

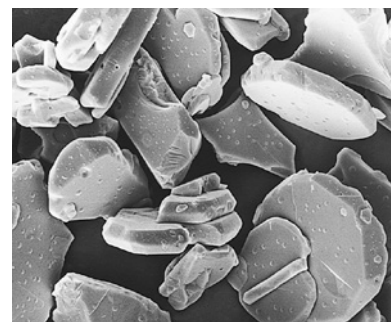
**A** Regular Fused  
Alumina

**WA** White Fused  
Alumina

**PWA** Platelet Calcined  
Alumina



この写真はイメージです。This photograph is an image.



PWA 35

#### ■A

Aは最も広く知られている研磨材で、通称アラウンドとも呼ばれています。ボーキサイトを電溶炉にて2000℃の高温で熔融させて得られる $Al_2O_3$ 純度90%以上のコランダム結晶で構成されており、特に砥粒としての靱性(耐破碎性)を向上させるためチタンを数%固溶させているのが特長です。その結果、研磨微粉の中で最も高い靱性を持ち、つねに一定の粒度分布に調整された製品は、高い研磨能率とスクラッチフリーの研磨面をもたらし、安定した研磨性能を維持します。Aは、超仕上用精密砥石や超仕上用研磨布紙の材料などに適しており、またブラウン管をはじめとする各種硝子類や軟質金属等の精密ラッピングにも最適な研磨微粉です。

#### ■WA

WAは白色アルミナ質研磨材で、幅広い用途に使用される代表的な精密加工用微粉です。製法は熔融アルミナを微粉砕し整粒したもので、成分はaタイプのコランダム結晶で構成された $Al_2O_3$ 純度96.0%以上の高純度アルミナです。炭化けい素に次ぐ硬度を有し、シャープな粒度分布と安定した粒形を保ち、高度な表面加工が可能です。WAは、超仕上用精密砥石の材料や超仕上用研磨布紙の材料に、また超精密表面仕上用の研磨テープの材料として優れた性能を発揮します。また抗張力のない金属や硝子、水晶、半導体結晶等の精密ラッピングにも適し、さらに化学的に不活性で高温に耐え、極めて高い絶縁性を持っています。また化学処理により純度を維持していますので有機物との反応安定性も抜群なため、エポキシ樹脂碍子等の高級フィラー材(充填材)などにも幅広く使用されます。

#### ■PWA

PWAは $Al_2O_3$ 純度99.0%以上の板状結晶で構成された高品質なアルミナ質研磨材です。耐熱性に優れており、化学的にも不活性で、酸やアルカリにも侵されません。また粒度分布が安定しているため、精巧な研磨面が得られ、優れた研磨能率を発揮します。PWAは、幅広い用途を持つ機能性に富んだ研磨材料です。シリコン、光学材料、水晶、ステンレス、その他の金属材料のラッピング材のほか、コーティング用フィラー材、研磨布紙材、さらに金属や合成樹脂との複合材などに最適です。

#### ■A

A is the most widely known abrasive powder, popularly called by the name Arundum. This product is made by melting bauxite in an electric furnace at a temperature of 2000 °C to obtain  $Al_2O_3$  corundum crystal of at least 90% purity. One special feature of this product is that the toughness (tenacity) of the abrasive particles has been increased by fusing them with a small percentage of titanium. As a result, A has the highest degree of toughness among all Fujimi abrasive powders. This product, which is manufactured to sustain a consistent distribution of particle sizes, is a highly efficient abrasive and will not scratch the surface of the workpiece, and maintains great stability as it functions as an abrasive. A is well suited for use as a material in super finishing precision grindstones and super finishing lapping cloth or paper. It is the most suitable abrasive powder for use on cathode ray tubes and other related glassware, and soft metals, where precision lapping is required.

#### ■WA

WA is a fused White Alumina abrasive powder. It is a product with a wide variety of uses, and typical of the powders used in precision processing. It is produced by crushing fused alumina into a powder and then sorting the particles into a uniform size. WA has an a-type corundum crystal configuration. It is a high purity alumina, with at least a 96.0% pure  $Al_2O_3$  composition. It has a hardness next to that of silicon carbide, a closely controlled particle size distribution, and a consistent particle shape, and has the potential to be used for high level surface processing. WA has superior qualities for use as a material in super finishing precision grindstones, super finishing lapping cloth or paper, and lapping tape for super precision surface finishing. It is also well suited for precision lapping of such materials as metals, quartz crystal and semiconductor having low tensile strength. Further, WA is chemically inert and able to bear high temperatures, and it has extremely high insulation characteristics. The level of purity is maintained by means of chemical processing, and is very consistent in its reaction with organic matter, it is widely used, among other things, as a high grade filler for epoxy resin insulator.

#### ■PWA

PWA is a high quality alumina type abrasive powder, consisting of a plate-shaped crystal of  $Al_2O_3$  with a purity of over 99.0%. It has excellent heat resistant properties as well as being chemically inert, and is not corroded by either acids or alkalines. As the particle size distribution of PWA is tightly controlled, it can produce a very fine lapped surface, giving it superlative effectiveness as an abrasive. With a tremendous range of utilizations, PWA is an abrasive powder capable of performing a myriad of functions. In addition to being suitable as lapping agent for silicon, optical materials, liquid crystal, stainless and other metals, PWA is also ideal for use as filler material for coatings, as a material for coating lapping cloth or paper, and as a compounding agent combined with a metal or synthetic resin.

## 標準粒度規格 Standard Specifications for Particle Size ■ A ■ WA

粒度 Particle Size	粒度分布 Particle Distribution ( $\mu\text{m}$ )				包装 Packaging		
	最大粒子径 Maximum particle size	累積高さ3% 点の粒子径 Particle size at 3% point	累積高さ50% 点の粒子径 Particle size at 50% point	累積高さ94% 点の粒子径 Particle size at 94% point	スタンドパック 正味重量(kg) Stand pack Net weight (kg)		紙袋入 正味重量(kg) Vinyl lined Net weight (kg)
# 240	$\leq 127$	$\leq 103$	$58.6 \pm 3.0$	$\geq 40.0$	5	5	20
# 280	$\leq 112$	$\leq 87.0$	$49.4 \pm 3.0$	$\geq 33.0$	5	5	20
# 320	$\leq 98.0$	$\leq 74.0$	$41.1 \pm 2.5$	$\geq 27.0$	5	5	20
# 360	$\leq 86.0$	$\leq 66.0$	$36.1 \pm 2.0$	$\geq 23.0$	5	5	20
# 400	$\leq 75.0$	$\leq 58.0$	$30.9 \pm 2.0$	$\geq 20.0$	5	5	20
# 500	$\leq 63.0$	$\leq 50.0$	$26.4 \pm 2.0$	$\geq 16.0$	5	5	20
# 600	$\leq 53.0$	$\leq 43.0$	$21.1 \pm 1.5$	$\geq 13.0$	5	5	20
# 700	$\leq 45.0$	$\leq 37.0$	$17.9 \pm 1.3$	$\geq 11.0$	4	4	20
# 800	$\leq 38.0$	$\leq 31.0$	$14.7 \pm 1.0$	$\geq 9.00$	4	4	20
# 1000	$\leq 32.0$	$\leq 27.0$	$11.9 \pm 1.0$	$\geq 7.00$	4	4	20
# 1200	$\leq 27.0$	$\leq 23.0$	$9.90 \pm 0.80$	$\geq 5.50$	4	4	20
# 1500	$\leq 23.0$	$\leq 20.0$	$8.40 \pm 0.60$	$\geq 4.50$	4	4	20
# 2000	$\leq 19.0$	$\leq 17.0$	$6.90 \pm 0.60$	$\geq 4.00$	4	4	20
# 2500	$\leq 16.0$	$\leq 14.0$	$5.60 \pm 0.50$	$\geq 3.00$	5	3	20
# 3000	$\leq 13.0$	$\leq 11.0$	$4.00 \pm 0.50$	$\geq 2.00$	5	3	20
# 4000	$\leq 11.0$	$\leq 8.00$	$3.00 \pm 0.40$	$\geq 1.30$	5	3	20
# 6000	$\leq 8.00$	$\leq 5.00$	$2.00 \pm 0.40$	$\geq 0.80$	5	3	20
# 8000	$\leq 6.00$	$\leq 3.50$	$1.20 \pm 0.30$	$\geq 0.60$ ※(1)	5	2	20
#10000			0.50~0.70		5	2	10
#20000			0.40~0.50		5	2	
#30000			0.30~0.39		5	2	

粒度測定方法は、#8000までは電気抵抗法、#10000は沈降天秤法、#20000、#30000はレーザー回折散乱法による。

Particle size is measured by Electrical sensing zone methods up to size #8000, by Sedimentation balance methods for #10000 and by Laser diffraction dispersion methods for #20000, #30000.

注(1):累積75%点の粒子径 (dv-75値) Note(1):Particle size at 75% point(dv-75 value)

備考:A製品は#2000まで、WA製品は#30000まで製造しています。 Remark:Product A is produced up to size #2000, Product WA is produced up to size #30000.

## 品質規格 Quality Standard ■ A ■ WA

種類 Type of product		比重 Specific Gravity	化学成分 Chemical composition (%)				
			Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Na <sub>2</sub> O
A	# 240~# 1200	$\geq 3.85$	$\geq 88.00$	$\leq 5.00$	$\leq 0.80$	$\leq 7.50$	.....
	# 1500~# 2000	$\geq 3.75$	$\geq 88.00$	$\leq 5.00$	$\leq 0.80$	$\leq 7.50$	.....
WA	# 240~# 3000	$\geq 3.90$	$\geq 99.00$	$\leq 0.30$	$\leq 0.10$	.....	$\leq 0.50$
	# 4000~# 10000	$\geq 3.85$	$\geq 96.00$	$\leq 1.20$	$\leq 0.20$	.....	$\leq 0.70$
	# 20000~# 30000	$\geq 3.60$	$\geq 96.00$	$\leq 1.30$	$\leq 0.20$	.....	$\leq 0.70$

## 標準粒度規格 Standard Specifications for Particle Size PWA

粒度 Particle Size	粒度分布 Particle Distribution ( $\mu\text{m}$ )				包装 Packaging
	最大粒子径 Maximum particle size	累積高さ3% 点の粒子径 Particle size at 3% point	累積高さ50% 点の粒子径 Particle size at 50% point	累積高さ94% 点の粒子径 Particle size at 94% point	
45	<82.9	$53.4 \pm 3.2$	$34.9 \pm 2.3$	$22.8 \pm 1.8$	20
40	<77.8	$41.8 \pm 2.8$	$29.7 \pm 2.0$	$19.0 \pm 1.0$	20
35	<64.0	$37.6 \pm 2.2$	$25.5 \pm 1.7$	$16.0 \pm 1.0$	20
30	<50.8	$30.2 \pm 2.1$	$20.8 \pm 1.5$	$14.5 \pm 1.1$	20
25	<40.3	$26.3 \pm 1.9$	$17.4 \pm 1.3$	$10.4 \pm 0.8$	20
20	<32.0	$22.5 \pm 1.6$	$14.2 \pm 1.1$	$9.00 \pm 0.80$	20
15	<25.4	$16.0 \pm 1.2$	$10.2 \pm 0.8$	$6.30 \pm 0.50$	20
12	<20.2	$12.8 \pm 1.0$	$8.20 \pm 0.60$	$4.90 \pm 0.40$	20
9	<16.0	$9.70 \pm 0.80$	$6.40 \pm 0.50$	$3.60 \pm 0.30$	20
5	<12.7	$7.20 \pm 0.60$	$4.70 \pm 0.40$	$2.80 \pm 0.25$	15
3	<10.1	$5.20 \pm 0.40$	$3.10 \pm 0.30$	$1.80 \pm 0.30$	15

## 品質規格 Quality Standard PWA

種類 Type of product	比重 Specific Gravity	化学成分 Chemical composition (%)			
		Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O
PWA3 PWA45	>3.90	>99.0	<0.20	<0.10	<1.00