

Product Databook(Excerpt)

☐ *High Purity Alumina - HPA*



Table of Contents

1. Aluminum Hydroxide

- Generic Grade Page 2
- Fine, Very Fine, Low-Soda Page 2
- High-Whiteness Page 3
- High-Whiteness (Surface Treated) Page 3
- Low Viscosity Page 4

2. Aluminum Oxide - Alumina

- Normal Soda / Unground Page 5
- Normal Soda / Ground Page 6
- Low Soda / Unground Page 6
- Low Soda / Ground Page 7
- Low Soda / Ground (for Functional Fillers) Page 8
- Normal Soda / Easy-sintering (Reactive) Page 9
- Low Soda / Easy-sintering (Reactive) Page 10

3. High Purity Alumina - HPA

- AKP Series Page 11
- Advanced Alumina (AA) Page 12
- NXA Series Page 13
- Gamma HPA/HIT Series/High Bulk Density for Single Crystal Page 14

4. Activated Alumina / Hydraulic Alumina

- Activated Alumina : Powder Shape Page 15
- Activated Alumina : Spherical Shape Page 16
- Hydraulic Alumina Page 17

<Important Notice for Users of this Databook>

- (1) All data in this data book is typical and not guaranteed. The typical properties of all the listed products in this data-book are subject to change without prior notice due to continual improvements.
- (2) Applications mentioned in this databook are examples without any guarantee. Fitness for any particular purpose should be verified by customers.
- (3) Please refrain from using products in this databook for medical and food applications.

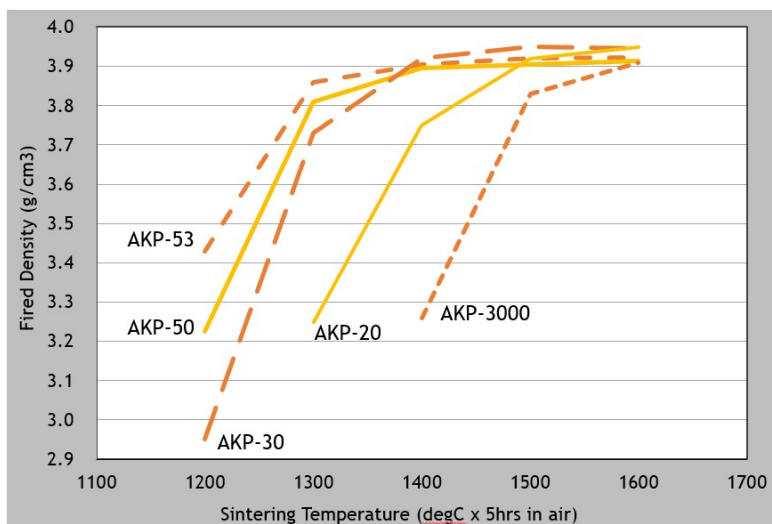
3. High Purity Alumina - HPA

Sumitomo Chemical's High Purity Aluminas (HPA) are uniform fine powders characterized by highly pure and homogeneous crystal structure. We produce HPA by Aluminum Alkoxide Hydrolysis process.

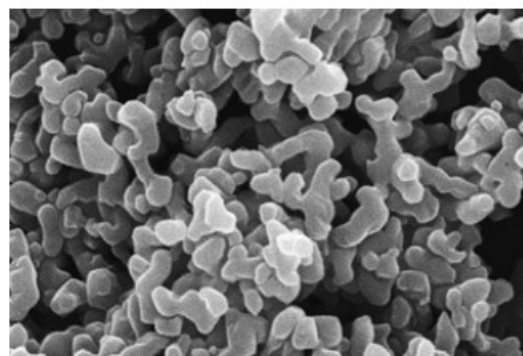
AKP Series

Product		AKP-15	AKP-20	AKP-30	AKP-50	AKP-53	AKP-3000
Typical Properties							
Crystal Structure		α	α	α	α	α	α
Purity(Al_2O_3)	[%]	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
D50 (MT3300)	[μm]	0.60	0.42	0.26	0.20	0.17	0.67
Loose Bulk Density	[g/cm ³]	0.9	1.0	0.9	0.9	1.1	0.43
Tapped Bulk Density	[g/cm ³]	1.5	1.4	1.3	1.3	1.4	0.81
BET Specific Surface Area	[m ² /g]	3.6	4.6	7.4	11.1	13.7	4.4
Impurity	Si	20	16	9	10	36	3
	Na	6	3	3	3	3	2
	Mg	3	3	2	2	6	1
	Cu	1	1	1	1	1	1
	Fe	2	2	2	2	3	2
Packing	PE Bag	20kg	20kg	20kg	20kg	20kg	10kg
	Pail Can						
Application		High-strength and High-density Ceramics, Translucent Ceramics, Composite Materials, Additives for non-Oxide Ceramics, Abrasives, Ceramic Filter, Resin Filler, etc.					
							Insulation layer of Li-ion Secondary Battery

Sintering Properties



AKP-3000

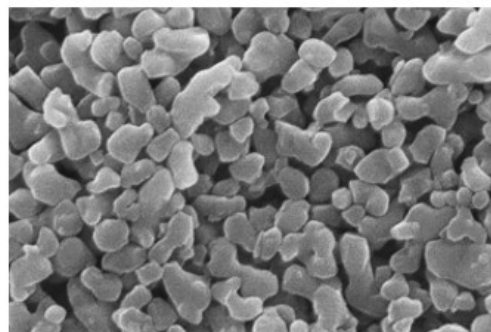


1µm

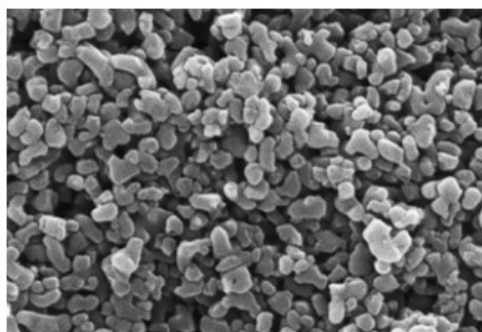
AKP-20

AKP-30

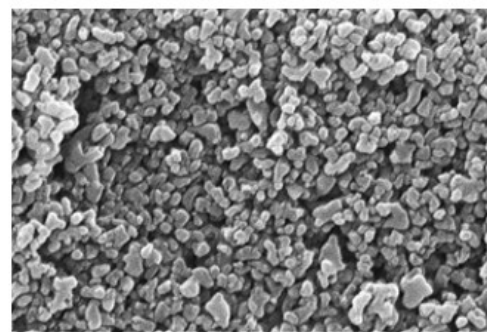
AKP-50



1µm



1µm



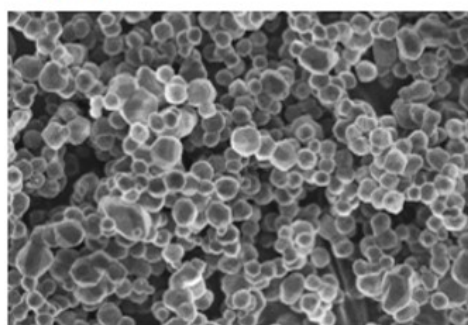
1µm

Advanced Aluminas are α -alumina single crystals with precisely controlled particle size distribution and almost-spherical polyhedral shape.

Advanced Alumina (AA)

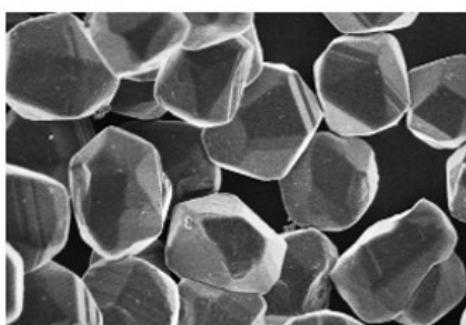
Product		AA-03F	AA-03	AA-04	AA-05	AA-07	AA-1.5	AA-2	AA-3	AA-5	AA-18
Typical Properties											
Crystal structure		α	α	α	α	α	α	α	α	α	α
Purity(Al_2O_3)	[%]	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
D50 (MT3300)	[μm]	0.26	0.40	0.47	0.58	0.88	1.7	2.2	3.5	6.6	20.3
Loose Bulk Density	[g/cm ³]	1.1	0.5	0.5	0.6	0.6	0.6	0.7	0.7	1.3	1.9
Tapped Bulk Density	[g/cm ³]	1.4	0.9	1.0	1.1	1.2	1.5	1.5	1.5	2.0	2.4
BET Specific Surface Area	[m ² /g]	6.2	5.6	4.6	3.2	2.2	1.3	1.1	0.6	0.4	0.2
Impurity	Si	[ppm]	14	4	4	4	9	11	22	22	17
	Fe	[ppm]	4	2	2	2	3	2	3	2	2
	Na	[ppm]	3	3	3	3	3	3	3	3	3
	Mg	[ppm]	1	1	1	1	1	1	1	1	1
	Cu	[ppm]	1	1	1	1	1	1	1	1	1
Packing	PE Bag	20kg	20kg	20kg	20kg	20kg	20kg	20kg	20kg	20kg	
	Pail Can										20kg
Application		High-strength and High-density Ceramics, Translucent Ceramics, Resin filler(Thermal Conductive Materials), Plasma Spray, Ceramic Filter, etc.									

AA-04



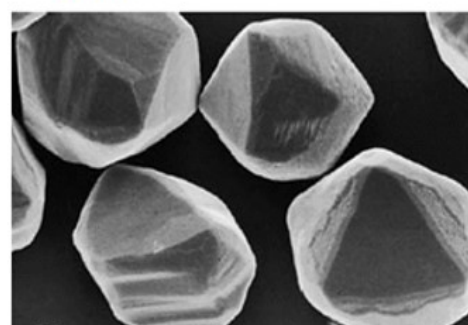
1 μm

AA-3



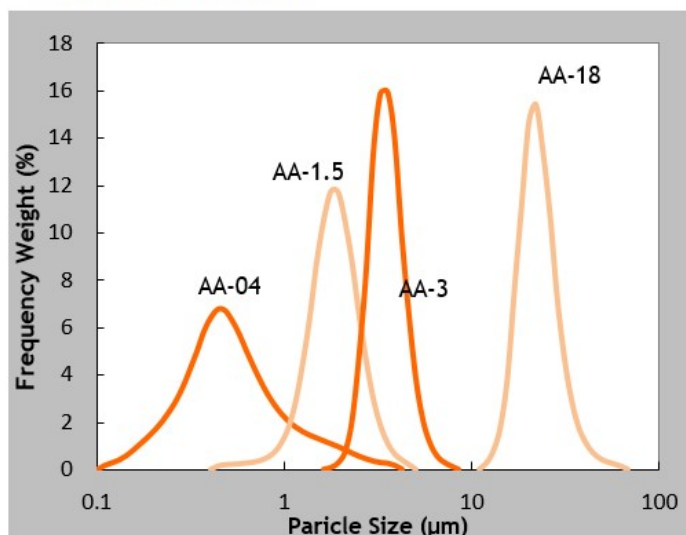
2 μm

AA-18

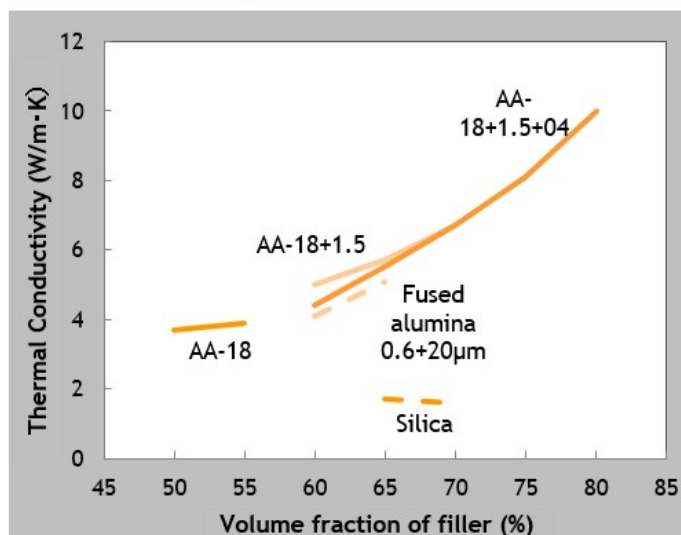


20 μm

Particle Size Distribution



Thermal Conductivity

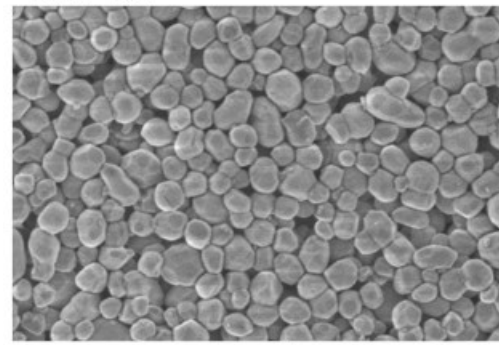


NXA is almost-spherical fine α -alumina crystals with good dispersion. New Product, NXA-E, with even better dispersion is also available (data sheet is upon request.)

NXA Series

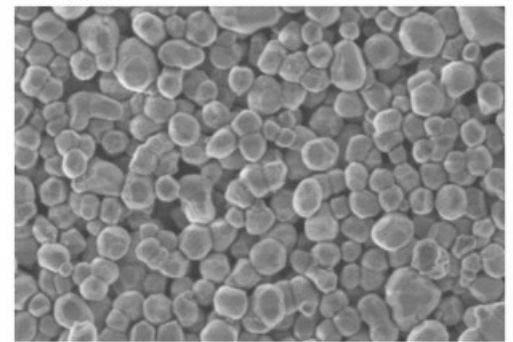
Product		NXA-100	NXA-150
Typical Properties			
Crystal structure		α	α
Purity(Al_2O_3)	[%]	≥ 99.99	≥ 99.99
D50 (MT3300)	[μm]	0.21	0.23
Loose Bulk Density	[g/cm ³]	1.0	1.0
Tapped Bulk Density	[g/cm ³]	1.3	1.3
BET Specific Surface Area	[m ² /g]	10.8	9.7
Impurity	Si	[ppm]	12
	Fe	[ppm]	3
	Na	[ppm]	< 3
	Mg	[ppm]	2
	Cu	[ppm]	< 1
Packing	AL Laminated Bag	20kg	20kg
Application		High-strength and High-density Ceramics, Translucent Ceramics, Resin Filler(Thermal Conductive Materials), Precision Abrasives, etc.	

NXA-100



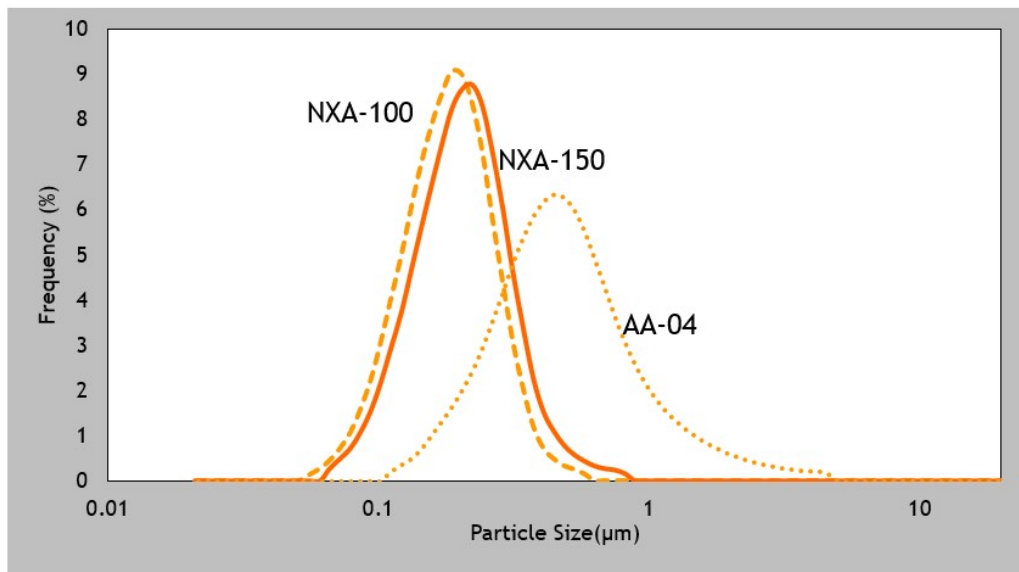
1.0 μm

NXA-150

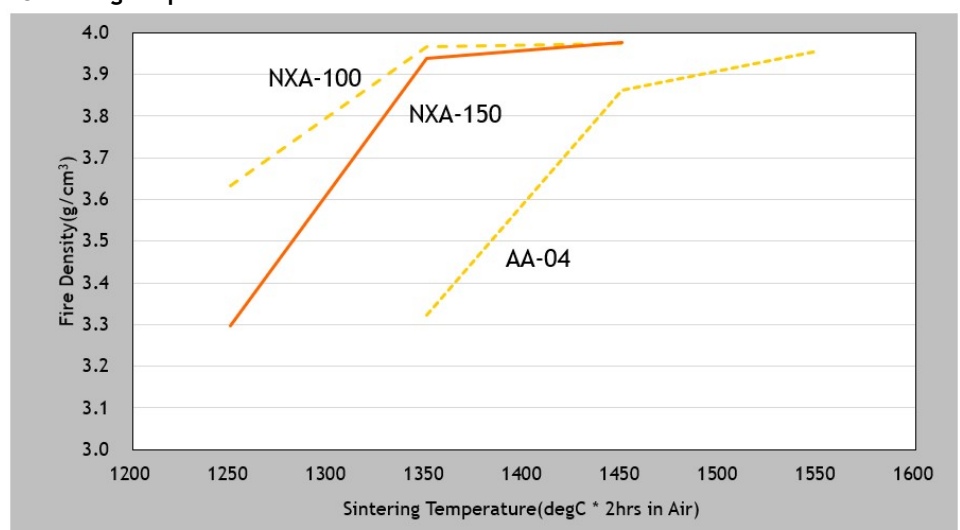


1.0 μm

Particle Size Distribution



Sintering Properties



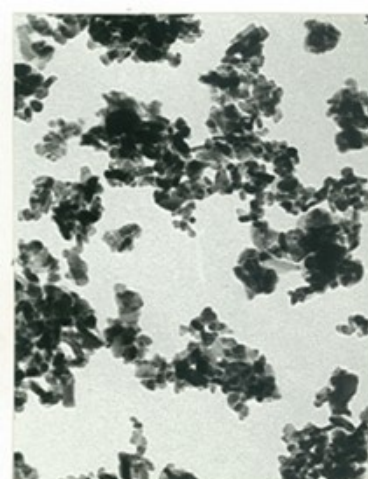
Gamma HPA

Typical Properties		Product	
		AKP-G07	AKP-G15
Crystal Structure		θ	γ
Purity(Al ₂ O ₃)	[%]	≧ 99.99	≧ 99.99
Loose Bulk Density	[g/cm ³]	-	0.13
Tapped Bulk Density	[g/cm ³]	0.3	0.16
BET Specific Surface Area	[m ² /g]	79.9	164
Impurity	Si	[ppm]	3
	Na	[ppm]	3
	Mg	[ppm]	1
	Cu	[ppm]	1
	Fe	[ppm]	4
Packing		20kg Cardboard Box	10kg Cardboard Box
Application		Resin Filler, Catalyst, etc.	



AKP-G15

0.1μm

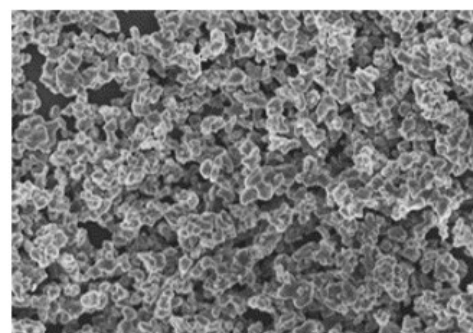


AKP-G07

0.1μm

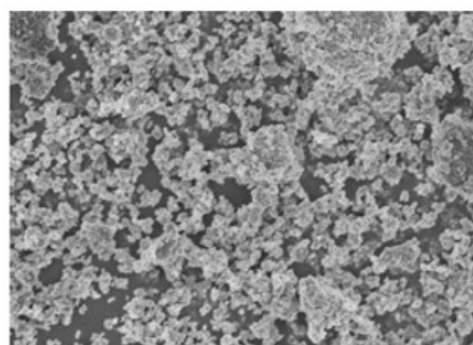
HIT Series

Typical Properties		Product	
		HIT-60A	HIT-100
Crystal Structure		α	α
Loose Bulk Density	[g/cm ³]	0.8	0.9
Tapped Bulk Density	[g/cm ³]	1.1	1.2
BET Specific Surface Area	[m ² /g]	12.5	36.1
Packing		15kg PE Bag	20kg Pail Can
Application		Abrasive, etc.	



HIT-60A

1μm

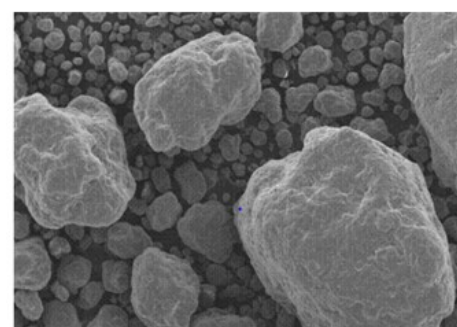


HIT-100

1μm

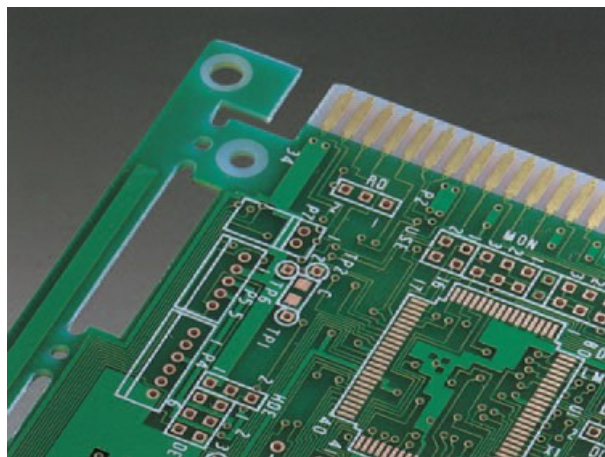
High Bulk Density for Single Crystal

Typical Properties		Product	
		AKX-5	
Crystal Structure		α	
Purity(Al ₂ O ₃)	[%]	≧ 99.99	
Loose Bulk Density	[g/cm ³]	1.8	
Tapped Bulk Density	[g/cm ³]	-	
BET Surface Area	[m ² /g]	1.1	
Impurity	Si	[ppm]	9
	Na	[ppm]	3
	Mg	[ppm]	1
	Cu	[ppm]	1
	Fe	[ppm]	3
Packing		100kg Fiber Drum	
Application		Single Crystal	



AKX-5

1mm



Aluminum Hydroxide as a flame retardant for CCL.



Aluminum Hydroxide as a filler for solid surface.

CONTACTS for Sales and Technical Information

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