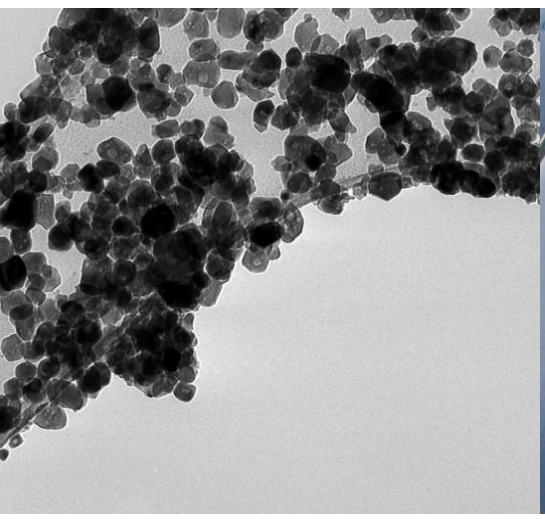
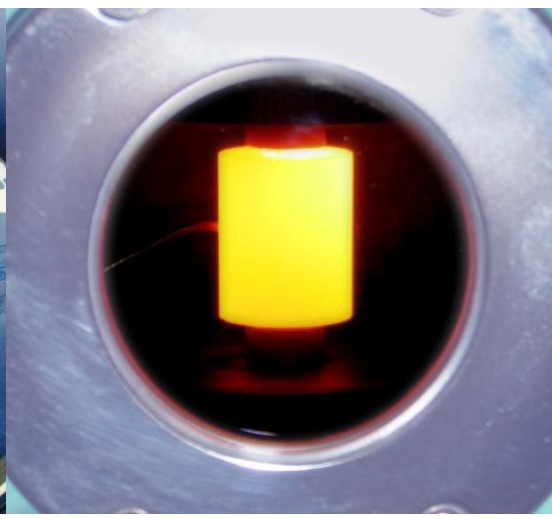
NANOe

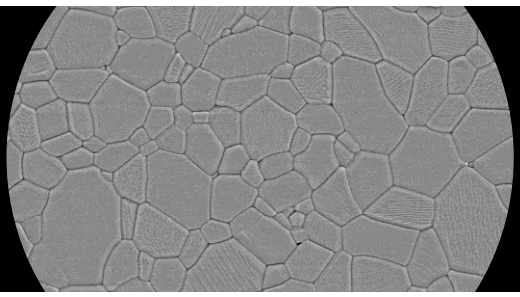
Ready-to-sinter Nanopowders for Industrial Use





Alumina datasheet

Al_2O_3 ZrO_2 ZTA



Alumina
Al_2O_3 nanopowders

Our Offer

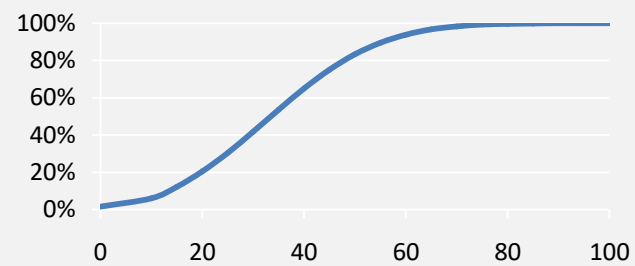
We offer two main types of alumina nanopowders: one with binding system (Al100-BA), one without (Al100). The powders are available in spray-dried granulates or in slurries. Customized alumina nanopowders are available on demand, such as ultrapure alumina (99.99%), gamma alumina (5nm).

Key Benefits

- Higher toughness
- Better wear resistance
- Extremely high hardness
- Higher breackdown electrical field
- Increased thermal shock resistance
- Less rugosity

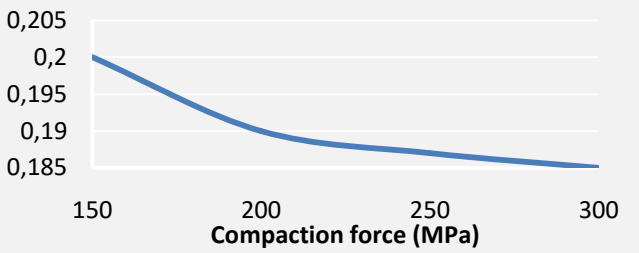
General Characteristics		Al100-BA / Al100
Loss on ignition	wt%	3 / 1
Average cristallite size	nm	150
Free density	g/cm^3	1.1
Minimum purity	%	99.9
Alpha phase	%	100
Specific surface area	m^2/g	15 ± 2
Granulates size (d50)	µm	35

Granule size (µm)



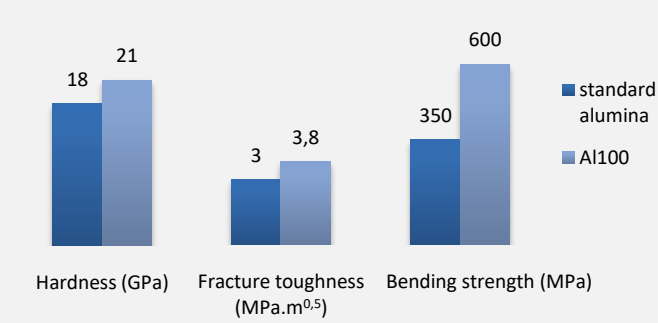
Purity		Al100
Al_2O_3 + MgO	wt%	> 99.9
MgO	ppm	1000
Na_2O	ppm	< 80
SiO_2	ppm	< 40
Fe_2O_3	ppm	< 20
K_2O, CaO	ppm	< 10

Linear shrinkage



Sintering		Al100
Compaction force	MPa	> 200
Sintering temperature	°C	1550
Sintered density	g/cm^3	> 3,96
Intercept grain size	µm	2
Elasticity modulus	GPa	390
Hardness (Hv10)	GPa	21
Fracture toughness (K_{I0})	MPa.m^{0,5}	3.84
Bending strength	MPa	500 - 600

Mechanical properties



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