

ADITYA BIRLA



HINDALCO

Specialty Alumina



FOR THE NEW AGE
REFRACTORY APPLICATIONS

HINDALCO ALUMINA
Solutions You Can Trust

Specialty Alumina from Hindalco, a flagship of Aditya Birla Group is a preferred choice of refractory customers across 37 countries around the world. Hindalco is the world's most sustainable aluminium company as per the Dow Jones Sustainability Indices 2021. We have two production sites with raw material sources ensuring long term supply security for our customers. We help build a world which is greener, stronger, smarter.

Our consistent quality and stable process helps us deliver high-performance speciality aluminas for our valued partners.



ecovadis
(score of 48 in Year 2021)

asi Aluminium
Stewardship
Initiative
Member

Our group purpose

“To **enrich** lives, by building **dynamic** and **responsible** businesses and institutions, that inspire **trust**.”

Leading with purpose and values for decades, we are a global conglomerate which is firmly rooted in the belief that our role goes beyond value creation. We are deeply invested in communities and environment around us.

We have been successfully utilizing the red mud which is generated during the manufacture of hydrate from our Bayer's circuit. This has been recognized by Dow Jones Sustainability Index for 2020 and 2021.



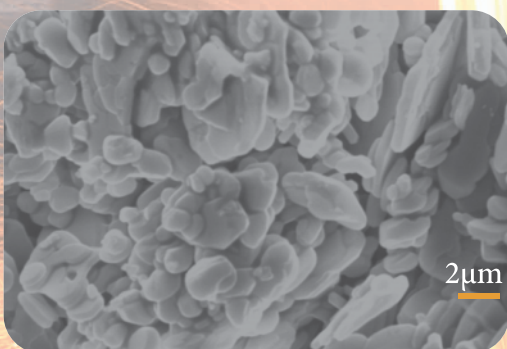
Hindalco Chemicals is one of the major suppliers of specialty alumina for refractories. We have long served the industry with its requirement for the coarse, milled and reactive alumina. We control the quality of our alumina right from the bauxite feed used in our Bayer's Process to the final alumina product

Calcined Alumina

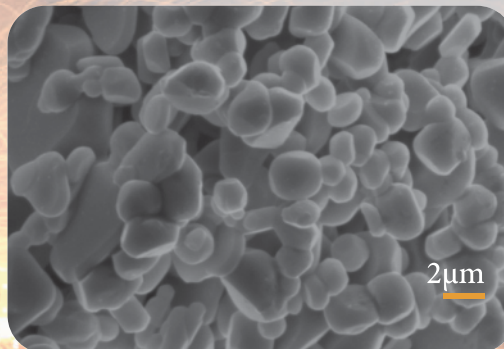
Hindalco provides various grades of coarse alumina for production of High Alumina Cement, Refractory aggregates and Fused cast refractories. The purity and degree of calcination are important for these grades.

Depending on the purity, crystal size and degree of calcination, the final properties vary from changes in setting time and phase development in case of high alumina cement to higher bulk specific gravity and lower porosity for synthetic aggregate and fused applications.

Chemical Properties		A		SA		HT		IC10	
		Typ.	Spec.	Typ.	Spec.	Typ.	Spec.	Typ.	Spec.
Na ₂ O	% (max.)	0.27	0.35	0.3	0.4	0.3	0.4	0.05	0.1
SiO ₂	% (max.)	0.01	0.02	0.01	0.02	0.02	0.03	0.07	0.09
Fe ₂ O ₃	% (max.)	0.018	0.03	0.02	0.025	0.02	0.03	0.02	0.03
Physical Properties									
SSA	m ² /g			55	60	0.8	1.0	1.4	1.8
+200#	%	50-65		50-75		50-80		18-60	
-325#	%	0-15		2-15		5-15		15-45	



IC10 Grade



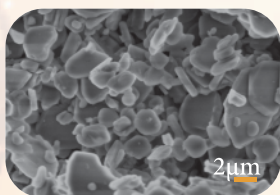
HT Grade

Milled Alumina

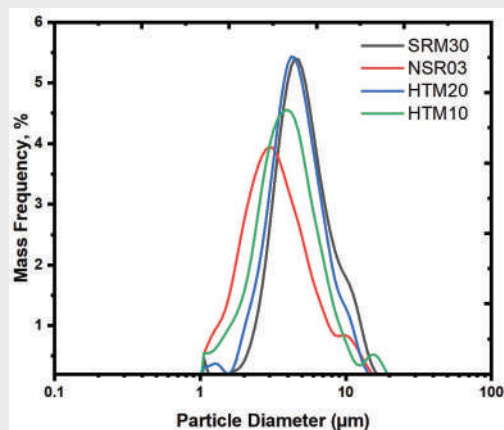
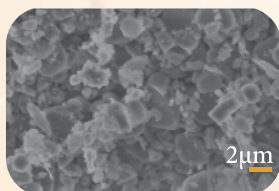
We offer solutions with various grades of alumina with d50 from 3 to 5 microns with different Particle Size Distribution for use in various refractory end products ranging from shaped products to monolithics. High Purity matrix is important for superior results in the application. Depending on the fineness and purity, the milled alumina acts as an active filler material which ensures proper packing of matrices in both shaped and unshaped bodies.

Chemical Properties		SRM30		NSR03		HTM20		HTM10	
		Typ.	Spec.	Typ.	Spec.	Typ.	Spec.	Typ.	Spec.
Na ₂ O	% (max.)	0.3	0.45	0.35	0.45	0.15	0.20	0.10	0.13
SiO ₂	% (max.)	0.02	0.03	0.02	0.03	0.08	0.1	0.08	0.1
Fe ₂ O ₃	% (max.)	0.02	0.03	0.02	0.03	0.025	0.03	0.025	0.03
Physical Properties									
SSA	m ² /g	1.0	2.0	1.5	3.0	1.1	1.5	1.1	1.5
D ₅₀ (Sedigraph)	μm	4.5	5.5	3.0	3.5	3.5	4.5	3.5	4.5

SRM30 Grade

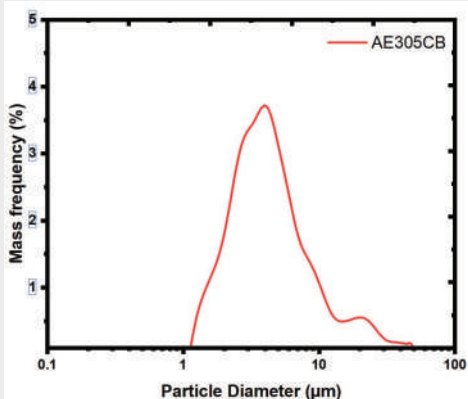


NSR03 Grade



Milled Alumina (Wider distribution)

We further have grades of alumina with coarser d50 around 4 to 5 microns with wider span Particle Size Distribution for use in various ramming masses and continuous casting refractory applications. Wider distribution and controlled Packed Bulk Density helps in designing bodies with proper pore size distribution along with pro re nata sintering activity for best thermal shock properties.



Chemical Properties		AE304CB		AE305CB	
		Typ.	Spec.	Typ.	Spec.
Na ₂ O	% (max.)	0.25	0.35	0.25	0.35
SiO ₂	% (max.)	0.03	0.05	0.03	0.05
Fe ₂ O ₃	% (max.)	0.02	0.03	0.02	0.03
Physical Properties					
SSA	m ² /g	1.2	2.0	1.5	3.0
D ₁₀ (Sedigraph)	μm	1.7		1.6	
D ₅₀ (Sedigraph)	μm	3.7	4.3	3.0	3.5
D ₉₀ (Sedigraph)	μm	13		12	

Reactive Alumina

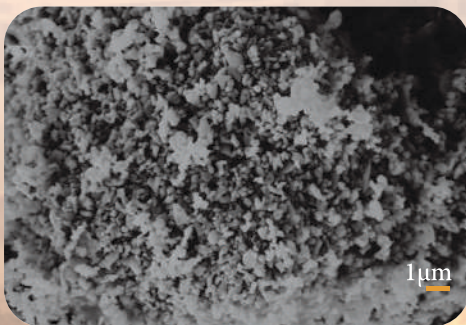
Reactive alumina from Hindalco is customized to produce high-performance refractories with pre-defined particle packing, rheology and consistent placement characteristics. Along with superior physical properties of the final product as required particularly for slide gate refractories, self-flow castable, iron-runner castable, abrasion resistance products, shotcretes as well as other critical applications. The reactive alumina further provides superior cold and hot properties, as well as higher particle-packing control and rheology as required by high performance refractories.

Monomodal Reactive Alumina

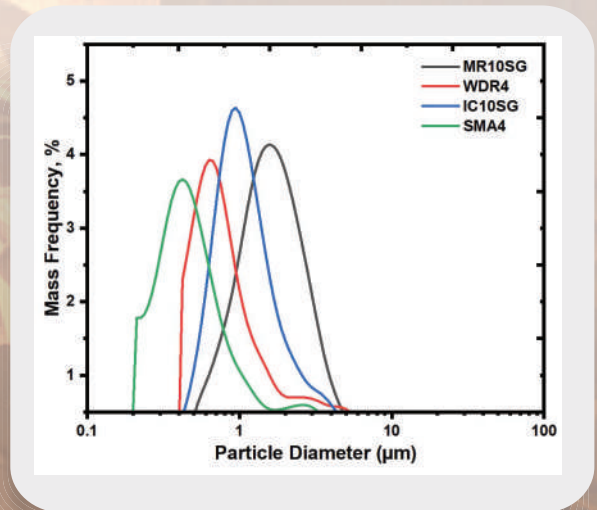
Monomodal alumina is used in association with milled alumina and other fine aggregates to provide a continuous particle size distribution as Andreasen's packing enabling flexibility in the design of refractory matrix PSD

Chemical Properties		MR10SG		WDR4		IC10SG		SMA4	
		Typ.	Spec.	Typ.	Spec.	Typ.	Spec.	Typ.	Spec.
Na ₂ O	% (max.)	0.08	0.1	0.35	0.45	0.07	0.12	0.08	0.1
SiO ₂	% (max.)	0.02	0.08	0.02	0.03	0.08	0.1	0.04	0.08
Fe ₂ O ₃	% (max.)	0.015	0.03	0.02	0.03	0.025	0.04	0.02	0.03
Physical Properties									
SSA	m ² /g	1.8	3.0	7	10	2.5	3.5	6.5	9.0
D ₅₀ (Sedigraph)	µm	1.8	2.3	0.9	1.2	1.5	3.0	0.6	0.8

*WDR4 is a special grade for gunning and mortars for higher water retention.



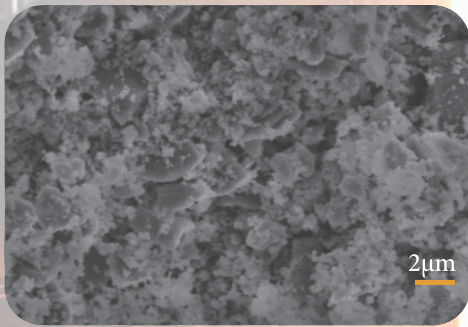
SMA4 Grade



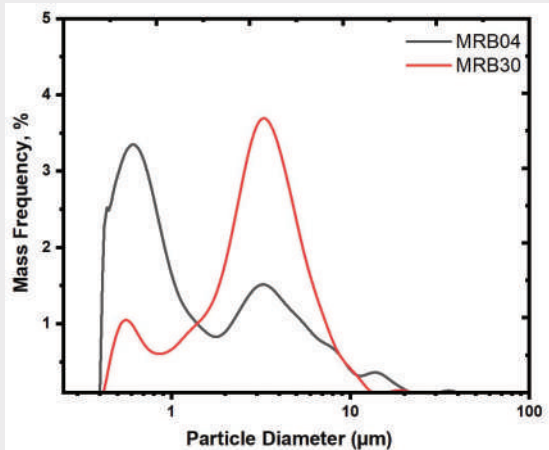
Bi-modal & Multimodal Reactive Alumina

These reactive aluminas, having pre-optimized Particle Size Distribution, are used with mono-modal reactive and milled alumina to enhance the packing factor in the matrices with reduction of pore sizes and volume providing enhanced properties in terms of thermo-mechanical properties


Chemical Properties		Bimodal								Multimodal	
		MRB04		MRB10		MRB20		MRB30		MRM01	
Grain Size Distribution		Typ.	Spec.	Typ.	Spec.	Typ.	Spec.	Typ.	Spec.		
Na ₂ O	% (max.)	0.14	0.26	0.06	0.08	0.15	0.2	0.1	0.15	0.15	0.2
SiO ₂	% (max.)	0.03	0.06	0.1	0.2	0.14	0.2	0.14	0.2	0.18	0.25
Fe ₂ O ₃	% (max.)	0.02	0.03	0.03	0.04	0.02	0.03	0.02	0.03	0.02	0.03
Physical Properties											
SSA	m ² /gm	4.0	7.0	3.0	4.0	3.0	4.0	3.0	4.0	4.5	5.5
Water absorption	%	20		18		15	17	13	14		
D ₅₀ (Sedigraph)	μm	0.8	1.3	2	1.5-3	2	2.5	2.5	3	1.7	2.0



MRB30 Grade



		A	SA	HI	IC10	SRM30	NSR03	HTM20	HTM10	AE304CB	AE305CB	MR10SG	WDR4	IC10SG	SMA4	MRB04	MRB10	MRB20	MRB30	MRM01	
		Special Refractories	Synthetic Aggregate	●	●	●	●														
High Alumina Cement	●		●																		
Shaped	Fused Cast AZS		●	●																	
	Fused Cast Alumina			●																	
	Slide Gate Plates					●									●	●	●	●	●		
	Con-cast Refractories					●		●	●	●	●										
	High Alumina Bricks					●	●		●		●			●	●			●	●	●	
Unshaped	Dense Conventional					●	●														
	Deflocculated						●	●	●	●	●	●		●	●	●	●	●	●	●	●
	Gunning					●	●						●		●	●				●	
	Neutral Ramming Mass									●	●										
	Plastics					●		●	●				●		●						
	Taphole clays					●				●	●										
	Trowelling					●	●						●		●						
	Mortars					●		●	●				●		●						



Hindalco has a dedicated Research and Development team, and dedicated facilities helps us support our customers with customised solutions for adding value to their products.

To further support our customers for their end application development, we have subject matter experts and adapt sales team to help make the correct choice.



Customer Service with...



Our Global Reach



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