

## (8) Grinding Wheel: Definitions & Related Knowledge

### Grinding Wheel

**Definition:** The product is made of the combination of mixed abrasive and binder. After compaction, drying and calcination, it will become loose coils, round-shaped and other shapes of abrasive tools.

The grinding wheel is a round bonded abrasive tool made of abrasive and resin binder with a central through-hole. The grinding wheel is the most frequently and widely used tool among the abrasive products. Its high-speed rotation can work on metal or non-metallic workpieces with round, flat, and a variety of surface for rough grinding, semi-fine grinding, grooving and cutting.

The grinding wheel is the most important type among the abrasive products. It has binder added into the abrasives to make a porous body after compaction, drying and calcination.

Due to the differences among abrasive, binder and manufacturing process, the properties of grinding wheel varied a lot, so that the quality, production and economical efficiency of abrasive designing are greatly influenced. The property of abrasive wheel is mainly decided by many factors such as abrasive, grain size, binder, hardness, pattern, shape and dimensions.

**Category:** The grinding wheels can be classified into average grinding wheels (corundum, carborundum and so on), natural abrasive and extra-hard grinding wheels (diamond, cubic boron nitride and so on) according to the abrasive types;

And straight-type wheels, tapered wheels, cylinder wheels, cup wheels and saucer wheels according to the shape;

And ceramic wheels, resin wheels, rubber wheels and metal wheels according to the binder.

The characteristic parameters of grinding wheel mainly include abrasive, viscosity, hardness, binder, shape, dimension and so on. Since the grinding wheel always works in high speed, a rotating test (ensure that the grinding wheel will not split under high rotating speed) and static balancing test (prevent machine vibration when it starts) are required before using. After a period of functioning, the grinding wheel needs repair and maintenance to restore its grinding properties and correct physical shape.

**Property:** Grinding wheel is a round bonded abrasive tool with a hole in the center, which is made of abrasives and binder. The properties of grinding wheel are decided by the abrasive, grain size, hardness, binder, shape and dimensions.

[Followings are in Chinese Version]