

PBA6-WL | BAIKALOX®

READY-TO-PRESS ALUMINA POWDER

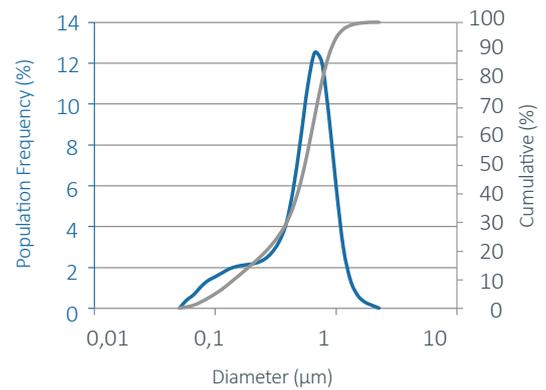
Characteristics

> 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.

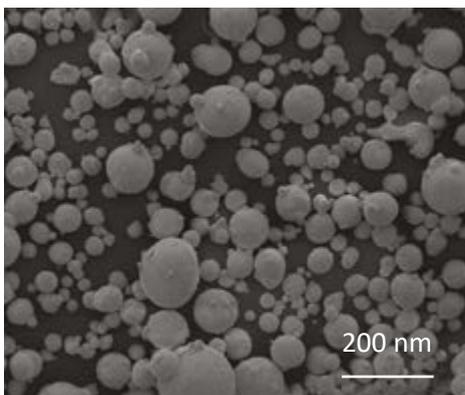
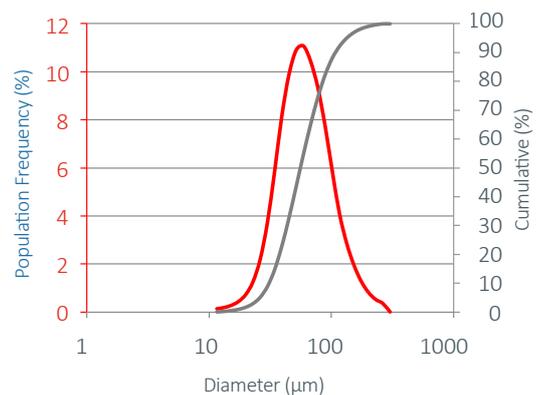
Standard spray-dried powder (Typical values)	PBA6-WL	
Crystalline phase (%)	100% α	
Moisture (%) <i>Thermobalance (150°C/20min)</i>	0.15	
Ignition loss (%) <i>1150°C/1h</i>	3.6	
Specific Surface Area (m ² /g) <i>BET</i>	4	
Chemical Impurities (ppm) <i>ICP</i>	Na	≤ 40
	Si	≤ 15
	Fe	≤ 75
	Si	≤ 15
	Ca	≤ 40
Sintering aid (ppm) <i>ICP</i>	K	≤ 10
	MgO	500

> Particle size distribution.

PSD (μm) <i>Wet Laser diffraction</i>	
d ₁₀	0.18
d ₅₀	0.66
d ₉₀	1.10

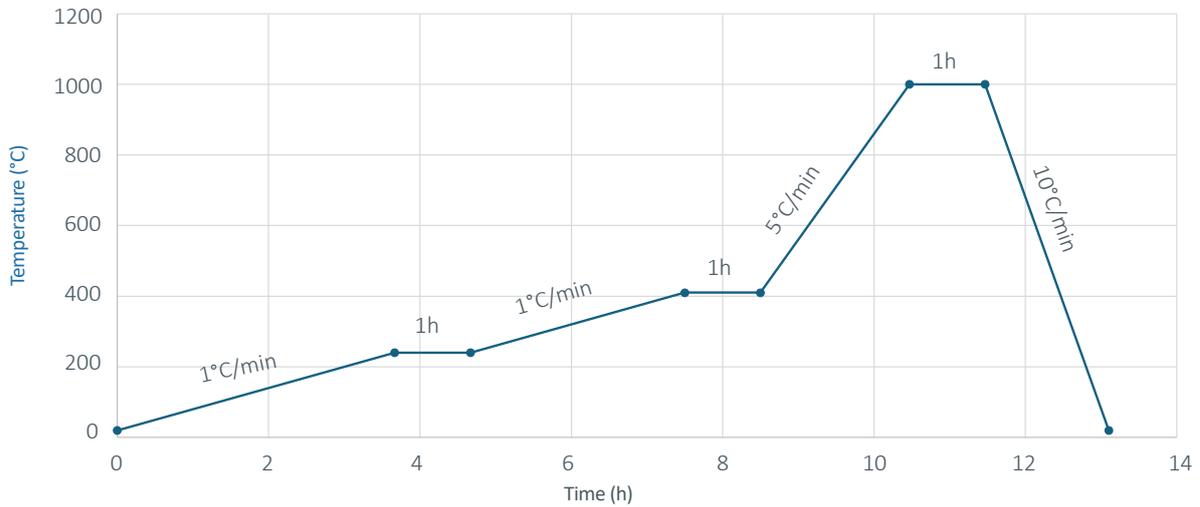


PSD (μm) <i>Dry Laser diffraction</i>	
d ₁₀	30
d ₅₀	55
d ₉₀	104



Processing guidelines

> Debinding & consolidation.

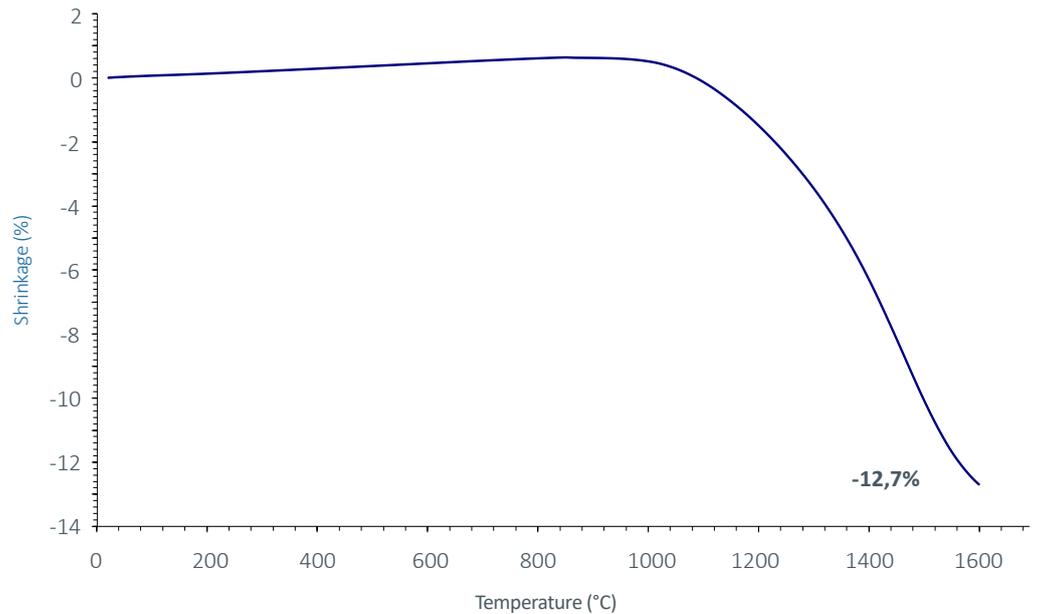


> Linear shrinkage vs. temperature (Heating: 20-850 °C at 15 °C/min ; 850-1600 °C at 5 °C/min).



PRODUCT DESIGN

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



Baikowski®

Ceramic properties

(Typical values)

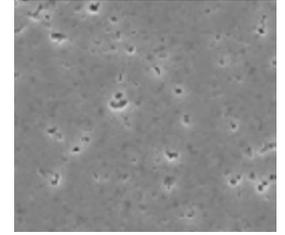
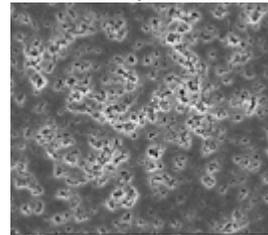
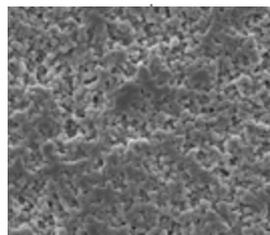
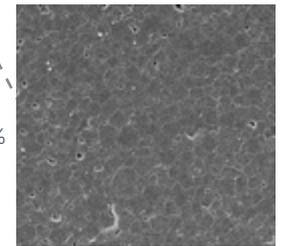
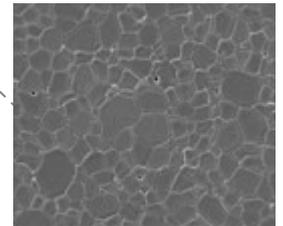
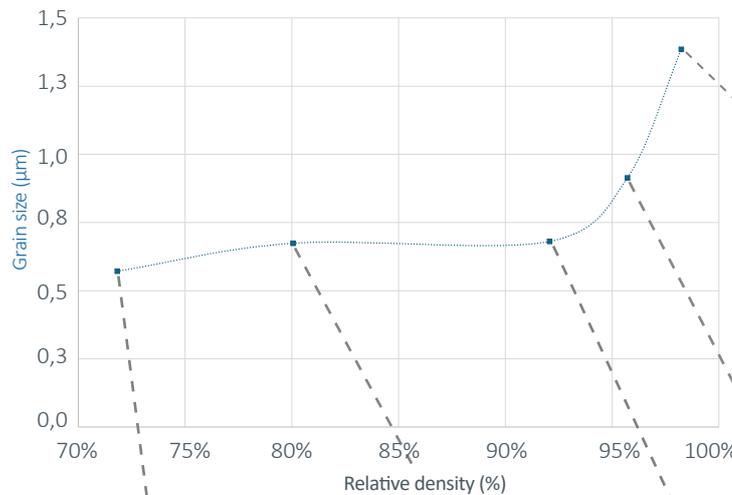
Bulk density (g/cm ³)	1.20
Green Density (g/cm ³) (Uniaxial pressing at 150 MPa)	2.51
Fired Density (g/cm ³) (Sintered at 1550°C for 1 hour)	3.94

(Typical values)

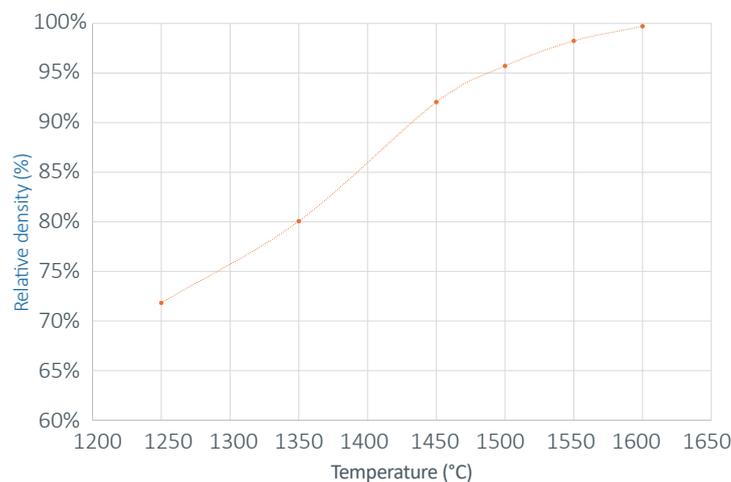
Mechanical data (Measured on the product fired at 1550°C/1h)	Vickers Hardness HV10	2160
	Flexural Strength (MPa) Four point flexural test	372
	Fracture toughness (MPa.m ^{1/2}) SEVNB	4.60

> 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



Your solution partner for fine minerals



Baikowski® 

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