



F20260322-Silo #6-CIP

CERTIFICATE NUMBER

March 22, 2026

DATE

Laboratory Test Certification

Class F Coal Ash*

Source: Qinhuangdao, China

Chemical Analysis: (QUAL-XRF) - %

ASTM C 618-25a* Limits Class F

Silicon Oxide (SiO ₂)	46.49	
Aluminum Oxide (Al ₂ O ₃)	36.26	
Iron Oxide (Fe ₂ O ₃)	3.42	
Sum (SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃)	89.16	50 Min.
Calcium Oxide (CaO)	4.65	18 Max
Magnesium Oxide (MgO)	0.92	
Sulfur Trioxide (SO ₃)	1.11	5.0 Max.
Sodium Oxide (Na ₂ O)	0.55	
Potassium Oxide (K ₂ O)	1.25	
NaEq (Na ₂ O + 0.658 K ₂ O)	1.41	
Moisture Content	0.04	3.0 Max.
Loss on Ignition (LOI)	1.5	6.0 Max.

Physical Analysis:

Specific Gravity	2.22	CTL#3923002
Variation, % from Average	0.45	5% Max
Fineness - Retained on No. 325, %	6.2	34% Max
Variation, Points from Average	1.13	5 Max
Water Requirement, % of Control	103.3	105% Max
Strength Activity Index : **		
% of Control at 7 Days	96 %	75% Min.
% of Control at 28 Days	89 %	75% Min.

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

Cement Division

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