

Product Databook(Excerpt)

☐ *High Purity Alumina - HPA*



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<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 databook 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

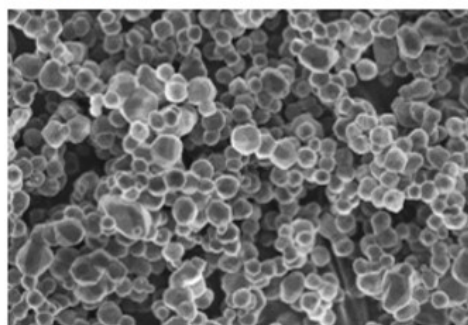
Product		AKP-15	AKP-20	AKP-30	AKP-50	AKP-53	AKP-700	AKP-3000	
Typical Properties									
Crystal Structure		α	α	α	α	α	α	α	
Purity(Al2O3)	[%]	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	
D50 (MT3300)	[μm]	0.60	0.42	0.26	0.20	0.17	-	0.67	
Loose Bulk Density	[g/cm3]	0.9	1.0	0.9	0.9	1.1	0.7	0.43	
Tapped Bulk Density	[g/cm3]	1.5	1.4	1.3	1.3	1.4	1.1	0.81	
BET Specific Surface Area	[m2/g]	3.6	4.6	7.4	11.1	13.7	17.8	4.4	
Impurity	Si	[ppm]	20	16	9	10	36	8	3
	Na		6	3	3	3	3	3	2
	Mg		3	3	2	2	6	1	1
	Cu		1	1	1	1	1	1	1
	Fe		2	2	2	2	3	3	2
Packing	PE Bag	20kg	20kg	20kg	20kg	20kg		10kg	
	Pail Can						10kg		
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							

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

Advanced Alumina (AA)

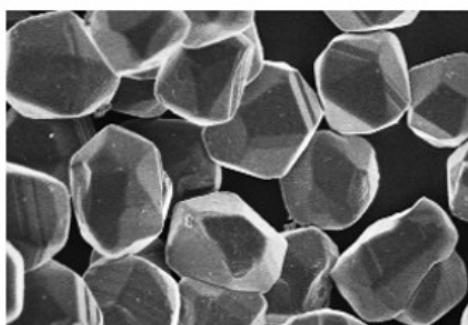
Product		AA-03	AA-04	AA-05	AA-07	AA-1.5	AA-2	AA-3	AA-5	AA-10	AA-18
Typical Properties											
Crystal structure		α	α	α	α	α	α	α	α	α	α
Purity(Al_2O_3)	[%]	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
D50 (MT3300)	[μm]	0.40	0.47	0.58	0.88	1.7	2.2	3.5	6.6	13.5	20.3
Loose Bulk Density	[g/cm ³]	0.5	0.5	0.6	0.6	0.6	0.7	0.7	1.3	1.7	1.9
Tapped Bulk Density	[g/cm ³]	0.9	1.0	1.1	1.2	1.5	1.5	1.5	2.0	2.3	2.4
BET Specific Surface Area	[m ² /g]	5.6	4.6	3.2	2.2	1.3	1.1	0.6	0.4	0.3	0.2
Impurity	Si	[ppm]	4	4	4	4	9	11	22	22	17
	Fe	[ppm]	2	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



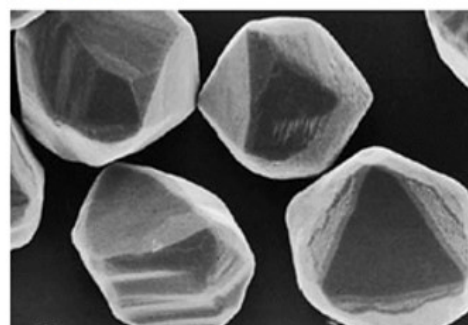
1 μm

AA-3



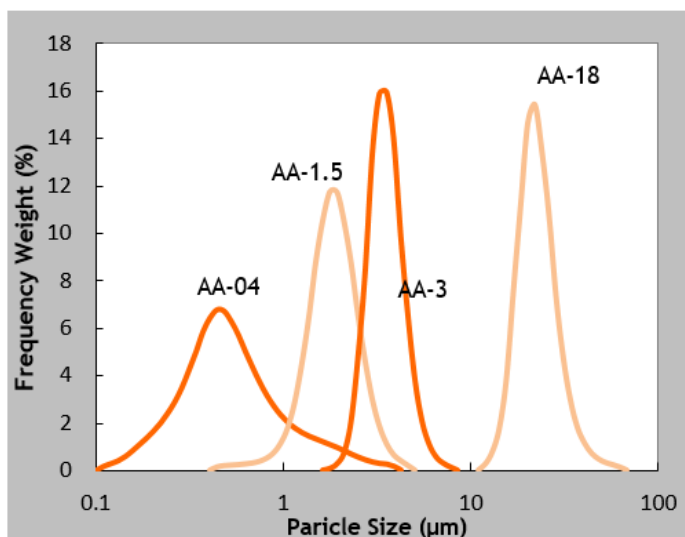
2 μm

AA-18

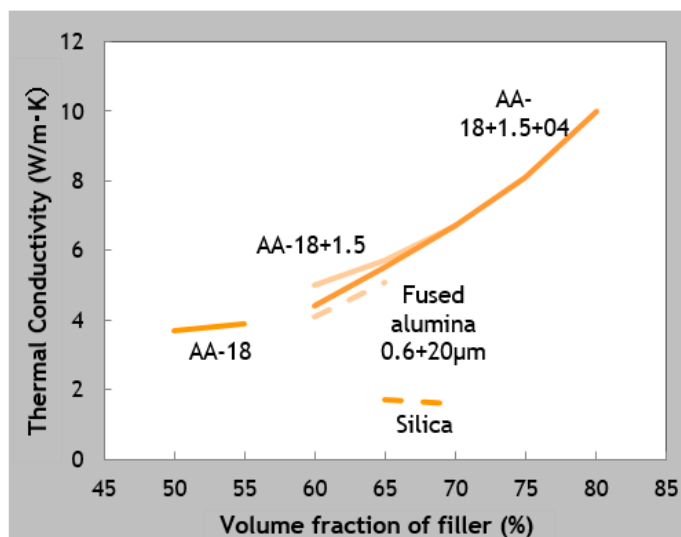


20 μm

Particle Size Distribution

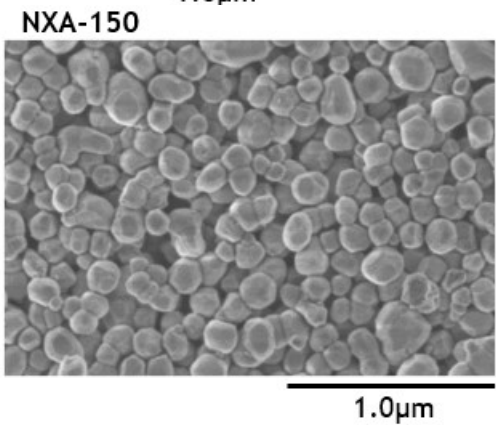
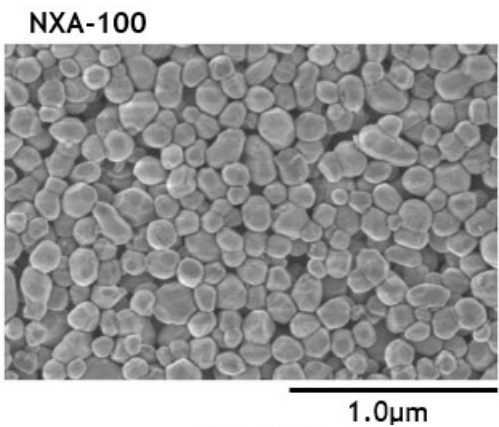


Thermal Conductivity

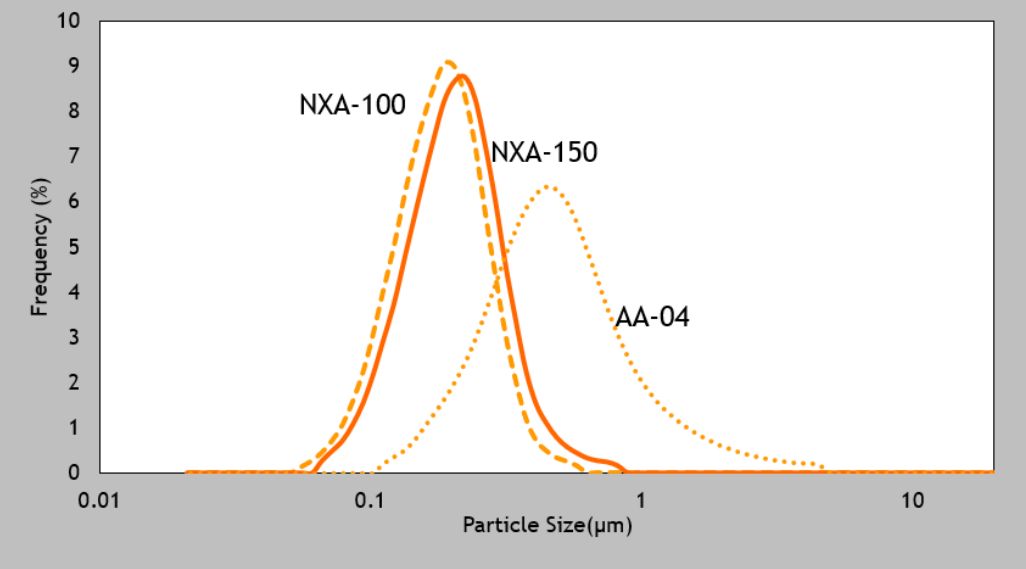


NXA is almost-spherical fine α -alumina crystals with excellent dispersion.

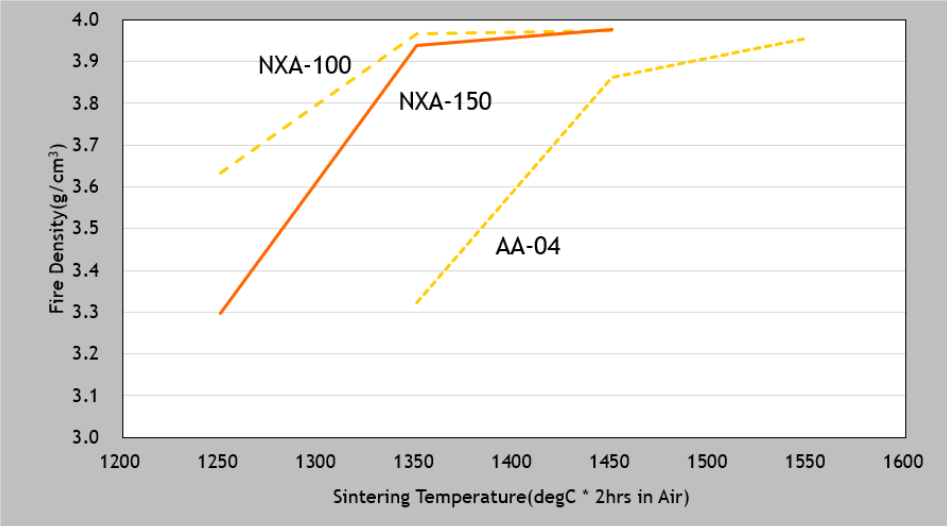
NXA Series			
Product		NXA-100	NXA-150
Typical Properties			
Crystal structure		α	α
Purity(Al_2O_3)	[%]	≥ 99.99	≥ 99.99
D50 (MT3300)	[μm]	0.18	0.20
Loose Bulk Density	[g/cm^3]	1.0	1.0
Tapped Bulk Density	[g/cm^3]	1.3	1.2
BET Specific Surface Area	[m^2/g]	10.8	9.7
Impurity	Si	[ppm]	12
	Fe	[ppm]	3
	Na	[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.	



Particle Size Distribution



Sintering Properties



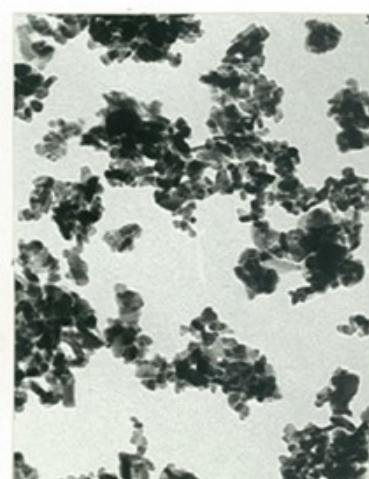
Gamma HPA

Product		AKP-G07	AKP-G15
Typical Properties			
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

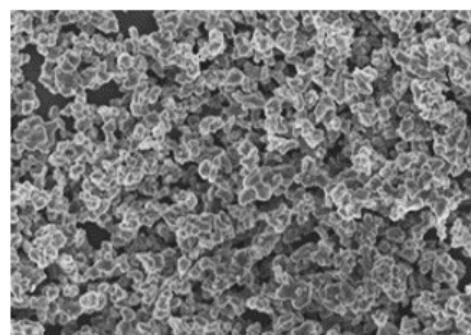


AKP-G07

0.1μm

HIT Series

Product		HIT-60A	HIT-82	HIT-100
Typical Properties				
Crystal Structure		α	α	α
Loose Bulk Density	[g/cm ³]	0.8	1.0	0.9
Tapped Bulk Density	[g/cm ³]	1.1	1.3	1.2
BET Specific Surface Area	[m ² /g]	12.5	25.4	36.1
Packing		15kg PE Bag	20kg Pail Can	20kg Pail Can
Application		Abrasive, etc.		



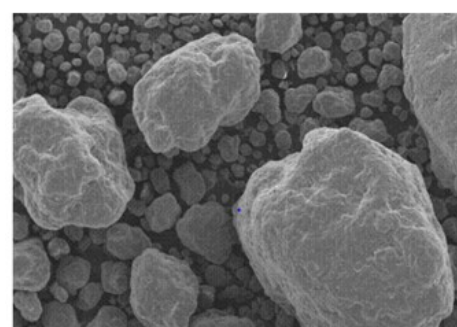
HIT-60A

1μm

HIT-100

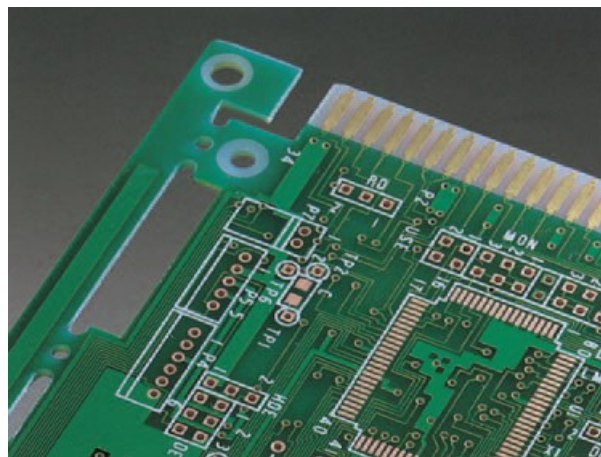
High Bulk Density for Single Crystal

Product		AKX-5	
Typical Properties			
Crystal Structure		α	
Purity(Al2O3)	[%]	≧ 99.99	
Loose Bulk Density	[g/cm3]	1.8	
Tapped Bulk Density	[g/cm3]	-	
BET Surface Area	[m2/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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