

ASTM C618-25a - Chemical and Physical Analyses - Coal Ash/Pozzolans

CTL Ticket: 26110	Plant of Origin: Ogden Terminal	Sample Date Range: 05/01/2026
CTL Project: CT17328	Sample Type: Fly Ash	to:
Report Date: 07/28/2026	Sample ID: Ogden Terminal	Date Received: 06/02/2026
	Supplier: Bridgesource	

Chemical Composition (%) (by Wyoming Analytical Laboratories, Inc.)		ASTM C618-25a		
		Class N	Class F	Class C
Silicon Dioxide:	60.6			
Aluminum Oxide:	16.5			
Iron Oxide:	5.9			
Total Silica, Aluminum, Iron:	83.0	≥70.0%	≥50.0%	≥50.0
Sulfur Trioxide:	1.2	≤4.0%	≤5.0%	≤5.0%
Calcium Oxide:	7.4	N/A	≤18.0%	>18.0%
Magnesium Oxide:	2.60	N/A	N/A	N/A
Total Alkalis, as Na ₂ O:	3.41			
Sodium:	2.50			
Potassium:	1.39			
		Product Class:	Class F	
		Conforms to Class:	Yes	

Volatile Composition (Mass%)				
Moisture Content:	0.1	≤3.0%	≤3.0%	≤3.0%
Loss on Ignition:	0.4	≤10.0%	≤6.0%	≤6.0%

Physical Test Results				
Fineness, Retained on #325 Sieve (%):	20.9	≤34%	≤34%	≤34%
Fineness, Retained on #100 Sieve (%)*:			≤10%	≤10%
*(Harvested ash bottom ash blends only)				
Strength Activity Index (%) *		* No 7-day limit if 28-day meets		
Percent of Control @ 7 Days:	76	≥75%	≥75%	≥75%
Percent of Control @ 28 Days:	94	≥75%	≥75%	≥75%
Water Requirement, % of Control:	96	≤115%	≤105%	≤105%
Soundness, Autoclave Expansion (%):	-0.02	≤0.8%	≤0.8%	≤0.8%
Density (g/cm ³) :	2.43	N/A	N/A	N/A

Uniformity Established from 10 previous tests				
Average Fineness:	22.6	Difference 1.8(%)	±5(%)	±5(%)
Average Density:	2.41	Difference 0.83%	±5%	±5%

Supplementary Requirements				
Available Alkalis, as Na ₂ O	1.81%			
Sodium Oxide:	1.39%	Drying Shrinkage %: 0.00	≤0.03	≤0.03
Potassium Oxide:	0.64%			

Comments: Meets ASTM C618-25 and AASHTO M295-25.

CTL | Thompson, Inc.

Zachariah J. Ballard, MCE, P.E.



June 18, 2026

Dennis Jonsrud
CTL Thompson, Materials Engineers, Inc.
22 Lipan St.
Denver, CO 80223

Request #: **46261**

Date Received: 6/9/2026

WAL Sample #: **U4703**

Sample Matrix: fly ash

Customer Sample ID: Bridgesource- Ogden May CT 17328.000 May 2026 CTL 26110

PO#: CT 17328.000

Project#: CT17328.000

CHEMICAL ANALYSIS

WT%, DRY BASIS

Silicon Dioxide, SiO ₂	60.59
Aluminum Oxide, Al ₂ O ₃	16.46
Iron Oxide, Fe ₂ O ₃	5.90
Total (SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃)	82.94
Calcium Oxide, CaO	7.36
Magnesium Oxide, MgO	2.60
Sodium Oxide, Na ₂ O	2.50
Potassium Oxide, K ₂ O	1.39
Total Alkalies as Na ₂ O	3.42
Titanium Dioxide, TiO ₂	0.78
Manganese Dioxide, MnO ₂	0.08
Phosphorus Pentoxide, P ₂ O ₅	0.17
Strontium Oxide, SrO	0.16
Barium Oxide, BaO	0.44
Sulfur Trioxide, SO ₃	1.20
Loss on Ignition (750°C)	0.38
Total	100.00
Moisture (105°C), as Received	0.08

Analysis per ASTM C 311/XRF
Analyst NHG/ 6/10/2026 16:50



Charles R. Wilson
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