

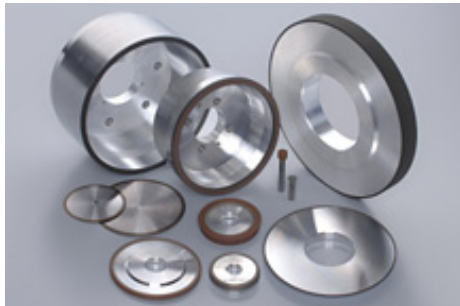
DIAMOND TOOLS

เครื่องมือเพชร

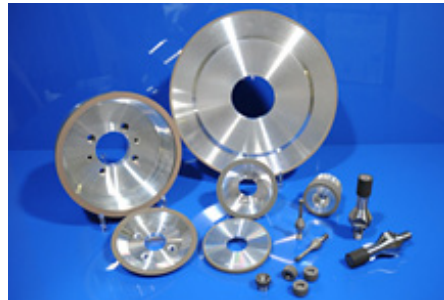


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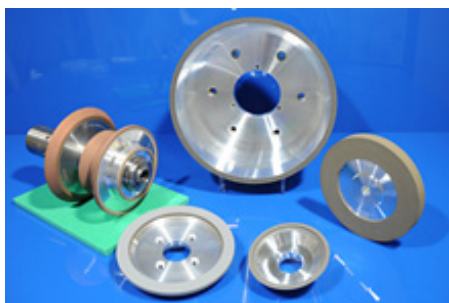
Diamond & CBN wheel (grinding wheel)



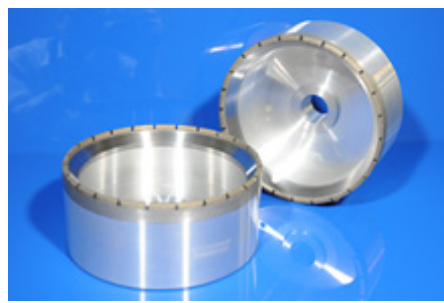
Diamond wheel



CBN wheel



Flexible wheel



The wheel containing a slit

Wheel

Sintered
Compact Tool

Electrolytic
Deposition
Tools

File

The main goods

- Straight (a plane / cylinder / cutter grinding machine)
- Third page straight (a plane / cylinder / cutter grinding machine)
- Plain cup (a cutter grinding machine / rotary)
- A flurrying cup (cutter grinding machine)
- The second page flurrying cup (cutter grinding machine)
- Taper cup (cutter grinding machine)
- Modification flurry cup (cutter grinding machine)
- Double-sided cup (a grinder / plane)
- A straight with a V Face (Profile)
- Straight axis (inside)
- The straight for axis-less (inside)
- Total form type (hob Polish / brooch)

Feature

Compared with a GC-WA whetstone, it is long-life, the time and effort of whetstone exchange can be saved, and a finished surface is also a good environment-friendly product.

It is mainly used for grinding processing of electronic components, a semiconductor, autoparts, a bearing, a metallic mold, etc.

Use

| | |
|---------|---|
| Diamond | A carbide bit, ceramics, a cermet tool, a carbide reamer, a carbide tipper saw, a carbide side cutter, carbide Scraper, cabide slitter, carbide gauge head, PCD tools, PCBN tools, the router drill for woodwork, an indenter, quartz, glass, a stone material, a precious stone and a semiprecious stone |
| CBN | Edge of a high-speed steel tipped turning tool, a completion byte, a sрил a reamer, a center drill, an end mill, T-slot cutter, a metal saw, a side cutter, a stainless steel edged tool, and a work tool, FC cast iron, alloy tool steels, carbon tool steels |

The display method of a diamond & CBN wheel

| JIS Mesh size | | SDC | | 140 | | N | | 100 | | B2 | | 3.0 Product number | |
|-----------------------|-------------------|-------|-----------------------------------|-------------------|--------|------------|----------------|-------------|--|---------------|-----------------------|--------------------|--|
| Display partical size | JIS particle size | GRAIN | | Degree of couping | | Bond agent | | Grain layer | | concentration | | | |
| 100 | 100/120 | D | Natural diamond | J | Soft | B | Resin | 1.0x | | 75 | 3.3ct/cm ³ | | |
| 120 | 120/140 | SD | A synthetic diamond | L | Soft | M | Metal | 2.0x | | 100 | 4.4ct/cm ³ | | |
| 140 | 140/170 | SDC | Metal coating composition diamond | N | Medium | V | Vitrified | 3.0x | | 125 | 5.5ct/cm ³ | | |
| 170 | 170/200 | B | CBN | P | Hard | P | Electro Plated | | | | | | |
| 200 | 200/230 | BC | Metal coating CBN | R | Hard | | | | | | | | |
| 230 | 230/270 | | | | | | | | | | | | |
| 270 | 270/325 | | | | | | | | | | | | |
| 325 | 325/400 | | | | | | | | | | | | |



The binding material of a diamond & CBN wheel

| | |
|------------------------------|---|
| Resin bond (B) | A resin bond wheel combines a diamond and CBN powder with thermosetting resin. Phenol resin and heat-resistant resin are one of this resin, and it is used for the wide range use. It is combined so that a smooth spontaneous generation action may be obtained, and general grinding shows the high grinding ratio in ceramic grinding, simultaneous grinding, and heavy grinding (creep feeding) from the first. |
| Metal bonded (M) | A metal bonded wheel sinters a diamond and CBN powder with special metallic powder. This bond shows the outstanding holding power, its bond agent hardness is also high, and when it desires the work and the high life which dislike form change, it shows the outstanding performance to cutting and grinding of profile grinding, superhard, a glass ceramic, etc. |
| Vitrified bond (V) | Vitrified bond wheel combines a diamond and CBN powder with the powder of the quality of special ceramics. This bond has little elastic deformation and wear and abrasion resistance is the middle of resin bond metal bonded. |
| Electricity arrival bond (P) | A Electricity arrival bond wheel is a wheel to which it is special electroplating method and electricity arrival of the grain was precisely carried out in a diamond and CBN powder to the form of metal core. The amount of grain projection and surface concentration density are high, and it demonstrates a good grinding ratio compared with other Bond. |

Peripheral speed of a diamond & CBN wheel

(Wheel outside diameter D) x (Circular constant pi) x (Main-shaft-rotating-speed RPM) ÷ 1,000 = (Peripheral-speed m/min)

| Binding material | | Diamond | CBN |
|------------------|----------|------------------|-----------------------------|
| Resin bond | Wet type | 900 ~ 1,800 | 1,000 ~ 2,000 |
| | Dry type | 700 ~ 1,200 | 800 ~ 1,500 |
| Metal bond | Wet type | 800 ~ 2,000 | 800 ~ 1,500 |
| | Dry type | 500 ~ 800 | It is better not to use it. |
| Vitrified bond | | Lower than 1,500 | Lower than 1,500 |

A cut of a diamond & CBN wheel

| Wheel particle size | Diamond | CBN |
|---------------------|----------------|-----------------|
| # 80 ~ 120 | 0.025mm | 0.02 ~ 0.05mm |
| # 140 ~ 200 | 0.0125mm | 0.01 ~ 0.02mm |
| Finer than #230 | 0.006 ~ 0.01mm | Lower than 0.01 |

Physical characteristic

| | Diamond | CBN |
|---|-----------|-------|
| Specific gravity | 3.15 | 3.48 |
| Coefficient of thermal expansion (x10 ⁻⁶ °C) | 0.90 | 3.50 |
| Heat stability (°C) | 600 ~ 900 | 1,370 |
| Hardness (Nnoopkg/mm ²) | 7,000 | 4,700 |

Wheel

Sintered
Compact Tool

Electrolytic
Deposition
Tools

File



The inside of wheel form classification table (1) () is an I.D.A

| | | |
|-----------------------|-----------------------|----------------------|
| <p>No.101-A(1A1R)</p> | <p>No.104-A(9U1)</p> | <p>No.105-F(6A2)</p> |
| <p>No.102-A(1F1)</p> | <p>No.104-B(9C1P)</p> | |
| <p>No.103-A(1A1)</p> | <p>No.105-A(6A2)</p> | |
| <p>No.103-B(14A1)</p> | <p>No.105-B(6A2C)</p> | |
| <p>No.103-C(3A1)</p> | <p>No.105-C(6C9)</p> | |
| <p>No.103-D(1FF1)</p> | <p>No.105-D(6C9)</p> | |
| <p>No.103-E(1FF1)</p> | <p>No.105-E(6A2)</p> | |



The inside of wheel form classification table (2) () is an I.D.A

| | | |
|-----------------------|------------------------|------------------------|
| <p>No.105-G(6V5)</p> | <p>No.106-F(12A4)</p> | <p>No.108-B(11A1C)</p> |
| <p>No.105-H(6V4)</p> | <p>No.106-G(11V4)</p> | <p>No.109-A(9A3)</p> |
| <p>No.105-I(1A2)</p> | <p>No.106-H(11V5)</p> | <p>No.109-B(9C3)</p> |
| <p>No.106-A(11A2)</p> | <p>No.107-A(11C9)</p> | <p>No.109-C(9C3)</p> |
| <p>No.106-B(11A2)</p> | <p>No.107-B(12C9)</p> | <p>No.110-A(1EE1)</p> |
| <p>No.106-C(11V2)</p> | <p>No.107-C(4C9)</p> | <p>No.110-B(1E1)</p> |
| <p>No.106-D(12A2)</p> | <p>No.107-D(11EE9)</p> | <p>No.110-C(1V1)</p> |
| <p>No.106-E(4A2)</p> | <p>No.108-A(11V9)</p> | <p>No.110-D(4B2)</p> |

Wheel

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