SEPal

SAFER SOLUTION FOR BATTERIES

2023

SPECIALTY ALUMINAS FOR LITHIUM-ION BATTERY SEPARATORS

alteo

SMART ALUMINA//

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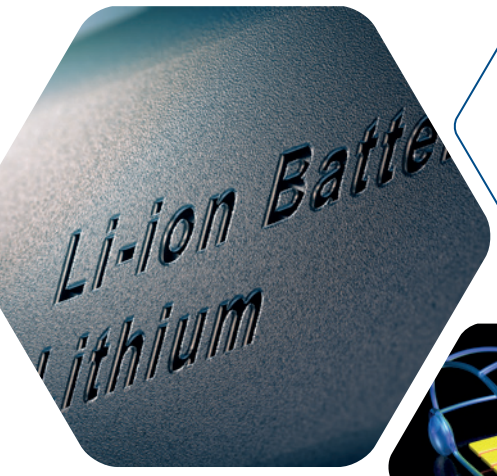

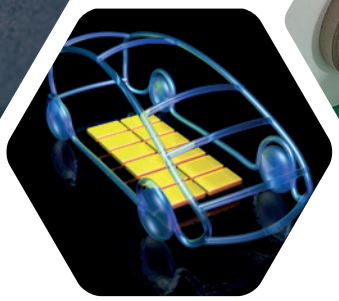

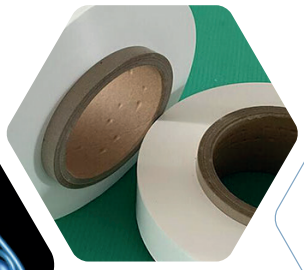

The SEPal range has been developed as a ceramic coating for LIB separators.

Special attention is paid to particle size distribution, moisture level and iron content. SEPal ceramic coating for LIB separators provides:

- Improved thermal stability (>130-150ºC)
- Resistance to metallic dendrite penetration that causes short-circuiting
- Thermal shutdown support
- Fast(er) liquid electrolyte wettability
- **The value option for ceramic coating**

Lithium-ion batteries are the best rechargeable energy sources currently available.

Their superior energy density and long cycle life have made them ideal for:

- **Electrical vehicles** (battery EV, hybrid EV, e-buses)
- **Consumer electronics** (smartphones, tablets, laptops)
- **Energy storage systems** (collecting, storing and transmitting electricity)

A SEPal alumina ceramic coating for separators will improve the safety of Lithium-ion batteries.

- It is easy to process and disperse, so reduces the production cost
- Has >99.9% purity providing more safety to the LIB battery
- It is designed to meet the diversity of separator needs:
  - Low water absorption
  - Ultra-thin coating
  - High-temperature resistance

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SEPal-60 & SEPal-70 for separator coating provide:

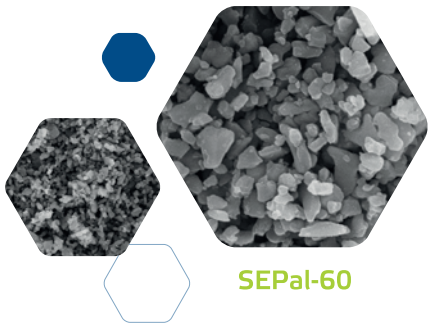
- Very fine crystal size (0.4 - <1µm)
- Strictly controlled:
  - D90 value (close to 1µm)
  - Chemical analysis
  - Contamination management

Key benefits

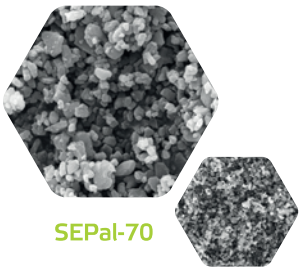
- High quality product
- Expandable production capacity with local facilites
- Cost efficient solutions

		SEPal-60	SEPal-70
CERAMIC COATING FOR SEPARATOR FILMS			
Physical Properties	**Unit**		
Particle Size Distribution (Sedigraph)			
D10	µm	0.28	0.18
D50	µm	0.55	0.40
D90	µm	1.10	0.90
D95	µm	1.50	1.40
Specific Surface Area BET	m^2/g	5.5	7.5
Loss on Drying 20-105ºC	%	0.10	0.15
Loss on Ignition 20-1000ºC	%	0.40	0.50
Chemical Properties			
Al_2O_3 - on dry basis	%	99.9	99.9
Na	ppm	220	300
Ca	ppm	150	150
Si	ppm	165	150
Fe	ppm	125	115
Mg	ppm	15	15
Zn	ppm	<5	<5
Cu	ppm	<5	<5
Cr	ppm	<5	<5
Ni	ppm	<5	<5
Magnetic Fe	ppm	<1	<1
pH	-	9.2	9.7

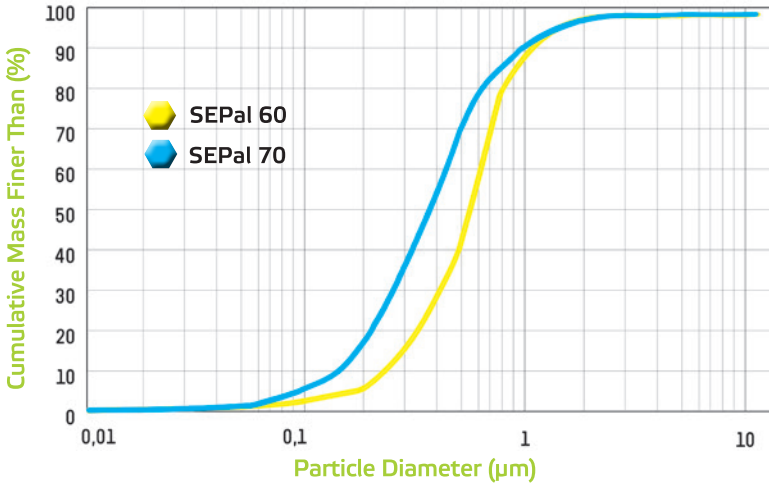
Typical data



SEPal-60



SEPal-70



ALTEO R&D

For Alteo, innovation and application R&D are major parts of its growth strategy.

Alteo enhances its R&D capabilities through its Innovation and Technical Excellence Centre: the installation of state-of-the-art equipment, the recruitment of technical experts and collaborations with key partners and university laboratories.

Alteo has the know-how and equipment to analyze and evaluate raw materials and finished parts, as well as being able to simulate production processes.

Contact our R&D team now at
www.alteo-alumina.com/contact

CUSTOMER CARE COMMITMENT

To meet your highest expectations, our Customer Care team will always strive to ensure a **first class** service. Our commitment is to provide **full support** from your first call to the delivery of our products; with technical assistance, packing solutions and short lead times.

ALTEO AT A GLANCE

- A leading integrated supplier of specialty products with the largest production capacity worldwide for calcined, pure and fine alumina.
- A global sales network with 4 regional hubs, 17 offices and more than 35 local warehouses around the world.
- A leading raw material supplier to the following industrial markets: Advanced Ceramics, Performance Refractories, Thermal Management EV-Batteries, Flame retardant, Specialty Glass, Polishing.

Design : Emeline MARTEL - Communication

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