



# GNP Graystar

Specialty Materials



## TECHNICAL DATA SHEET

### Calcined Alumina (Fine/Super Ground)

#### Chemistry & Typical Properties

	M-1FG	M-1SG		
% Al <sub>2</sub> O <sub>3</sub>	min. 99.3	min. 99.3		
% Na <sub>2</sub> O	max. 0.40	max. 0.40		
% Fe <sub>2</sub> O <sub>3</sub>	max. 0.05	max. 0.05		
% SiO <sub>2</sub>	max. 0.05	max. 0.05		
SSA/BET (m <sup>2</sup> /g)	0.6-1.0; max. 1.5	0.6-1.0; max. 1.5		
Bulk Density (kg/m <sup>3</sup> )	800	800		
Alpha-Alumina (%)	min. 98	min. 98		
Loss on Ignition (%)	max. 0.3	max. 0.3		
Primary Crystal Size (µm)	2.5-4.0	1.3-3.0		
Avg. Particle Size (µm)	4-6; max. 7	2.5-3.5; max. 4		
+45 µm Sieve (%)	max. 3	max. 3		
	S15SG	LS15SG	VLS15SG	
% Al <sub>2</sub> O <sub>3</sub>	min. 99.3	min. 99.5	min. 99.7	
% Na <sub>2</sub> O	max. 0.30	max. 0.10	max. 0.05	
% Fe <sub>2</sub> O <sub>3</sub>	max. 0.07	max. 0.07	max. 0.07	
% SiO <sub>2</sub>	max. 0.05	max. 0.05	max. 0.05	
% CaO	max. 0.05	max. 0.05	max. 0.05	
SSA/BET (m <sup>2</sup> /g)	5 - 11	5 - 11	5 - 11	
Bulk Density (kg/m <sup>3</sup> )	800	800	800	
Alpha-Alumina (%)	70	70	70	
Primary Crystal Size (µm)	1.0-1.5	1.0-1.5	1.0-4.5	
Avg. Particle Size (µm)	2 - 4	2 - 4	2 - 4	
+45 µm Sieve (%)	0 - 5	0 - 5	0 - 5	
	M-S1FG	M-S1SG	M-MS1FG	M-MS1SG
% Al <sub>2</sub> O <sub>3</sub>	min. 99.5	min. 99.5	min. 99.5	min. 99.5
% Na <sub>2</sub> O	max. 0.30	max. 0.30	max. 0.20	max. 0.20
% Fe <sub>2</sub> O <sub>3</sub>	max. 0.05	max. 0.05	max. 0.05	max. 0.05
% SiO <sub>2</sub>	max. 0.05	max. 0.05	max. 0.05	max. 0.05
Loss on Ignition (%)	max. 0.30	max. 0.30	max. 0.30	max. 0.30
SSA/BET (m <sup>2</sup> /g)	0.6-1.0; max. 1.5	0.6-1.0; max. 1.5	0.6-1.0; max. 1.5	0.6-1.0; max. 1.5
Bulk Density (kg/m <sup>3</sup> )	800	800	800	800
Alpha-Alumina (%)	98	98	98	98
Primary Crystal Size (µm)	1.3-3.0	1.3-3.0	1.3-3.0	1.3-3.0
Avg. Particle Size (µm)	4-6; max. 7	2.5-3.5; max. 4	4-6; max. 7	2.5-3.5; max. 4

#### Description:

GNP Graystar's Precision Calcined Alumina is aluminum oxide that has been heated at temperatures in excess of 1,050°C (1,922°F) to drive off nearly all chemically combined water. In this form, alumina has great chemical purity, extreme hardness (9 on the Mohs hardness scale, on which diamond is 10), high density, and a high melting point (slightly above 2,000°C [3,632°F]).

#### Applications:

GNP Graystar's Calcined Alumina is used in refractory applications as well as ceramic applications including spark plugs, tap washers, pump seal, electronic substrates, grinding media, abrasion resistant tiles, cutting tools, bioceramics, body armor, laboratory ware, and wear parts for the textile and paper industries.

It is also used as a friction material in brake linings, in potting compounds to disperse heat, and in polishing, lap-ping, and buffing compounds.

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