REACTIVE GRADE ALUMINA (AL_2O_3)

Martinswerk reactive grade alumina powders are processed for use as a reactive binder in various applications. Technical ceramics, structural ceramics electronic substrates and refractory shapes.

With a crystal size of less than 2 microns, the Martinswerk reactive grade alumina powders have an Al_2O_3 content of at least 99.7%.

Reactive grades are more stable than calcined alumina, thus suitable for dense, high strength wear resistant materials

TYPICAL APPLICATIONS

Polishing	Polishing	Filtration
Structural Ceramics	Lapping	Abrasives
Technical Ceramics	Metal Preparation	Refractory
Refractories	Anti-Slip	Milling
Body and Vehicle Armor	Laminates	Filler
Grinding	Coatings	

TYPICAL PROPERTIES

- High Hardness
- High Compression Strength
- Abrasive Wear-Resistance
- Ability to Resist Vigorous Chemical Attacks at Extreme Temperatures
- High Degree of Refractoriness
- Superior Electrical Insulating Properties
- Resistance to Thermal Shock
- Dielectric Properties
- High Melting Point

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REACTIVE GRADE ALUMINA PRODUCT DATA

	MR23	MR32	MR42	MR52	MR70
Al_2O_3 (%)	≈99.8	≈99.8	≈99.8	≈99.8	≈99.8
Na_2O (%) total	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
CaO (%)	≈0.02	≈0.03	≈0.02	≈0.04	≈0.02
Fe_2O_3 (%)	≈0.02	≈0.03	≈0.02	≈0.03	≈0.02
SiO_2 (%)	≈0.025	≈0.05	≈0.05	≈0.01	≈0.08
MgO	-	-	-	≈0.08	≈0.06
αAl_2O_3 (%)	≥95	-	-	≥95	-
Loss on Ignition (%)	≤0.2	-	-	≤0.23	-
Specific Surface Area (m^2/g)	0.2-0.5	3.5-5	2-3	6-9	6-10
Primary Crystal Size (μm)	≈3	-	-	≈1.5	-
Bulk Denisty (kg/m^3)	≈600	≈1000	≈600	≈1100	≈900
Green Density (50 MPa) g/cm^3	≈2.16-2.30	≈2.45	2.1-2.3	-	2.15-2.38
Fired Denisty (1600oC, 2h) g/cm^3	-	≈3.4	3.0-3.3	-	3.74-3.95
Water Adsorption (ml/100g)	-	-	≈18	≈13	≈20

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