

(1) Grinding Wheel Specifications: Type & Dimensions

Type
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Straight Wheel	Grinding wheels consist of abrasive grains bonded together by a matrix of resins, epoxy, rubber, metal, and vitrified glass materials. Straight wheels have a simple, flat disc shape without any recesses, flaring or cups. ANSI B74.2 Type 1 wheels fall under this group. Type 1A1, 1A8 are designations for straight superabrasive wheels with a straight face and no recess. 1A1R wheels are recessed for cut-off or slot cutting applications. 1A8, 1B1, 1E1, 1EE1, 1F1, 1FF1, 1V1, 1V1P are straight superabrasive wheels with modified faces (beveled, included angle or radius).
Blank / Custom	Blank or custom wheels are designed for customization to a user's shape requirements.
Cone / Plug	<p>Small bonded abrasives wheel with a cone, cylinder or bullet shape that is mounted on a pin or mandrel for portable grinder applications. ANSI B74.2 Types 16, 17, 17R, 18, 18R, and 19.</p> <p>Type 16 - Cone wheels with a curved side and a nose radius</p> <ul style="list-style-type: none">· Type 17, 17R - Cone wheels with straight sides and optionally a nose radius· Type 18, 18R - Plug wheels with a cylindrical shape and either a square or curved grinding end· Type 19 - Combination cone and plug shaped wheels
Cylinder	Cylinder wheels are long wheels with a simple, can shape without any recesses or cups. The length of the wheel is equal or greater than the thickness of the wheel. ANSI B74.2 Type 2 wheels fall under this group. Cylinder wheels are mounted (bolted or cemented) to a backing plate, which drives the wheel.
Depressed Center	Grinding wheels with a depressed center, which helps keep the mounting hardware out of the grinding process. ANSI type 27, 28 and 29 wheels fall

under this category. ANSI type 27 wheels have a flat configuration with a

depressed center. ANSI type 29 wheels fold back away from the workpiece and wheel center while ANSI type 28 wheels project out in front of the wheel center toward the workpiece. Depressed center wheels are applied is rough offhand grinding or snagging of castings, weld beads, flash or parting lines or defects in metal parts.

Dish Wheel

Wheels with a dish or saucer shape such as ANSI type 12 wheels. Types 12V9, 4A2P, 12A2 and 15V9 are examples of superabrasive dish shapes.

Flaring Cup

Cups have a cup or bowl shape. Type 11 wheels are often called "flaring cups" since the sides flare out. Types 11V9, 11A2 and 12A2 are examples of superabrasive flaring cup shapes.

**Mounted Point /
Abrasive Burr**

Very small bonded abrasives or superabrasive wheels with a round ball, point, cone, cylinder or bullet shape that are mounted on a pin or mandrel for portable die grinder and deburring applications. Types DW, IG, IGJ, IGA, IGI and IGR are examples of superabrasive mounted point shapes.

**Recessed
/ Relieved**

Recessed wheels having an ANSI 5 or 11 shape fall under this category. Type 5 wheels are only recessed on one side. Type 7 wheels are recessed on both sides.

**Ring /
Disc Wheel**

Ring wheels have a donut or toroid shape. Ring or disc grinding wheels are mounted (bolted or cemented) to a backing plate, which drives the wheel. Superabrasive type 2A2 wheels fall into this category. Conventional bonded abrasive type 35, 36 and 37 fit into this category.

Straight Cup

Cups have a cup, bowl or double cup shape. ANSI type 6 wheel are referred to as straight cups, since they have a cylindrical configuration. Types 6A2, 6A9, 6A2C and 6A2H are examples of superabrasive straight cup shapes. ANSI type 9 or superabrasive type 9A1 wheels have a double cup shape.



CO-MAX MACHINERY TOOLS LIMITED

ADD: HI-TECH ZONE, XIAN CITY, SHAANXI, CHINA
WEBSITE: [HTTP://WWW.COMAXTOOL.COM](http://www.comaxtool.com)
TEL: +86-29-87552162 FAX: +86-29-88764957
E-MAIL: SALES@COMAXTOOL.COM

Tapered Body

Tapered body wheels have a thicker cross section at the bore, which becomes thinner

or tapers toward the outer diameter. ANSI Type 3 or 4 wheels fall under this

group. Superabrasive types 14A1 and 3A1 wheels fall into this category.

Specialty / Other

Other specialty, proprietary or patented abrasive or abrasive product.

**Superabrasive
Wheel?**

Superabrasives and diamond tools consist of grinding wheels, wheel dressers, single point tools and other products utilizing diamond or cubic boron nitride (CBN) abrasive grain.

**Outer Diameter
(OD):**

The OD is the outer diameter of the abrasive product.

**Bore ID / Shank
Diameter:**

The bore is the inner diameter of the center mount of the abrasive product. The bore is used to mount or hold the abrasive on a spindle or mandrel. The shank diameter is the diameter of the integral shank, pin, shaft or mandrel on mounted points or wheels.

CO-MAX MACHINERY TOOLS LIMITED

10 Anson Road #26-04 International Plaza, Singapore (079903). Tel: +65 90255373 Fax: +65 64461885