

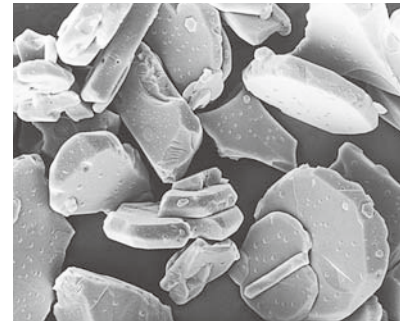
A Regular Fused Alumina

WA White Fused Alumina

PWA Platelet Calcined Alumina



该照片是示意图。This photograph is an image.



PWA 35

■A

A是最广为人知的研磨材料，也被通称为人造刚玉。由将铝矾土在电熔炉中以2000℃的高温熔融而得到的、Al₂O₃纯度在90%以上的刚玉晶体构成，特别是作为磨粒为了提高其韧性（耐破碎性）而固溶了一定百分比的钛，这也成为其一大特征。结果，具有研磨微粉中最高韧性、被调整至一定粒度分布的产品，可实现较高的研磨效率和无划伤研磨面，维持稳定的研磨性能。A很适合作为超精加工用精密磨石、超精加工用研磨布纸的材料等，另外，也是最适合于以显像管为代表的各种玻璃类或软质金属等精抛的研磨微粉。

■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 Al₂O₃ 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是白色氧化铝质研磨材料，是可用于广泛用途的典型精密加工用微粉。制造方法是将熔融氧化铝微粉碎并进行整粒而成，成分是由α型的刚玉晶体构成的Al₂O₃纯度在96.0%以上的高纯度氧化铝。具有仅次于碳化硅的硬度，能够保持锐利的粒度分布和稳定的颗粒形状，可以进行高水准的表面加工。

■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 α-type corundum crystal configuration. It is a high purity alumina, with at least a 96.0% pure Al₂O₃ 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.

WA可以作为超精加工用精密磨石材料、超精加工用研磨布纸材料，以及超精密表面精加工用研磨带材料，发挥优异的性能。另外，也适用于无抗拉强度的金属、玻璃、水晶、半导体晶体等的精抛，并且其具有化学惰性，可耐受高温，有极高的绝缘性。此外，由于通过化学处理来维持纯度，因而与有机物的反应稳定性也很出色，因此也被广泛用于环氧树脂绝缘子等的高级填料（填充材料）等中。

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 insulators.

■PWA

PWA是由Al₂O₃纯度在99.0%以上的板状晶体构成的高质量的氧化铝质研磨材料。耐热性出色，具有化学惰性，不会被酸或碱侵蚀。另外，粒度分布稳定，因而可实现精密的研磨面，发挥出色的研磨效率。

■PWA

PWA is a high quality alumina type abrasive powder, consisting of a plate-shaped crystal of Al₂O₃ 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.

PWA是具有广泛用途的功能性丰富的研磨材料。除了硅、光学材料、水晶、不锈钢及其他金属材料的粗抛材料以外，还最适合于镀膜用填料、研磨布纸材料以及与金属和合成树脂的复合材料等。

标准粒度标准 Standard Specifications for Particle Size ■ A ■ WA

| 粒度 Particle Size | 粒度分布 Particle Distribution (μm) | | | | 包装 Packaging | | |
|------------------------|----------------------------------|--|--|--|--|--|----|
| | 最大粒径 Maximum particle size | 累积高度3% 点的粒径 Particle size at 3% point | 累积高度50% 点的粒径 Particle size at 50% point | 累积高度94% 点的粒径 Particle size at 94% point | 立式袋 净重(kg) Stand pack Net weight (kg) | 纸袋 净重(kg) Vinyl lined Net weight (kg) | |
| # 240 | ≤ 127 | ≤ 103 | 58.6± 3.0 | ≥40.0 | 5 | 5 | 20 |
| # 280 | ≤ 112 | ≤87.0 | 49.4± 3.0 | ≥33.0 | 5 | 5 | 20 |
| # 320 | ≤98.0 | ≤74.0 | 41.1± 2.5 | ≥27.0 | 5 | 5 | 20 |
| # 360 | ≤86.0 | ≤66.0 | 36.1± 2.0 | ≥23.0 | 5 | 5 | 20 |
| # 400 | ≤75.0 | ≤58.0 | 30.9± 2.0 | ≥20.0 | 5 | 5 | 20 |
| # 500 | ≤63.0 | ≤50.0 | 26.4± 2.0 | ≥16.0 | 5 | 5 | 20 |
| # 600 | ≤53.0 | ≤43.0 | 21.1± 1.5 | ≥13.0 | 5 | 5 | 20 |
| # 700 | ≤45.0 | ≤37.0 | 17.9± 1.3 | ≥11.0 | 4 | 4 | 20 |
| # 800 | ≤38.0 | ≤31.0 | 14.7± 1.0 | ≥9.00 | 4 | 4 | 20 |
| # 1000 | ≤32.0 | ≤27.0 | 11.9± 1.0 | ≥7.00 | 4 | 4 | 20 |
| # 1200 | ≤27.0 | ≤23.0 | 9.90±0.80 | ≥5.50 | 4 | 4 | 20 |
| # 1500 | ≤23.0 | ≤20.0 | 8.40±0.60 | ≥4.50 | 4 | 4 | 20 |
| # 2000 | ≤19.0 | ≤17.0 | 6.90±0.60 | ≥4.00 | 4 | 4 | 20 |
| # 2500 | ≤16.0 | ≤14.0 | 5.60±0.50 | ≥3.00 | | 3 | 20 |
| # 3000 | ≤13.0 | ≤11.0 | 4.00±0.50 | ≥2.00 | | 3 | 20 |
| # 4000 | ≤11.0 | ≤8.00 | 3.00±0.40 | ≥1.30 | | 3 | 20 |
| # 6000 | ≤8.00 | ≤5.00 | 2.00±0.40 | ≥0.80 | | 3 | 20 |
| # 8000 | ≤6.00 | ≤3.50 | 1.20±0.30 | ≥0.60 ※(1) | | 2 | 20 |
| # 10000 | | | 0.50~0.70 | | | 2 | 10 |
| # 20000 | | | 0.40~0.50 | | | 2 | |
| # 30000 | | | 0.30~0.39 | | | 2 | |

粒度测量方法在#8000之前为电阻法、#10000为沉降天平法、20000/#30000为激光衍射法。

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):累积75%点的粒径(dv-75值) Note(1):Particle size at 75% point(dv-75 value)

备注:A产品制造至#2000以下, WA产品至#30000以下。 Remark:Product A is produced up to size #2000, Product WA is produced up to size #30000.

质量标准 Quality Standard ■ A ■ WA

| 种类 Type of product | | 比重 Specific Gravity | 化学成分 Chemical composition (%) | | | | |
|-----------------------|-----------------|------------------------|--------------------------------|------------------|--------------------------------|------------------|-------------------|
| | | | Al ₂ O ₃ | SiO ₂ | Fe ₂ O ₃ | TiO ₂ | Na ₂ O |
| A | # 240~# 1200 | ≥3.85 | ≥88.00 | ≤ 5.00 | ≤0.80 | ≤7.50 | …… |
| | # 1500~# 2000 | ≥3.75 | ≥88.00 | ≤ 5.00 | ≤0.80 | ≤7.50 | …… |
| WA | # 240~# 3000 | ≥3.90 | ≥99.00 | ≤ 0.30 | ≤0.10 | …… | ≤0.50 |
| | # 4000~# 10000 | ≥3.85 | ≥96.00 | ≤ 1.20 | ≤0.20 | …… | ≤0.70 |
| | # 20000~# 30000 | ≥3.60 | ≥96.00 | ≤ 1.30 | ≤0.20 | …… | ≤0.70 |

标准粒度标准 Standard Specifications for Particle Size PWA

| 粒度 Particle Size | 粒度分布 Particle Distribution (μm) | | | | 包装 Packing |
|------------------------|----------------------------------|--|--|--|---------------|
| | 最大粒径 Maximum particle size | 累积高度3% 点的粒径 Particle size at 3% point | 累积高度50% 点的粒径 Particle size at 50% point | 累积高度94% 点的粒径 Particle size at 94% point | |
| 45 | <82.9 | 53.4± 3.2 | 34.9± 2.3 | 22.8± 1.8 | 20 |
| 40 | <77.8 | 41.8± 2.8 | 29.7± 2.0 | 19.0± 1.0 | 20 |
| 35 | <64.0 | 37.6± 2.2 | 25.5± 1.7 | 16.0± 1.0 | 20 |
| 30 | <50.8 | 30.2± 2.1 | 20.8± 1.5 | 14.5± 1.1 | 20 |
| 25 | <40.3 | 26.3± 1.9 | 17.4± 1.3 | 10.4± 0.8 | 20 |
| 20 | <32.0 | 22.5± 1.6 | 14.2± 1.1 | 9.00±0.80 | 20 |
| 15 | <25.4 | 16.0± 1.2 | 10.2± 0.8 | 6.30±0.50 | 20 |
| 12 | <20.2 | 12.8± 1.0 | 8.20±0.60 | 4.90±0.40 | 20 |
| 9 | <16.0 | 9.70±0.80 | 6.40±0.50 | 3.60±0.30 | 20 |
| 5 | <12.7 | 7.20±0.60 | 4.70±0.40 | 2.80±0.25 | 15 |
| 3 | <10.1 | 5.20±0.40 | 3.10±0.30 | 1.80±0.30 | 15 |

质量标准 Quality Standard PWA

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