	75% Min.

We certify that the above described composite sample of Coal Ash*, complies with the standard chemical and physical requirements of ASTM C618-25*, Class F.

Cement Division

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