



SPECIALTY ALUMINAS FOR
GLASS

2018

ALTEO ALUMINAS FOR GLASS

more than just a source of Al_2O_3



Alumina – aluminium oxide, Al_2O_3 – is an important component in glass, with contents varying from 1% up to 25% in applications such as glass ceramics.

As a network stabiliser in glass structures, alumina has a positive impact on both the glassmaking process and the properties of the glass itself.

In particular, **alumina improves:**

- **Resistance to chemical attack**
- **Mechanical strength**
- **Resistance to thermal shock**

Specialty aluminas derived from the Bayer process bring significant advantages in glass, when compared with natural minerals:

- **Consistency of chemical composition**, in particular levels of Na_2O and Fe_2O_3
- **Low to very low impurity levels** (Fe_2O_3 , Na_2O , Sulphur, Chlorine)
- **Uniform and consistent particle size and structure**
- **Stability of supply**

These properties are particularly valuable when looking for high quality glasses and when quality natural raw materials are scarce, expensive or no longer suitable for new glass compositions.

Alteo specialty alumina grades, including both aluminium trihydroxides (ATH) and aluminium oxides, can be used in a wide variety of glass applications.

* Available upon request

	ATH		Alumina						
	SH500	SH950	AR75	AR8	AR5	AR304	AC44	P400	Low soda PV series*
Applications									
Glass fiber	●	●		●	●	●	●		
Glass ceramics for cooktop panel and fire resistant door			●	●		●	●		
Kitchen cookware	●	●	●			●	●		
Ultra clear bottle and tableware	●	●	●	●		●	●		
Pharmaceutical glass	●	●	●	●		●	●		
Solar panels	●	●	●	●	●	●	●		●
Cover glass			●	●	●	●		●	●
LCD substrate glass				●	●			●	●

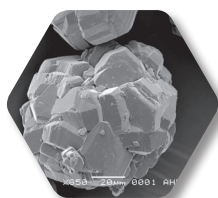
FOCUS ON SPECIALTY GLASS

The **low alkali content** (sodium, potassium and lithium) of Alteo alumina is essential for applications such as **tubes for halogen lamps**.

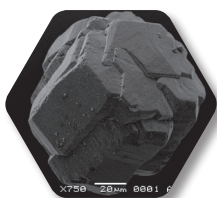
Grades with **strictly-controlled particle size distribution**, such as **AR5** and the **low-soda P Series** are the **ideal aluminas for flat panel display**, in particular **LCD** (liquid crystal displays), **cover glass** and **touchpanel screens**.

		ATH		Alumina					
		SH500	SH950	AR75	AR8	AR5	AR304	AC44	P400
Physical Properties	Unit								
Particle Size Distribution (Cilas) D50	μm	55	95	90	85	90	50	65	50
Loose Bulk Density	g/cm^3	1.30	1.30	1.00	1.05	1.05	0.90	0.75	0.80
Angle of Repose	$^\circ$	35	33	34	36	35	37	50	53
Specific Surface Area BET	m^2/g	N/A	N/A	75	10	5	4.5	0.55	1
Loss on ignition (20-1000°C)	%	34.6	34.6	1.4	0.5	0.4	0.3	0.1	0.1
Chemical Properties									
Al_2O_3 - by difference	%	65	65	98.4	99.2	99.3	99.2	99.5	99.8
Na_2O total	ppm	2300	1600	2200	2200	2200	3400	3200	250
CaO	ppm	100	100	150	150	150	150	150	150
SiO_2	ppm	55	40	100	100	100	100	100	750
Fe_2O_3	ppm	65	70	115	115	115	115	115	125

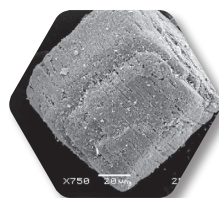
Typical data



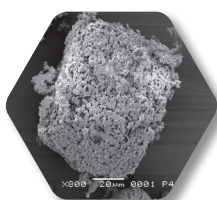
SH500



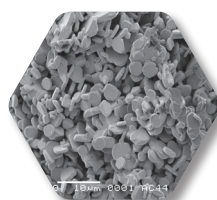
SH950



AR5



P400



AC44

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 **application laboratory**: the installation of **state-of-the-art equipment**, the recruitment of **technical experts** and collaborations with key partners and **university laboratories**.

With the help of key partners such as **CelSian**, **Glass Trend** and **university laboratories**, Alteo is constantly looking for the **best specialty alumina-based solution to your glass technology ambitions**.

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 world leading fully-integrated supplier of specialty aluminas with a capacity of more than 600 000 tonnes of alumina based products (hydrates and calcined aluminas).
- Global sales network with 4 regional hubs, 14 offices and local warehouses around the world.
- Development centre in France.
- Leading raw material supplier to the following industrial markets: Ceramics, Refractories, Specialty Glass, Polishing, Fillers and Coatings.



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