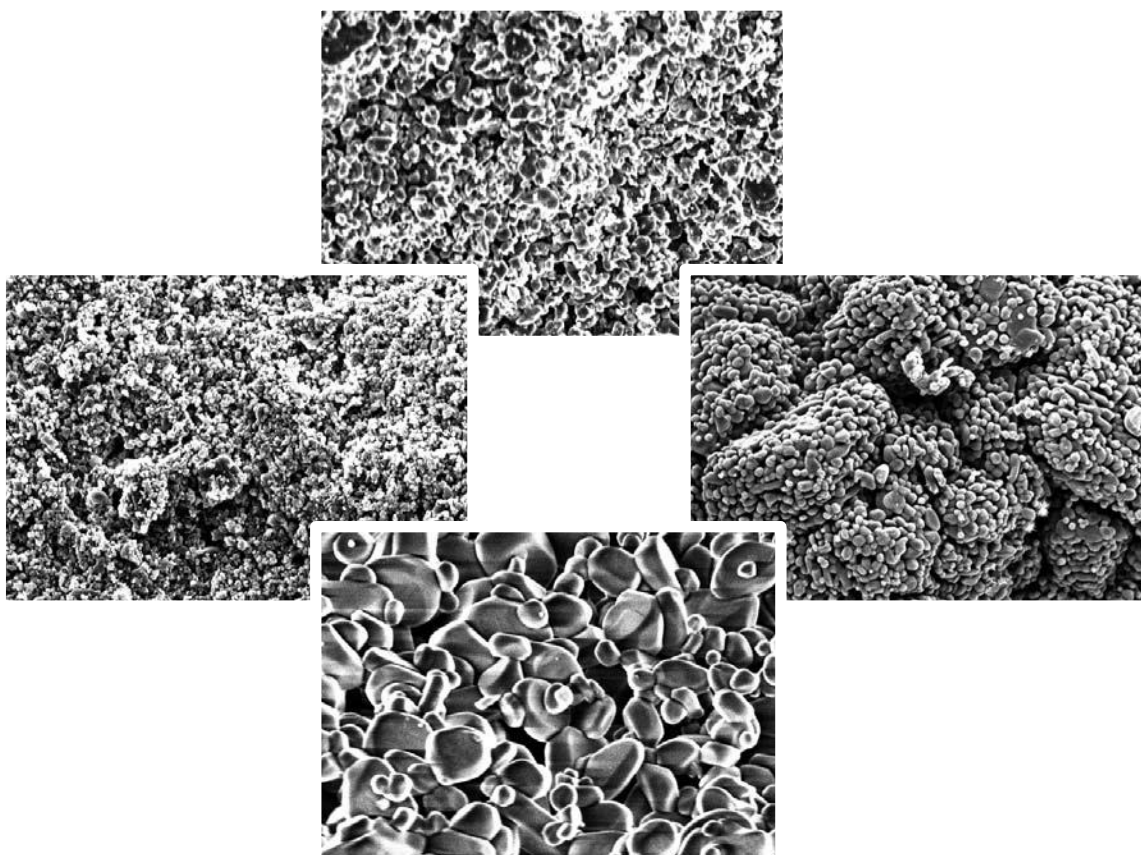


Reactive and Calcined Aluminas for Ceramics





Thermally Reactive Aluminas for Ceramics

Unground					CT 1200					
Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]				1.2	1.0	1.4			
Sieve > 63 µm	[%]				65	40	85			
Chemical Composition										
Al ₂ O ₃ by difference	[%]				99.85					
Na ₂ O	[%]				0.06		0.08			
Fe ₂ O ₃	[%]				0.02		0.03			
SiO ₂	[%]				0.01		0.03			
CaO	[%]				0.01		0.03			
Superground		CT 3000 SG			CT 1200 SG			CT 530 SG		
Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]	7.5	6.5	8.5	3.1	2.8	4.0	4.9	4.0	5.5
Particle Size / D50*	[µm]	0.55	0.4	0.7	1.2	1.1	1.4	1.4	1.0	1.5
Particle Size / D90*	[µm]	1.7	1.3	2.8	2.6		3.2	4.8	2.0	5.2
Chemical Composition										
Al ₂ O ₃ by difference	[%]	99.7			99.7			99.7		
Na ₂ O	[%]	0.08		0.10	0.06		0.08	0.09		0.10
Fe ₂ O ₃	[%]	0.02		0.03	0.02		0.03	0.02		0.03
SiO ₂	[%]	0.03		0.07	0.05		0.08	0.03		0.07
CaO	[%]	0.02		0.03	0.04		0.05	0.03		0.05
MgO	[%]	0.07	0.05	0.10	0.07	0.05	0.10	0.04	0.02	0.06
Ceramic Properties										
Green Density	[g/cm ³]	2.25			2.38			2.60		
Fired Density	[g/cm ³]	3.90	3.88		3.92	3.86		3.90	3.86	
Firing Temperature / 1 h soak time	[°C]		At 1540			At 1670			At 1670	
Shrinkage	[%]	16.8			15.6			13.0		

The typical product properties are based upon the actual averages from production data. The min-max data show our standard product specification data for these products.

All data are based upon Almatis standard test methods. All test methods are available upon request.

* Laser granulometry Betsizer S3 Almatis global standard



Calcined Aluminas for Ceramics

Unground		CT 700			CT 800			WRA		
Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]	0.65	0.60	0.80	0.70	0.65	0.85	0.60	0.50	0.70
Sieve > 63 µm	[%]	65.0	40.0	85.0	65.0	40.0	85.0	65.0	40.0	85.0
[Primary Crystal Size / D50*]**	[µm]	2.0	1.7	2.3	1.9	1.6	2.2	2.4		
Green Density**	[g/cm ³]	2.30	2.25	2.35	2.30	2.24	2.34			
Chemical Composition										
Al ₂ O ₃ by difference	[%]	99.7			99.7			99.7		
Na ₂ O	[%]	0.12		0.15	0.12		0.15	0.12		0.15
Fe ₂ O ₃	[%]	0.02		0.03	0.02		0.04	0.02		0.04
SiO ₂	[%]	0.01		0.03	0.01		0.03	0.01		0.03
CaO	[%]	0.03		0.045	0.02		0.06	0.03		0.06
Fineground					CT 800 FG			WRA FG		
Properties / Method	Unit				Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]				0.90	0.70	1.20	0.85	0.60	1.10
Particle Size / D50*	[µm]				4.0	2.7	5.3	4.4	2.8	5.8
Wet sieve > 45 µm	[%]				0.1		3.0	0.5		3.0
SiO ₂	[%]				0.02		0.04	0.02		0.04
Superground					CT 800 SG					
Properties / Method	Unit				Typical	Min.	Max.			
Specific Surface Area / BET	[m ² /g]				1.00	0.80	1.50			
Particle Size / D50*	[µm]				3.4	2.5	4.0			
Particle Size / > 20 µm*	[%]				1.2		3.0			
SiO ₂	[%]				0.02		0.04			

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* Laser granulometry Bettersizer S3 Almatis global standard

** After lab grind



Calcined Aluminas for Ceramics

Unground		HVA			CT 19		
Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]	0.50	0.40	0.55	0.40	0.20	0.45
Particle Size / sieve > 63 µm	[%]	65	40	85	65	40	85
[Primary Crystal Size / D50*]**	[µm]	2.6	2.1	3.3	3.2		
Chemical Composition							
Al ₂ O ₃ by difference	[%]	99.7			99.8		
Na ₂ O	[%]	0.10		0.15	0.08		0.10
Fe ₂ O ₃	[%]	0.02		0.03	0.02		0.04
SiO ₂	[%]	0.01		0.02	0.01		0.05
CaO	[%]	0.03		0.05	0.03		0.05
Fineground		HVA FG			CT 19 FG		
Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.
Specific Surface Area / BET	[m ² /g]	0.70	0.55	0.85	0.60	0.40	0.80
Particle Size / D50*	[µm]	5.0	4.3	5.9	6.0	4.5	8.0
Wet sieve > 45 µm	[%]	0.6		3.0	1.0		3.0
SiO ₂	[%]	0.02		0.04	0.02		0.05

The typical product properties are based upon the actual averages from production data. The min-max data show our standard product specification data for these products.

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* Laser granulometry Bettersizer S3 Almatís global standard

** After lab grind

Calcined Aluminas for Ceramics

	Unground		CL 2500			CL 3000			CL 5000		
	Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
	Specific Surface Area / BET	[m ² /g]	0.95	0.85	1.00	0.60	0.55	0.70	0.34	0.30	0.37
	Sieve > 63 µm	[%]	65	40	85	65	40	85	65	40	85
	[Primary Crystal Size / D50*]**	[µm]	1.7	1.4	2.1	2.1	1.8	2.6	3.6	3.0	4.1
	Green Density	[g/cm ³]	2.22	2.18	2.24	2.28	2.27	2.31	2.38	2.35	2.42
	Chemical Composition										
	Al ₂ O ₃ by difference	[%]	99.8			99.8			99.8		
	Na ₂ O	[%]	0.06		0.08	0.05		0.08	0.06		0.10
	Fe ₂ O ₃	[%]	0.02		0.03	0.02		0.03	0.02		0.03
	SiO ₂	[%]	0.01		0.03	0.01		0.03	0.02		0.05
	CaO	[%]	0.01		0.03	0.01		0.03	0.01		0.03
	B ₂ O ₃	[%]	0.01		0.02	0.01		0.03	0.01		0.04
	Fineground					CL 3000 FG			CL 5000 FG		
	Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
	Specific Surface Area / BET	[m ² /g]				0.90	0.75	1.20	0.60	0.40	0.65
	Particle Size / D50*	[µm]				4.3	3.6	5.1	6.0	5.5	6.6
	Wet sieve > 45 µm	[%]				0.5		3.0	1.8		3.0
	SiO ₂	[%]				0.01		0.03	0.02		0.05
	Superground		CL 2500 SG			CL 3000 SG					
	Properties / Method	Unit	Typical	Min.	Max.	Typical	Min.	Max.	Typical	Min.	Max.
	Specific Surface Area / BET	[m ² /g]	1.2	0.9	1.6	1.00	0.80	1.15			
	Particle Size / D50*	[µm]	3.5	3.1	4.0	3.7	3.0	4.7			
	Wet Sieve > 20 µm	[%]	2.0		3.0	0.1		3.0			
	SiO ₂	[%]	0.02		0.04	0.02		0.04			

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* Laser granulometry Bettersizer S3 Almatris global standard

** After lab grind

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