

Baikowski<sup>®</sup> 



Solution partner for  
**FINE MINERALS**

## **POLISHING SOLUTION CATALOG**

FINE ALUMINA, SILICA, CERIA  
& DIAMOND SOLUTIONS

**POWDER**



**SLURRY**



# Optimized Powders & Slurries through Advanced Particle Engineering

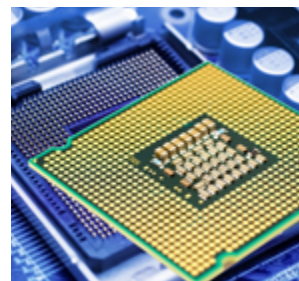
## > Your Solution Partner for Precision Polishing

Baikowski® provides superior intermediate and final polishing solutions for demanding industries. Our expertise is engineered to solve surface challenges across diverse applications such as:

- **Optics & Photonics:** clarity, haze control, defect suppression.
- **Power electronics & RF:** high removal rate on hard crystals while obtaining excellent surface finish.
- **Semiconductor / CMP:** planarity, selectivity, low defectivity.
- **Metallography:** clean cutting, corrosion control, easy post polish cleaning.
- **Polymers & Coatings:** gloss without orange peel.

## > Our know how

- **Particle engineering:** controlled crystallinity ( $\alpha/\gamma$ ), morphology, SSA, and tight PSDs to reduce scratch risk while maintaining removal rate.
- **Advanced milling & dispersion:** stable, water based systems, optimized pH and viscosity for pad flow and cleanliness.
- **Formulation design:** alumina, silica, ceria and diamond chemistries tailored to your substrate and step (rough → finish / kiss).



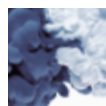
> The following highlights catalog provides a general overview of our powders and ready-to-use slurries in terms of abrasives, based on the substrate to be polished:

- Ceramics & crystals
- Metal
- Glass & plastics

## PRODUCT DESIGN

> For all your question on Baikowski high-quality polishing solutions and **fine-tuning ability** (media, viscosity, pH control and beyond...), contact us. We will **custom optimize** the polishing product to fit your specific application and process. With a uniform and controlled removal rate, our particles can reduce the time required to achieve the **desired surface finish**, enhancing the performance, reliability, and value of your final products.

> We also offer support and guidance on polish test measurements using our advanced equipment, ensuring precise assessment of **surface roughness, roughness average (Ra), and peak-to-valley (P-V) metrics** to meet your specific requirements.





- 1- Specific Alumina, Silica & Ceria Polishing Slurries
- 2- Other Alumina Polishing Solutions: Baikalox® Slurries
- 3- Main Diamond Slurries
- 4- Alumina Baikalox® polishing Powders
- 5- Alumina Baikalox® Car Polish Powders
- 6- Main Polishing Pads

## 1. Specific Alumina, Silica, & Ceria Polishing Slurries

Ceramics & Crystals	Main Slurries			Attribute (Typical values)		
Substrates	Code	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	d <sub>50</sub>	pH	Other
Sapphire (C-axis)	SPH-7	X		0.25	12-13	Felt Pad
	SPH-9D	X		0.30	12-13	
	SPH-10	X		0.30	12-13	
	SPH-9LA	X		0.25	9	
	SPH-53		X	0.10	9-10	
Sapphire (A/R-axis)	SPH-51		X	0.10	9-10	
Alumina Nitrate / ALN	ALN-6L	X		0.30	1-3	Low shedding - Felt Pad
Lithium Niobate / LT	SLT50		X	0.05	2-4	
Lithium Niobate / LN	SLN-180		X	0.10	9-11	
SiC	S020		X	0.04	9	
	SiC-70S	X		0.3	2-3	
Silicon	SS070		X	0.08	3-5	
	S083		X	0.1	9-11	
YAG	YG-1	X		1.00	1-3	CR plate
Crystals	CR85SF	X		0.05	7-8	Agglomerate-free



Metal	Slurries			Attribute (Typical values)		
Substrates	Code	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	d <sub>50</sub>	pH	Other
Aluminum / Al	AG3410	X		1.00	1-3	Easy cleaning -PU pad
	AG3402	X		0.15	1-3	Easy cleaning - Suede Pad
	AG3507	X		0.25	1-3	Easy cleaning
	S061		X	0.06	1-3	
Copper / Cu	ACU-30	X		0.15	1-3	Easy cleaning - Urethane Pad
Molybdenum / Mo	A120G	X		0.10	3-5	
Germanium	AG-25L	X		0.25	3-8	
	AG-32	X		0.5	3-5	
Gold	SAU-10		X	0.25	2-4	Urethane Pad
Titanium	AT1-30L	X		0.20	1-3	

Glass & Plastics	Slurries				Attribute (Typical values)		
Substrates	code	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CeO <sub>2</sub>	d <sub>50</sub>	pH	Other
Blue Glass	BG-S0	X			0.25	10-12	
	BG-100F	X			0.15	10-12	
Glass & lens	CP20FK			X	0.15	9-11	
	CP2370			X	1.00	9-11	PU pad
Quartz	CP5N			X	0.05	6-8	
	CP20S			X	0.15	9-11	
	CP400			X	0.30	9	
Polycarbonate	BL-700	X			0.70	1-3	

> The CP-series cerium-oxide-based slurries are formulated for final polishing of high-performance glass components. With a finer mean particle size and a tighter particle-size distribution than conventional ceria powders, they deliver better surface roughness on soft glass while reducing the risk of surface burn.





## 2. Other Alumina Polishing Solutions: Baikalox® Slurries

Main substrate tested	Polishing Slurries	Polishing step	*Nominal particle size (μm)	*pH	*Slurry density (g/cm <sup>3</sup> )	*PSD (μm) d <sub>50</sub>
Metal, crystals & ceramics	GE1S	Rough	3.0	7- 8	1.2	13
Metal, crystals & ceramics	GE6S	Rough / Intermediate	1.0	7- 8	1.2	8.0
Metal, crystals & ceramics, varnish & lacquers	GE15S	Intermediate	0.3	7- 8	1.2	4.5
Metal, crystals & ceramics, glass & lens	CR1S	Rough	3.0	7- 8	1.2	1.0
Glass & lens, metal	CR6S	Rough / Intermediate	1.0	7- 8	1.2	0.5
Glass & lens	CR15S	Intermediate	0.3	7- 8	1.2	0.2
Metal, glass & lens	CR30S	Finish	0.1	7- 8	1.1	0.2
Glass & lens	CR85SF	Kiss polishing	0.05	7- 8	1.1	-

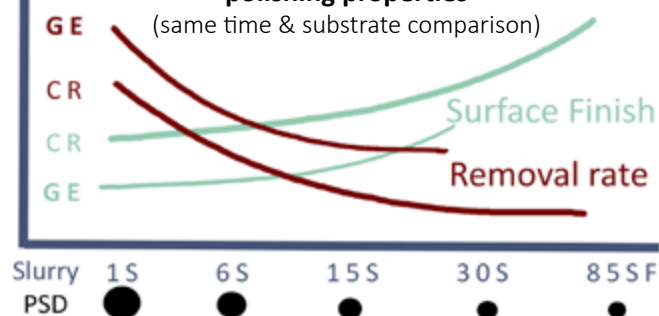
\*Typical values

> Baikalox® ultra-pure alumina slurries are ideal for polishing applications where ease of use and material conservation are priorities.

Their formulations offer a stable suspension in a neutral, non-toxic base that remains moist on the lap or polishing pad, ensuring consistent performance.

For those who prefer, powders are also available.

### Illustration of the principle of GE & CR slurry polishing properties



> In the Optic & Photonic fields, kiss polishing with our advanced solutions achieves the optical clarity required.

> For metallographic polishing, Baikowski® fine alumina solutions on aluminum and copper reduce process time and offer easier cleaning than traditional colloidal silica products, while meeting strict requirements for microstructural analysis.



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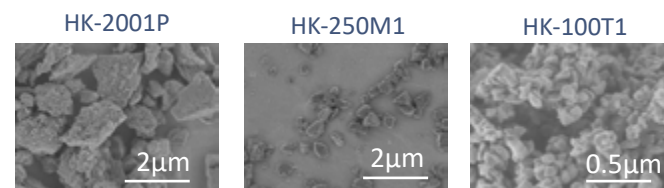
### 3. Main Diamond Polishing Slurries For SiC & GaN

> For ultra hard ceramics and crystals (SiC, GaN) **lapping and polishing**, our diamond solutions offer exceptional removal rates and ultra smooth finishes ( $R_a < 0.6 \text{ nm}$ ). Custom powder formulations are available with particle sizes from **0.05 to 40  $\mu\text{m}$**  in various diamond types (Polycrystalline, Monocrystalline, Heat Treated and Surface Treated), and base liquid (water, emulsion, oil).

Polishing Slurries	Diamond Types	Liquid Base	*Nominal Particle Size $\mu\text{m}$
<b>HK-250M1</b>	Monocrystalline	Emulsion	0.25
<b>HK-100T1</b>	Monocrystalline Heat Treated	Oil	0.10
<b>HK-30P4A</b>	Polycrystalline	Oil	0.03
<b>HK-1000P1A</b>	Polycrystalline	Oil	1
<b>HK-SOOP1A</b>	Polycrystalline	Oil	0.5
<b>HK-2SOP1A</b>	Polycrystalline	Oil	0.25

Polishing Slurries	Diamond Types	Liquid Base	*Nominal Particle Size $\mu\text{m}$
<b>HK-2000P1</b>	Polycrystalline	Water	2
<b>H K-1000P1W</b>	Polycrystalline	Water	1
<b>HK- SOOP1 W</b>	Polycrystalline	Water	0.5
<b>HK-2SOP1W</b>	Polycrystalline	Water	0.25
<b>HK-100P1 W</b>	Polycrystalline	Water	0.1
<b>HK-SOP1W</b>	Polycrystalline	Water	0.05
<b>HK-30P1W</b>	Polycrystalline	Water	0.03

\*Typical values



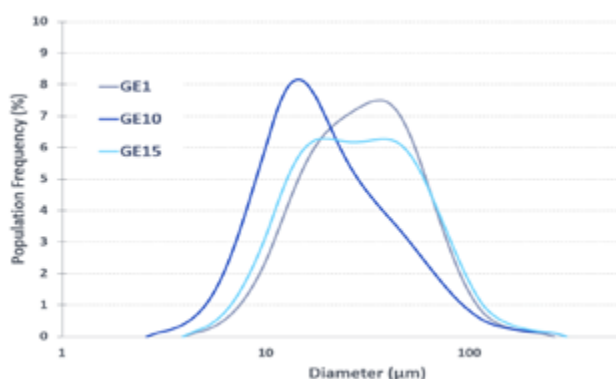
### 4. Alumina Baikalox® Polishing Powders

> Our powders are controlled in:

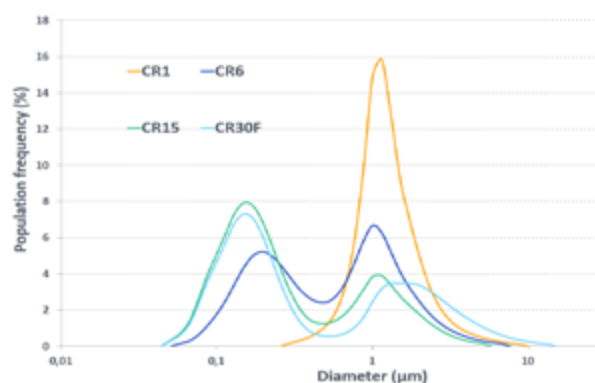
- Particle size & particle size distribution (PSD)
- Chemical purity (3N, 4N and beyond)

- Crystals & Crystalline phase
- Specific surface area (wide range of SSA available)
- Morphology

> Particle size distribution of the GE range



> Particle size distribution of the CR range



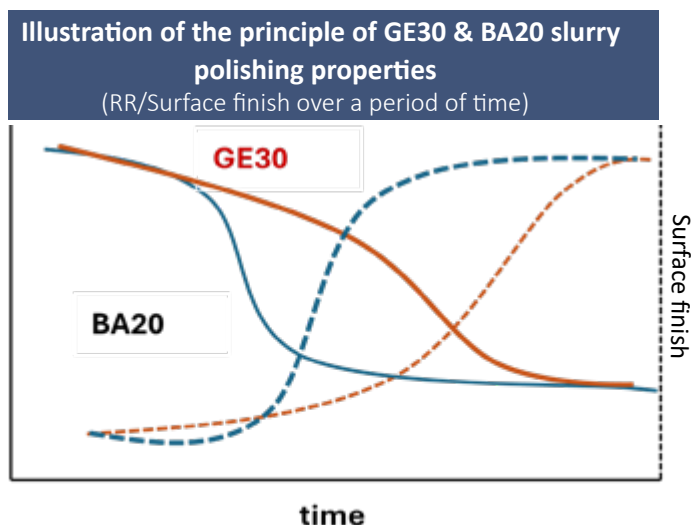
Main substrate tested	Polishing Powders	Polishing step	* Alpha content %	* SSP (m <sup>2</sup> /g)	* PSD (μm) d <sub>50</sub>
Metal, crystals & ceramics	<b>GE1</b>	Rough	100	< 3	13.5
Metal, Crystals & ceramics	<b>GE6</b>	Rough / Intermediate	100	5.2	8
Metal, crystals & ceramics, varnish & lacquers	<b>GE15</b>	Intermediate / Finish	90	14	5.5
Metal, varnish & lacquers	<b>GE30</b>	Intermediate	80	25	4.5
Glass & lens	<b>BA105</b>	Finish	8	97	2.5
Metal, glass & lens, crystals & ceramics	<b>CR1</b>	Rough	100	3	1.0
Glass & lens, metal	<b>CR6</b>	Rough / Intermediate	100	6	0.5
Soft lens, PMMA	<b>CR10</b>	Rough	100	7.1	0.2
Glass & lens	<b>CR15</b>	Intermediate	90	15	0.2
Metal, glass & lens	<b>CR30F</b>	Finish	80	26	0.2
Glass & lens	<b>BRA105</b>	Finish	7	100	1.0
Metal, Crystals & ceramics, including zirconia	<b>PB12MAR</b>	Finish	100	13	0.3

\*Typical values

## 4. Alumina Baikalox® Car Polish Powders

Polishing Powders	* Alpha content %	* SSP (m <sup>2</sup> /g)	* PSD (μm) d <sub>50</sub>
<b>GE6</b>	100	5.2	8
<b>GE15</b>	90	14	5.5
<b>GE30</b>	80	25	4.5
<b>BA20</b>	97	20	4.5
<b>PB20CR</b>	-	20	2.61
<b>PB50CR</b>	-	50	3.60

\*Typical values



> For high end automotive applications, our alumina polishes deliver a high gloss, reflective finish.



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## 5. Main Polishing Pads

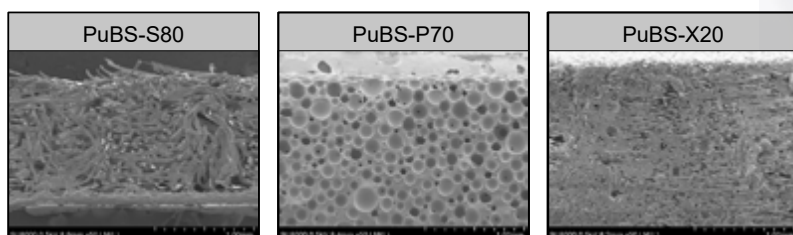
### > Baikowski® offers a range of polishing pads

They are optimized for various applications, including metals, sapphire, other crystals and ceramics.

Each pad is designed to work seamlessly with Baikowski® specific polishing slurries, ensuring optimal performance. The recommended pad varies based on the desired roughness and flatness of the finished product. The list hereunder **is partial**. For personalized assistance with pad selection, please contact us.

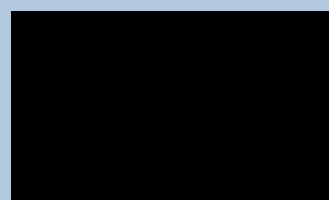
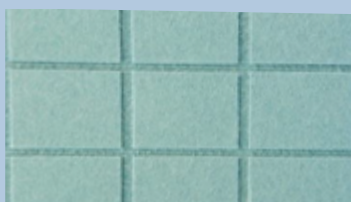


#### SEM



Polishing Pads	Applications	Type	* Thickness (mm)	* Hardness (") Asker A	Color
<b>PuBS-S80</b>	Sapphire C plane SiC, LN, LT, AlN	Non-woven	1.3	85	White
<b>PuBS-P70</b>	Sapphire C & A plane SiC, Metal	Polyurethane	1.3	75	White
<b>PuBS-X20</b>	Sapphire C plane	Non-woven	1.8	75	Sky blue
<b>PuBS-K50</b>	ISiC, Metal	Non-woven	2-5 (on request)	62	Gray
<b>PuBS-W19</b>	Metal, Glass	Suede	0.95	67	Black

\*Typical values



Baikowski®





Your solution partner for fine minerals



Baikowski® 

**Baikowski® SA**

France | Poisy | ☎ +33 4 50 22 69 02

**Mathym® SAS**

France | Lyon | ☎ +33 4 78 83 72 93

**Baikowski® Malakoff Inc.**

USA | Malakoff (TX) | ☎ +1 903-489-1910

**Baikowski® International Corp.**

USA | Charlotte (NC) | ☎ +1 704-587-7100

**www.baikowski.com**

**sales@baikowski.com**



Follow us:



**Sales Representative in China**

China | Shanghai | ☎ +86 21.6289.2883

**Baikowski® Korea Co, Ltd.**

Korea | Seoul | ☎ +82 255.281.97

**Baikowski® Japan Co, Ltd.**

Japan | Chiba | ☎ +81 474.73.8150