Al_2O_3 Tabular Aluminas

General Characteristics

Chemical Formula	Al_2O_3
Bulk Specific Gravity	3.55
Apparent Porosity	4.0%
Water Absorption	1.0%
Melting Temperature	2040°C
Refractive Index	
Mohs' Hardness	1.76
Appearance	9

White Crystalline Granules or Powder
AluChem AC-99 Tabular Aluminas are high-density, fully shrunk, coarse crystalline alpha aluminas that have been converted to the corundum form. Tabular Alumina is produced by sintering ball-formed calcined alumina at a temperature just under the 2040°C fusion point of aluminum oxide. These Tabular Alumina balls are then crushed, graded or screened, and ground to a wide range of granular or powdered particle size distributions. The typical chemical and physical properties which characterize AluChem's AC-99 Tabular Aluminas are presented in this product data. Some of these properties are highlighted by the following:

- Chemical purity - 99.5% Al_2O_3
- Chemical inertness - resistant to most alkalis and mineral acids
- High density - true density of 3.96 with a bulk specific gravity of 3.55 and an apparent porosity of 4.0%
- Low water absorption - 1.0%
- Extreme hardness - 9 on the Mohs' scale and a Knoop hardness of 2,000
- High thermal conductivity - @ 100°C 0.069 cal/sec cm °C
- Good resistance to thermal and mechanical shock
- High heat capacity - specific heat @ 20°C 0.21 cal/gm/°C
- High electrical resistivity
- Excellent abrasion resistance

Typical Chemical Composition

Properties	AC-99
Al_2O_3, %	99.5
SiO_2, %	0.04
Fe_2O_3, %	0.06
Na_2O, %	0.20
L.O.I. (300-1200°C), %	0.00
Alpha Phase	99+

Tyler Sieve Specifications for Standard Products

Screened Convertor Discharge Balls	Size
	-3/4 Inch +1/2 Inch

Crushed Sizes	Sieve Analysis
	5% Max. On
Minus 1/4 Inch	1/4 Inch
Minus 6 Mesh	6 Mesh
Minus 8 Mesh	8 Mesh
Minus 14 Mesh	14 Mesh
Minus 28 Mesh	28 Mesh

Graded Sizes	Sieve Analysis	
	2% Max. On	5% Max. Through
1/4 Inch to 8 Mesh	1/4 Inch	10 Mesh
3 Mesh to 6 Mesh	3 Mesh	8 Mesh
6 Mesh to 14 Mesh	6 Mesh	20 Mesh
8 Mesh to 14 Mesh	8 Mesh	20 Mesh
14 Mesh to 28 Mesh	14 Mesh	35 Mesh
28 Mesh to 48 Mesh	28 Mesh	65 Mesh

Ground Sizes	Sieve Analysis
	5% Max. On
Minus 48 Mesh	48 Mesh
Minus 60 Mesh	60 Mesh
Minus 100 Mesh	100 Mesh
Minus 325 Mesh	325 Mesh
Minus 325 Mesh - Low Iron	325 Mesh