



Cement

FLY ASH TEST REPORT

Analysis by: Edmonton Mortar Lab
Sample from : Sundance Power Plant
Average Analysis: December 2020
Test Report Number 1-21 Class F

Chemical Analysis

	Results	Limits
Silicon Dioxide (SiO ₂)	56.2 %	
Aluminum Oxide (Al ₂ O ₃)	22.1 %	
Iron Oxide (Fe ₂ O ₃)	4.2 %	
Total (SiO ₂) + (Al ₂ O ₃) + (Fe ₂ O ₃)	82.5 %	50% Min - ASTM
Sulphur Trioxide (SO ₃)	0.3 %	5% Max - ASTM
Calcium Oxide (CaO)	9.8 %	18% Max - ASTM
Magnesium Oxide	1.2 %	
Moisture Content	0.10 %	3% Max - ASTM
Loss on Ignition	1.01 %	6% Max - ASTM
Available Alkali as Equiv. Na ₂ O (<i>previous month's result</i>)	0.46 %	

Physical Analysis

Fineness Retained on 45 um (No. 325 Sieve)	23.1 %	34% Max - ASTM
Strength Activity Index with Portland Cement		
% of Control at 7 Days	82 %	75% Min - ASTM
% of Control at 28 Days (<i>previous month's result</i>)	93 %	75% Min - ASTM
Water Requirement, Percent of Control	93 %	105% Max- ASTM
Autoclave Expansion	0.00 %	0.8% Max - ASTM
Density	2.09 Mg/m³	

Uniformity Requirements

Density, Variation from Average	0.50 %	5% Max - ASTM
Fineness 45um Sieve, Variation from Average	3.20 %	5% Max - ASTM

We hereby certify that the composite fly ash sample above meets the chemical and physical requirements of ASTM C618 and AASHTO M295 for class F fly ash.

Certified : Robert S. Shegner

WESTERN REGION

5400 West Marginal Way SW, Seattle, Washington 98106-1517
Office: 206.923.0098 or 800.477.0100 Fax: 206.923.0388