

DIAMOCOR LINE OF HIGH-PURITY ALUMINA POWDERS

APPLICATIONS

Abrasives/Polishing
 Refractories, Alumina ceramics
 Thermal spray coatings
 Dispersions, Fillers

TYPICAL PROPERTIES OF DIAMOCOR ALUMINA POWDERS*

Available Sizes	3, 6, 10, 25, 40 micron	100 nm - 250 nm
Morphology	Well defined equiaxed grains (single crystals) with sharp edges and corners and narrow size distributions	Well defined equiaxed round grains with narrow size distributions
Crystal form	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃
Chemical purity (%)	>99.98	99.9
Impurities		
Si	<0.001%	0.003-0.018%
Na	0.002-0.012%	0.050-0.055%
Fe	0.004-0.005%	0.008-0.011%
Cu	<0.001%	<0.001%
Mg	<0.001%	<0.001%
Ti	<0.001%	<0.001%
Available form of powder	Ground, unground	Ground, unground, aqueous dispersion

*Powders with other sizes, purity levels, and dopants may be available upon request.

Hydrothermally synthesized DiamoCor aluminas exhibit combination of high phase and chemical purity with unique morphology, which make them powders of choice for a variety of demanding applications. Right photo reveals typical morphology of the α -Al₂O₃ powders, which consist of very well defined equiaxed grains with sharp edges and narrow size distributions (as shown is powder with D₅₀=10 micron). **Each grain is a single crystal of the α -Al₂O₃ phase.** Industrial tests revealed that the DiamoCor corundum powders are very aggressive and long-lasting abrasive materials, with significantly improved materials removal rate and crushing strength. Submicron DiamoCor α -Al₂O₃ powders (left photo) consist of well-defined equiaxed round crystals with narrow size distributions and can easily be dispersed to form stable slurries.

