

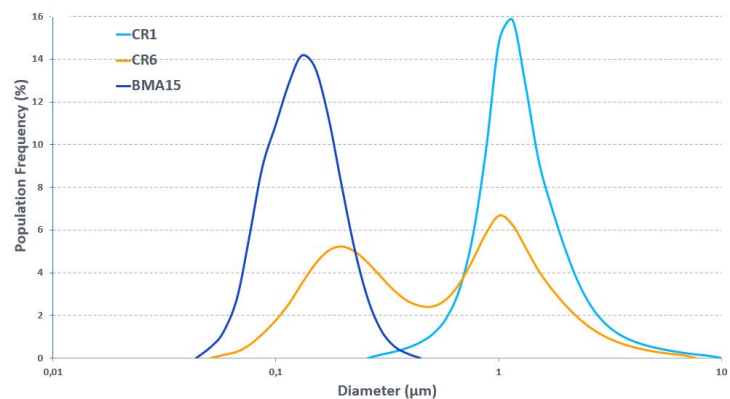
BAIKALOX[®]

Characteristics

> Thanks to our use of three different Baikowski[®] process routes (Alum, Bayer Modified and Aluminium Hydrolysis), all our High Purity Alumina products are **controlled in:**

- Particle size & particle size distribution (PSD)
- Chemical purity (3N, 4N and beyond)
- Crystalline phase
- Specific surface area (wide range of SSA available)
- Morphology

> Example of particle size distributions



Baikalox[®] range

Process route		Alum route														
Baikalox [®] products (Typical values)		A		GE		CR				BA		BRA		BMA	SM	SMA
Product name		A125	GE30	GE6	GEA6	CR125	CR30F	CR6	CR1	BA20	BA15	BRA105	BRA15	BMA15	SM8	SMA6
Chemical Purity		4N														
Crystalline phase (%) γ/α		100/0	20/80	0/100		100/0	20/80	0/100		3/97	0/100	90/10	0/100			
Specific Surface Area (m ² /g) BET		106	25	6	6	105	26	6	3	21	15	95	15	15	10	7
PSD (µm)	d ₅₀	6.0	8.0	9.0	8.0	0.3	0.4	0.6	1.0	11	10	0.3	0.4	0.1	0.1	0.2
Bulk density (g/cm ³)		0.2	0.3	0.4	0.3	0.1	0.3	0.6	0.6	0.3	0.3	0.2	0.4	0.8	0.8	0.9
Tapped density (g/cm ³)		0.3	0.6	0.7	0.4	0.2	0.5	0.8	1.0	0.5	0.5	0.3	0.6	1.1	1.1	1.3
Elemental Analysis (ppm) ICP	Na	10	12		12				13		12		10	13		
	Si	12	18		20				12		15		5	22		
	Fe	4	4		4				5		4		5	6		
	Ca	2	2		2				2		2		4	4		
	K	20	18		20				18		20		15	11		

*This is only an overview of the existing range.
Please contact our sales department for more information.*



Process route	Bayer Modified route									Aluminium Hydrolysis route			
Baikalox® products (Typical values)	HP		TCP				LS	PB		SA			
Product name	HP DBM	HPT DBM	TCP DBM	TCP-LS DBM	TCPT DBM	TCPT-LS DBM	LSDBM	PB8 DBM	PB12 DBM	SA80	SA8 DBM	SA5 DBM	
Chemical Purity	3N									4N			
Crystalline phase	α									Transition	α		
Specific Surface Area (m ² /g) BET	8	4	7	9	4	4	3	8	12	80	8	5	
PSD (μm)	d ₅₀	0.4	0.8	0.4	0.4	0.8	0.8	1.2	0.3	0.3	20.6	0.3	0.8
Green density (g/cm ³) (Uniaxial pressing at 350 bar)	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.0	-	2.2	2.2	
Fired density (g/cm ³) (Sintered at 1510°C for 2h)	3.95	3.85	3.90	3.90	3.85	3.85	3.80*	3.95	3.92	-	3.94**	3.82	
Linear Shrinkage (%)	17.5	16.0	17.5	17.5	16.0	16.0	15.4	18.5	20.7	-	17.4	15.6	
Elemental Analysis (ppm) ICP	Na	30		600	30	600	90	175	43		5		
	Si	30		15		25		340	10		15		
	Fe	40		80				90	80		3		
	Ca	25		45				380	50		3		

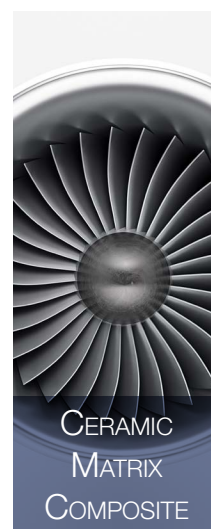
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*Sintered at 1620°C
for 1.5h

** With MgO addition
(500ppm)

Applications

- > Baikalox® is designed for:
- **Thermal** conductivity
 - **Dielectric** properties
 - **Mechanical** properties (as a filler in a matrix, or in a ready to use polishing solution thanks to alumina intrinsic hardness)
 - **Optical** properties (visible & IR)
 - **Sintering** properties (high reactivity at low temperature)



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