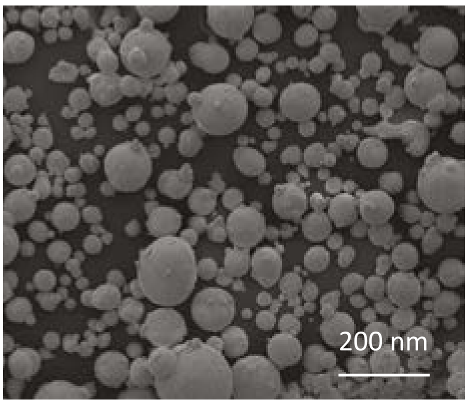
PBA6-WL | BAIKALOX®
Ready-To-Press Alumina Powder

Characteristics

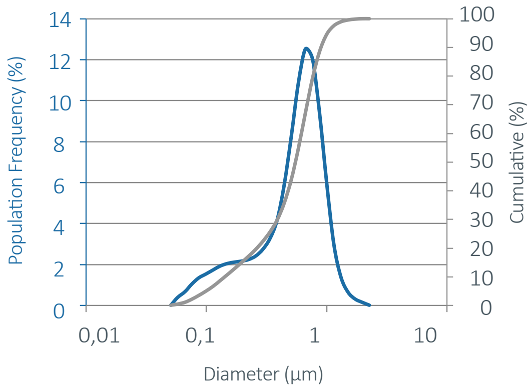
> PBA6-WL is an unique spray-dried 3N RTP alumina powder delivering 4N like reproducible performance through controlled shrinkage, high reactivity, optimum densification, and fine microstructure.

Standard spray-dried powder (Typical values)		PBA6-WL
Crystalline phase (%)		100% α
Moisture (%) *Thermobalance (150°C/20min)*		0.15
Ignition loss (%) *1150°C/1h*		3.6
Specific Surface Area (m²/g) *BET*		4
Chemical Impurities (ppm) *ICP*	Na	≤ 40
	Si	≤ 15
	Fe	≤ 75
	Si	≤ 15
	Ca	≤ 40
	K	≤ 10
Sintering aid (ppm) *ICP*	MgO	500

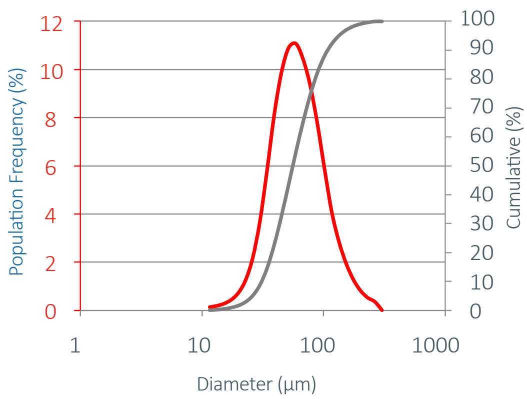


> Particle size distribution.

PSD (µm) *Wet Laser diffraction*		
	d_{10}	0.18
	d_{50}	0.66
	d_{90}	1.10

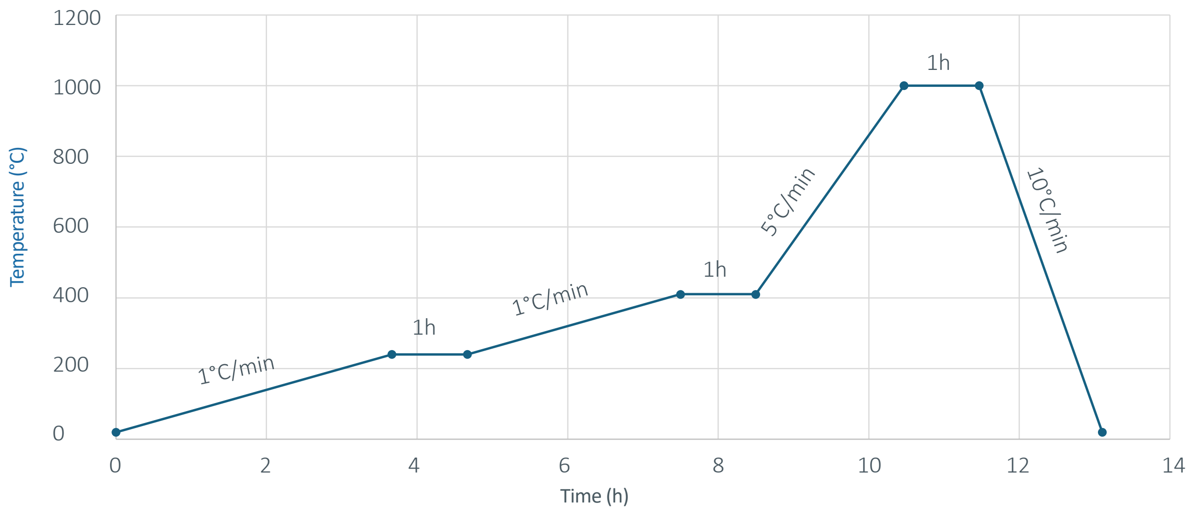


PSD (µm) *Dry Laser diffraction*		
	d_{10}	30
	d_{50}	55
	d_{90}	104



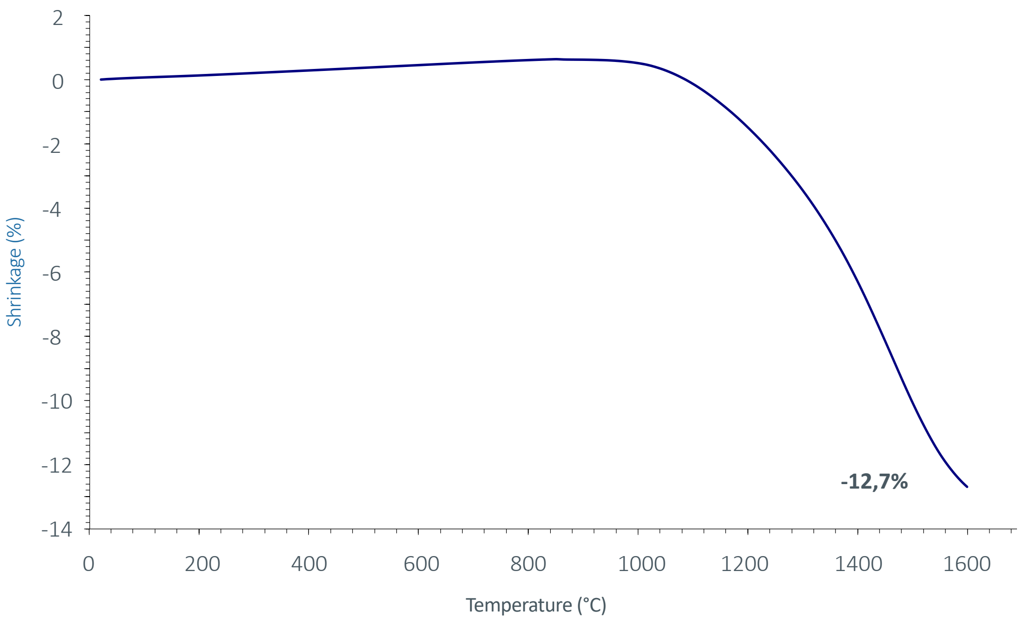
Processing guidelines

> Debinding & consolidation.



> Linear shrinkage vs. temperature (Heating: 20-850 °C at 15 °C/min ; 850-1600 °C at 5 °C/min).

Baikowski® can **customize** the physico**chemical powder properties** to meet your process and application. Contact us.



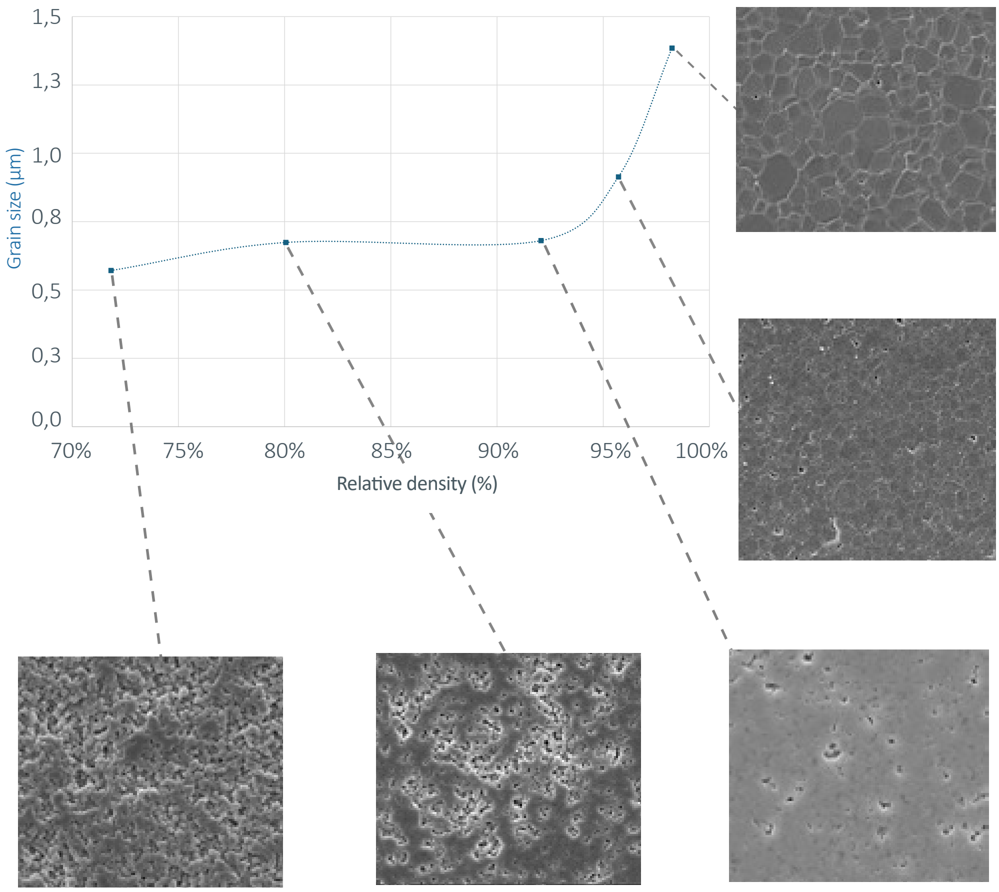
Ceramic properties

(Typical values)	
Bulk density (g/cm³)	1.20
Green Density (g/cm³) (Uniaxial pressing at 150 MPa)	2.51
Fired Density (g/cm³) *(Sintered at 1550°C for 1 hour)*	3.94

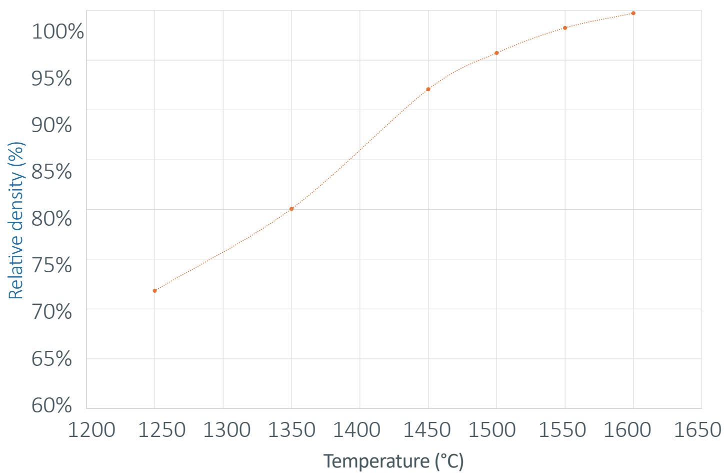
	(Typical values)	
Mechanical data *(Measured on the product fired at 1550°C/1h)*	Vickers Hardness *HV10*	2160
	Flexural Strength (MPa) *Four point flexural test*	372
	Fracture toughness (MPa.m$^{1/2}$) *SEVNB*	4.60

> Sintering map, grain size vs. relative density.

Almost no grain growth is observed during densification up to 92% relative density. Thanks to MgO doping, controlled grain growth is maintained during the final stage of sintering.



> Sintering map, relative density vs. temperature.



Explore our high purity alumina portfolio

Baikowski®

Your solution partner for fine minerals

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