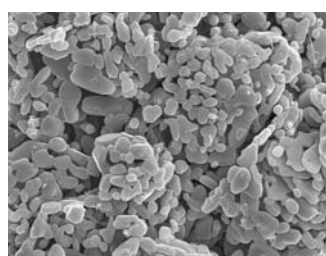


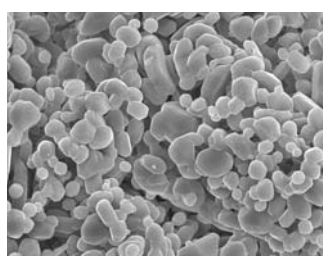
# Low Soda Alumina

Low soda alumina features excellent chemical stability, electric insulation, heat resistance, thermal conductivity, hardness and mechanical strength. It is widely used in electronic devices, spark plugs and mechanical parts as well

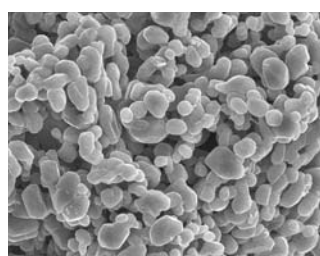
as engineering ceramics. We make sure that the sintering characteristics such as firing shrinkage are controlled to meet individual applications.



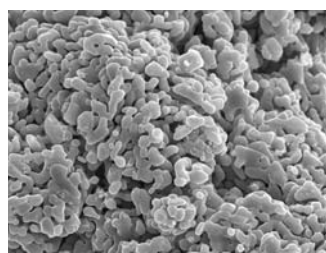
LS-11



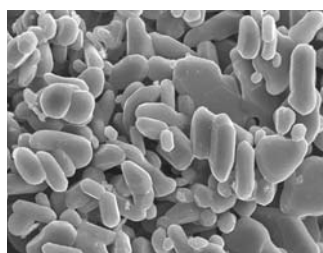
LS-12



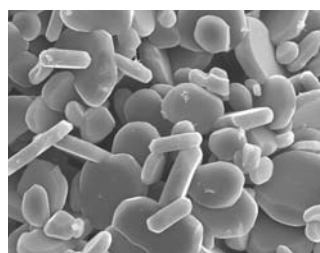
LS-13



LS-20



LS-22



LS-21

## Typical Properties (Unmilled)

Grade	SLS-13	LS-11	LS-12	LS-13	LS-20	LS-22	LS-21
LOI (%)	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Na <sub>2</sub> O (%)	0.04	0.05	0.03	0.03	0.08	0.07	0.07
SiO <sub>2</sub> (%)	0.07	0.07	0.07	0.06	0.02	0.02	0.02
Fe <sub>2</sub> O <sub>3</sub> (%)	0.03	0.03	0.03	0.03	0.02	0.02	0.02
Al <sub>2</sub> O <sub>3</sub> (%)	99.9	99.8	99.9	99.9	99.9	99.9	99.9
Ave. Particle Size (µm)	105	55	55	55	20~40	20~40	20~40
α-Crystal Size (µm)	—	1~2	1~3	2~4	2~3	2~3	3~5
BET Specific Surface Area (m <sup>2</sup> /g)	—	1.5	1.2	0.9	1.5	1.1	0.6
Green Density (g/cm <sup>3</sup> ) <sup>*</sup>	—	2.03	2.10	2.12	2.04	2.10	2.26
Fired Density (g/cm <sup>3</sup> ) <sup>*</sup>	—	3.79	3.80	3.78	3.81	3.81	3.78
Linear Shrinkage (%) <sup>*</sup>	—	19.2	18.7	17.7	19.0	18.0	15.9

\*LS-11, LS-12 and LS-13: with 4% flux after grinding. Pressed at 49.03MPa{500kgf/cm<sup>2</sup>}, Fired at 1590°C for 3hrs

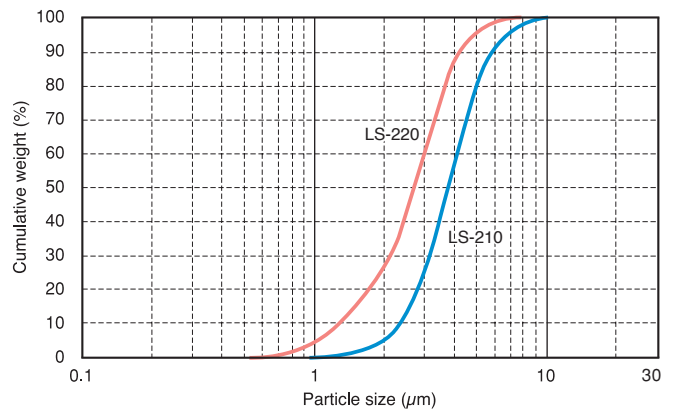
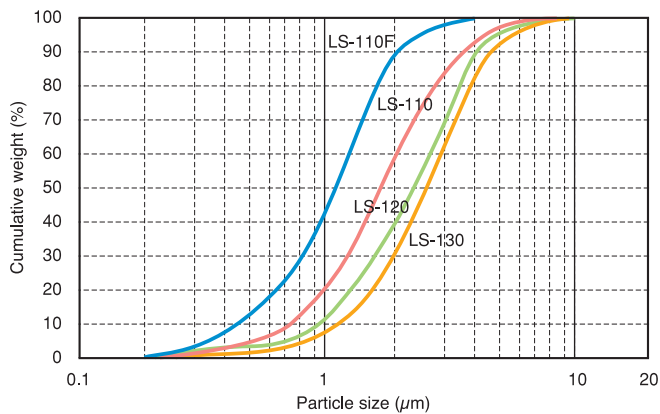
\*LS-20, LS-21 and LS-22: with 4% flux after grinding. Pressed at 49.03MPa{500kgf/cm<sup>2</sup>}, Fired at 1640°C for 3hrs

## Typical Properties (Milled)

Grade	LS-110	LS-120	LS-130	LS-110F	LS-220	LS-210
LOI (%)	0.02	0.02	0.05	0.08	0.03	0.01
Na <sub>2</sub> O (%)	0.05	0.04	0.03	0.05	0.07	0.08
SiO <sub>2</sub> (%)	0.07	0.07	0.07	0.09	0.02	0.02
Fe <sub>2</sub> O <sub>3</sub> (%)	0.03	0.03	0.03	0.03	0.02	0.02
Al <sub>2</sub> O <sub>3</sub> (%)	99.9	99.9	99.9	99.9	99.9	99.9
Ave. Particle Size (μm)	1.7	2.1	2.2	1.1	2.7	2.9
α-Crystal Size (μm)	1~2	1~3	2~4	1~2	2~3	3~5
BET Specific Surface Area (m <sup>2</sup> /g)	1.9	1.4	1.4	3.2	1.6	0.9
Bulk Density (Pressed) (g/cm <sup>3</sup> )*	2.22	2.27	2.31	2.29	2.22	2.32
Green Density (g/cm <sup>3</sup> **)	2.13	2.20	2.23	2.33	2.17	2.30
Fired Density (g/cm <sup>3</sup> **)	3.78	3.79	3.78	3.89	3.81	3.77
Linear Shrinkage (%)	18.0	17.2	16.7	15.7	17.5	15.3

\*Pressed at 98.07MPa{1000kgf/cm<sup>2</sup>} \*\*With 4% flux, Pressed at 49.03MPa {5000kgf/cm<sup>2</sup>}, Fired at 1640°C for 3hrs

## Particle Size Distribution

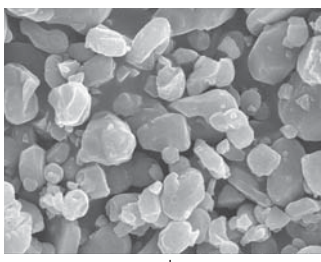


## Applications

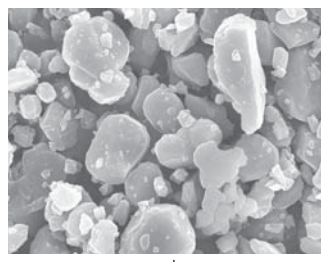
- (1) Spark plug
- (2) Electronic parts (IC substrates, capacitors)
- (3) Engineering ceramics for semiconductor manufacturing equipment
- (4) Laboratory apparatus
- (5) Mechanical parts
- (6) Special refractories
- (7) Catalyst carriers

## Packing

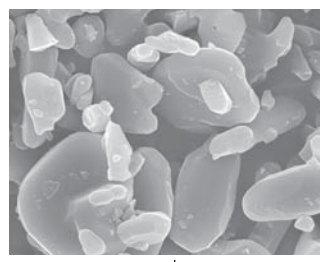
- Flexible container bag (500kg and 1000kg)
- Paper bag (25kg)



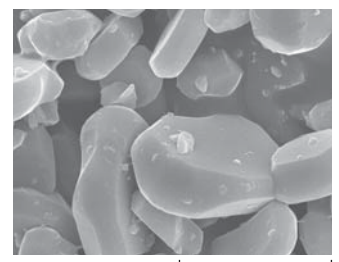
LS-110



LS-120



LS-220



LS-210