

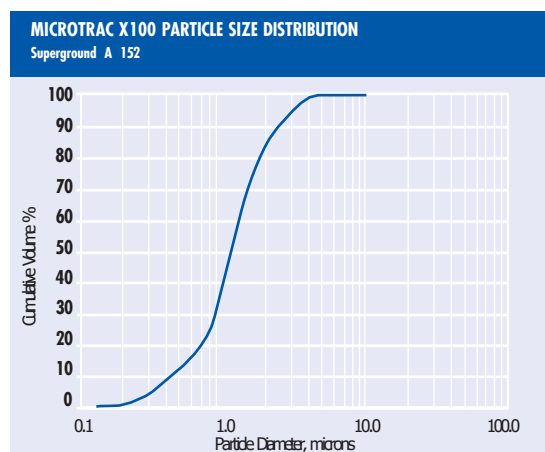
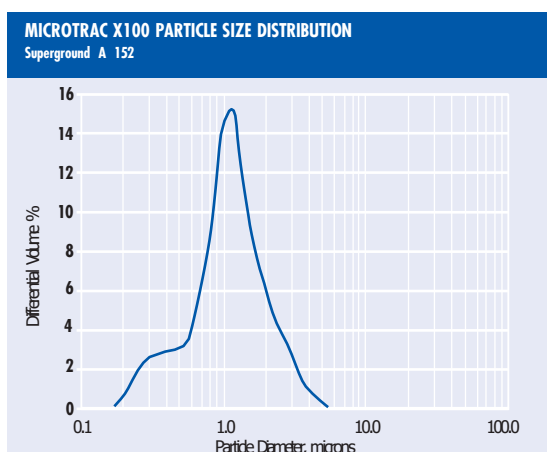


Superground A152 Aluminas for Ceramic Applications

Almatis A 152 Reactive Aluminas are optimal products for achieving the high density properties the ceramic industry requires. The >5 micron agglomerates are eliminated in the dry ball milling process, providing a ceramic powder that will sinter to high density.

The calcination process utilized to manufacture the A 152 feedstocks is carefully monitored and controlled in order to achieve the crystal growth required for these superground aluminas. These products are fully ground in ceramic lined mills with high alumina grinding media. The grinding process eliminates the porous agglomerates formed during calcination, resulting in a narrow mono-modal particle size distribution with a median particle size of 1.2 microns.

A 152 SG is the primary product in the A 152 superground alumina family. The ground particle size of all three members is equivalent. The NM versions are available on special order. The GR (NM) version is specially treated during grinding to minimize the tendency of unstirred ceramic slips to settle in a hard packed layer. The NM versions contain no added MgO which is used as a sintering and grain growth control additive. Pure alumina fired bodies with MgO have a higher fired density and an off-white appearance.





Superground A 152 Aluminas for Ceramic Applications

Product	A 152 SG ^(1, 2)			A 152 SG (NM) ⁽¹⁾			A 152 GR (NM) ⁽¹⁾		
	Min	Max	Typical	Min	Max	Typical	Min	Max	Typical
Chemical Composition (%)									
Al ₂ O ₃ by difference			99.8			99.8			99.8
Na ₂ O		0.10	0.06		0.10	0.06		0.10	0.06
Fe ₂ O ₃		0.05	0.02		0.05	0.02		0.05	0.02
MgO	0.05	0.10	0.07		0.02	0.015		0.02	0.015
SiO ₂		0.08	0.04		0.08	0.04		0.08	0.04
CaO		0.05	0.02		0.05	0.02		0.05	0.02
Physical Properties									
Surface Area BET (m ² /g)	3.5	4.8	4.3	3.5	4.8	4.3	4.0	6.0	4.8
Wet -325 Mesh Sieve (%)	99.4		99.8	99.4		99.8	99.4		99.8
Cilas d90 (µm)		3.0	2.7		3.0	2.7		3.0	2.7
Cilas d50 (µm)	1.0	1.3	1.2	1.0	1.3	1.2	1.0	1.3	1.2
Ceramic Properties									
Green Density (g/cc)	2.20	2.40	2.34	2.20	2.40	2.34	2.20	2.40	2.34
Fired Density (g/cc)	3.75		3.81	3.60		3.73	3.60		3.75
Shrinkage (%)	13.5	16.2	15.0	13.0	16.0	14.4	13.0	16.0	14.7

(1) A 152 SG has MgO added as a sintering and grain growth control additive.

Because no MgO is added to either A 152 SG (NM) or A 152 GR (NM), the fired density and firing shrinkage are lower than for the MgO containing versions.

(2) Ceramic properties are evaluated at a 1620°C firing temperature of a pure A 152 SG test specimen. Fired density is known to increase as temperature increases to 1670°C. Typical density for a 1670°C fired body is 3.91 g/cc.

Standard Packaging

50 lb paper bags - 70 per pallet
 25 kg paper bags - 40 per pallet
 2500 lb super sacks - 1 per pallet
 1 mt super sacks - 1 per pallet
 Other options available with upcharge

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

The typical properties are based upon the actual averages from production data.
 The Min/Max data represents Almatis standard product specification data for these products.



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