



HINDALCO

Specialty Alumina
Solutions for

BA+T+T+ERY



Scan to know more
www.hindalco.com

The Specialty Alumina business of Hindalco Industries Limited, the metals flagship company of the USD 65 billion Aditya Birla Group, has been serving the Alumina and Hydrate needs for advanced ceramics, refractories, water treatment chemicals, flame retardants, polishing, and many diverse industries for over five decades.

Headquartered in India, the Aditya Birla Group has a diversified business portfolio and presence across 14 industry sectors. Hindalco Industries Limited is the metals flagship company of the group and the industry leader in Aluminium, Copper, and Specialty Alumina manufacturing. It is a fully integrated manufacturer with a global presence, operating 47 manufacturing sites across Europe, America, and Asia.

Our R&D facility, Hindalco Innovation Centre for Alumina (HIC-A), is recognized by the Government of India and accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL). HIC-A has developed a multitude of technologies and products to address a wide range of customer requirements.

With a keen awareness of market dynamics, we have strategically evolved our supply chain to align with customer demands. New warehouses have been strategically added in key markets across North America, Europe, and Asia. Recognizing the pivotal role that Japan, Europe, and the US will play in our forthcoming growth phase, we have established regional hubs and sales offices in these areas to strengthen our customer connections.

Pioneering sustainability in the Alumina industry, Hindalco has been successful in repurposing all the bauxite residue generated from our Alumina manufacturing operations. Hindalco is the world's first company to achieve 100 percent red mud utilization across three of its refineries. Consequently, we have been rated as "The World's Most Sustainable Aluminium company" consecutively for the last 3 years by the Dow Jones Sustainability Indices.

We believe our commitment to a strong partnership focused on excellence, innovation, and sustainability brings forward novel solutions reimagining the world of Alumina to make the world Greener, Stronger, and Smarter.

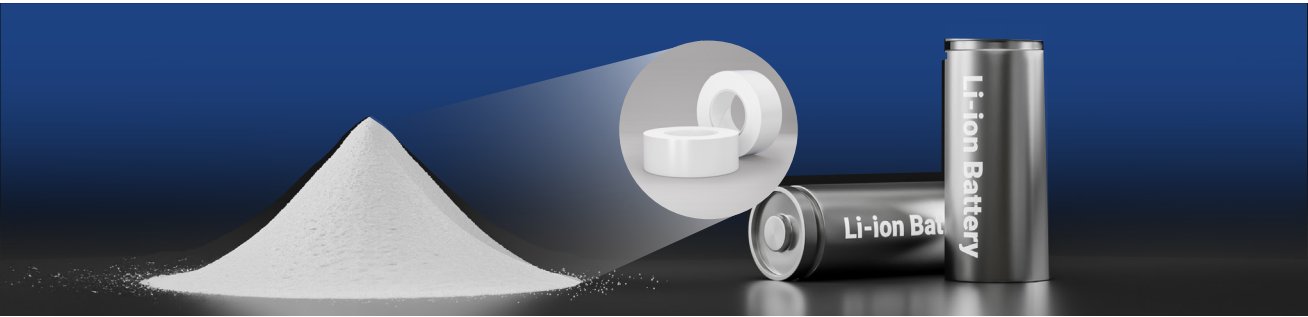


Boehmite and Alumina Solutions for Batteries

Introducing Hindalco's advanced solutions to meet the current demand for Li-ion battery (LiB) applications. Boehmite and alumina are meticulously researched and engineered using State of the art manufacturing and analytical facilities to meet the international quality requirements. With high purity levels, minimal soda content and ultra-low Fe concentrations, our products ensure unmatched quality and reliability. Phase pure materials with uniform particle size distribution, excellent dispersibility, and the required fineness are tailored to meet the precise demands of global clientele. Free from magnetic impurities, our grades offer outstanding dielectric and thermal properties, making them ideal for both separator enhancement and thermal management within battery assemblies.

A photograph of a male scientist with glasses, wearing a white lab coat and purple nitrile gloves. He is sitting at a laboratory bench, looking at a laptop screen. The background shows laboratory equipment, including a fume hood and various containers.

Boehmite for Battery Separator and Edge Coating



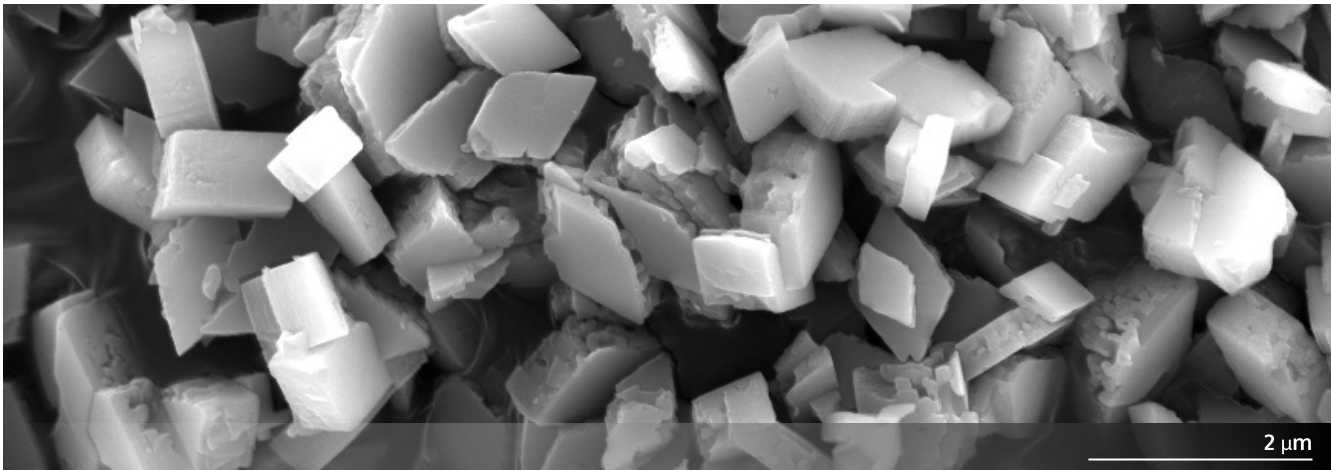
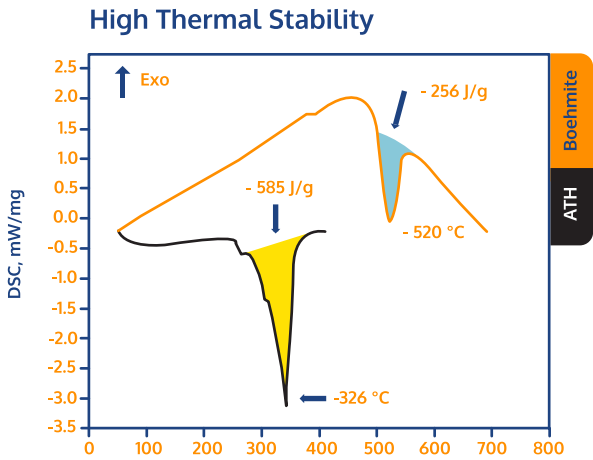
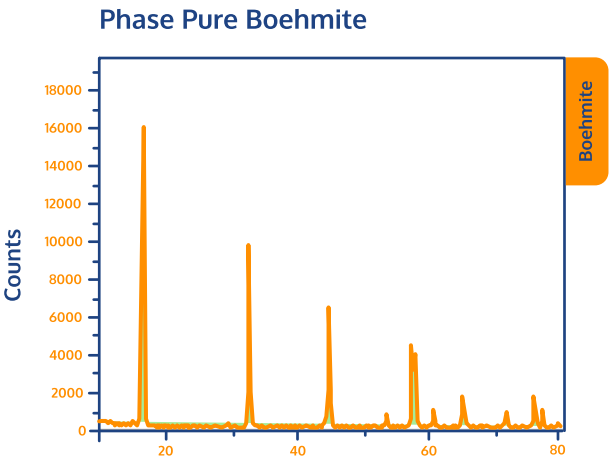
Ultrafine Boehmite (UFB) series

Hindalco's High Purity Boehmite series has been meticulously developed for separator coating applications. Boehmite, a monohydrate phase of alumina [AlO(OH)], features minimal impurities. Tailored microstructure, a unique flaky crystal structure, and good thermal stability of up to 550°C. In addition to this, its superior wettability, compatibility with polypropylene, and ease of surface functionalization provide additional advantages in battery design.

- Narrow particle size distribution, D90<2 µm
- Phase stability to avoid thermal runaway
- Minimal magnetic impurities
- Easily dispersible and Better wettability
- Thin platy crystals
- Resist metallic dendrite formation

Attributes	Unit	UFB500	UFB800	UFB1000*
Na ₂ O	%	0.03	0.03	0.04
Fe ₂ O ₃	%	0.01	0.01	0.01
TiO ₂	%	0.003	0.003	0.003
SiO ₂	%	0.01	0.01	0.01
SSA	m ² /g	9.0	8.0	6.0
D10	µm	0.4	0.5	0.8
D50	µm	0.5	0.8	1.0
D90	µm	2.0	1.5	3.0

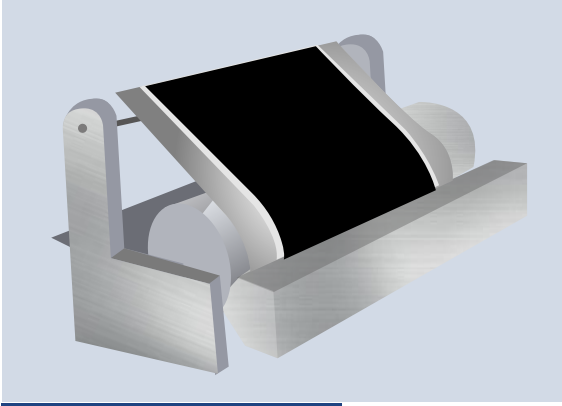
* Future Offering



Alumina for Battery Separator and Edge Coating



Separator Coating



Edge Coating

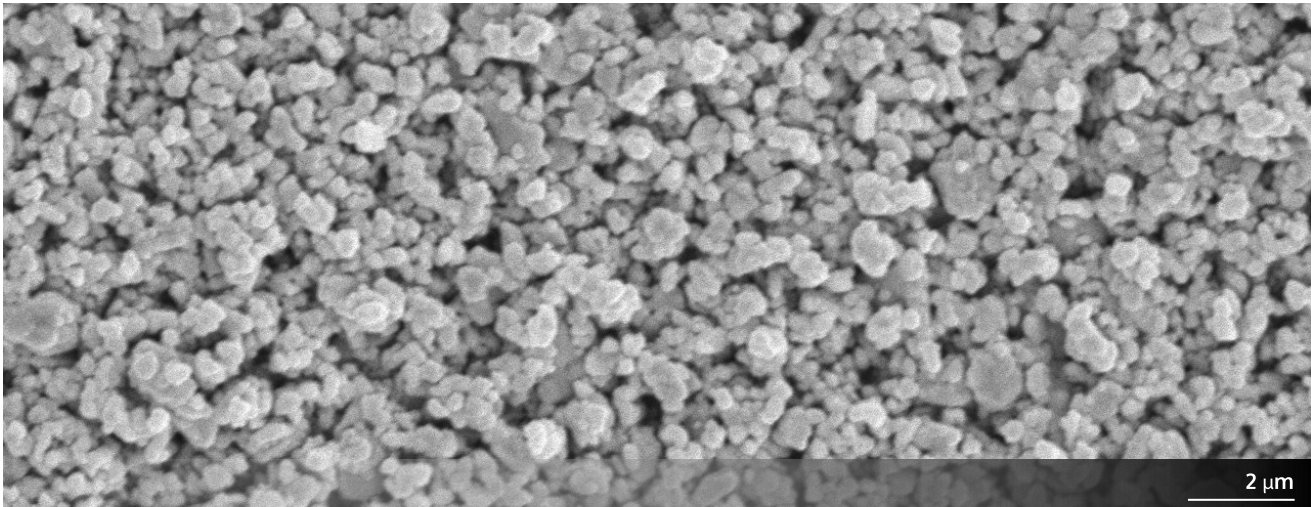
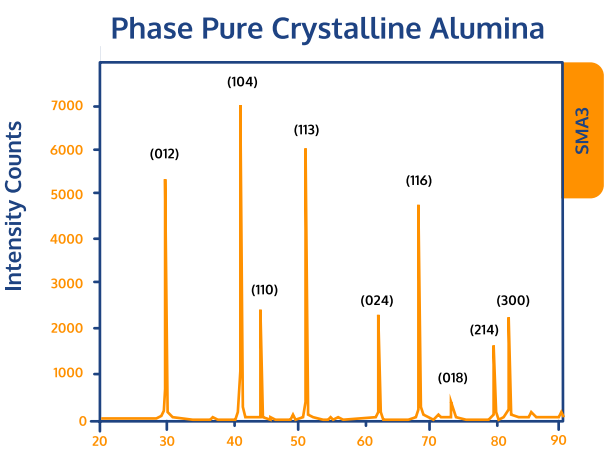
Sub-Micron Alumina (SMA Series)

SMA series materials are promising materials for the battery separator coating application. Among various applications, this grade is suitable for battery separator coating where calcined-alumina is being used. The fine crystal size, narrow particle size distribution and combination of high surface area and high dielectric strength make it a candidate material for separator coating application.

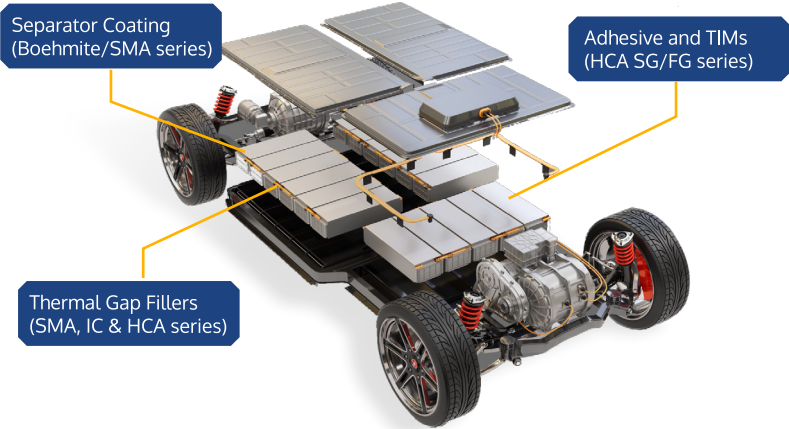
- Narrow particle size distribution ($d_{99} < 2.5\mu\text{m}$)
- High surface area
- High Dielectric Strength
- Resist metallic dendrite formation
- Phase stability to avoid thermal runaway
- Minimal magnetic impurities

Attributes	SMA1*	SMA2*	SMA3
Na ₂ O,%	0.01	0.01	0.05
Fe ₂ O ₃ ,%	0.02	0.02	0.02
SiO ₂ ,%	0.02	0.02	0.05
Physical Properties			
SSA, m ² /g	5	7	7
d ₁₀ , μm	0.2	0.2	0.5
d ₅₀ , μm	0.5	0.2	0.5
d ₉₀ , μm	2	3	2

* Future Offering

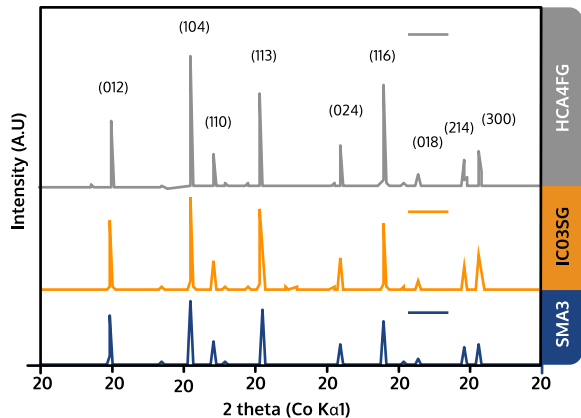


Aluminas for Thermal Management

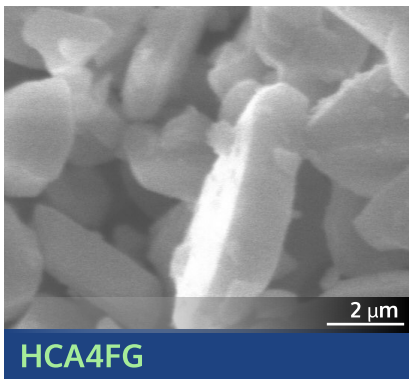
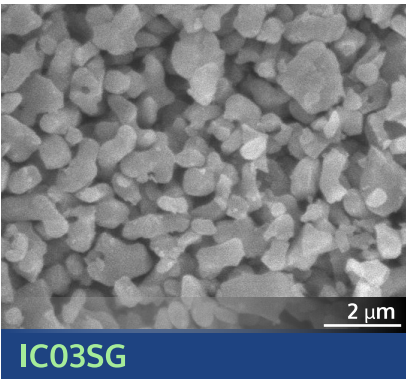
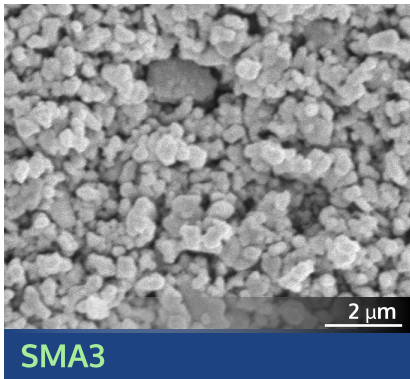


Hindalco offers a wide range of high-purity Aluminas, meticulously engineered with varied particle size distributions for optimal thermal conductivity and efficient packing. These grade seamlessly pairs with silane-based polymers, forming a continuous matrix phase suited for various applications

Chemical properties	Units	SMA4	IC03SG	IC06SG	IC10SG	HCA2SG	HCA3SG	HCA4FG
Na ₂ O	%	0.08	0.03	0.06	0.10	0.1	0.1	0.1
Fe ₂ O ₃	%	0.02	0.02	0.02	0.02	0.02	0.02	0.02
SiO ₂	%	0.05	0.05	0.08	0.08	0.04	0.06	0.06
Physical Properties								
SSA	m ² /g	7.0	2.6	2.6	2.6	1.5	1.0	0.7
D50	µm	0.5	1.5	1.5	1.5	2	3.5	4.5



- Homogeneous particles
- High density and better packing fraction
- Spherical morphology
- Compatible with resin and silicone
- Superior dielectric strength
- High thermal conductivity



Customer Service with...



Customized
Products



Customized
Packing



On Time in Full
(OTIF) Delivery



Wide Distribution
Network



Application
Support

Creating a
circular economy to build a
#GreenerStrongerSmarter
and a sustainable future!



Our Global Reach



Technical Enquiries:
hiLceramics@adityabirla.com

Email:
Korea, China, Taiwan and Japan
hiLfeasia@adityabirla.com

NAFTA, Europe, Middle East & SAARC
hiLemea@adityabirla.com

Thailand, Indonesia, Malaysia, Vietnam,
Australia, NZ, Phillipines & Singapore
hiLseasia@adityabirla.com

