METAL CUTTERS

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There is a variety of tools that can be applied for cutting materials.
Their classification is carried out according to sufficiently large number of signs that allow to select the most suitable version of the product.
Having said this, cutting tools is made of a wide variety of materials.

Classification of cutting tools.

Depending on the geometric shape and basic parameters, the following options are distinguished:

- Cutter
- Chisel
- Countersink
- Auger
- Reamer
- Counterbore
- Tap
- Die
- Shaver
- Hacksaw blade
- Abrasive type tool

cutter

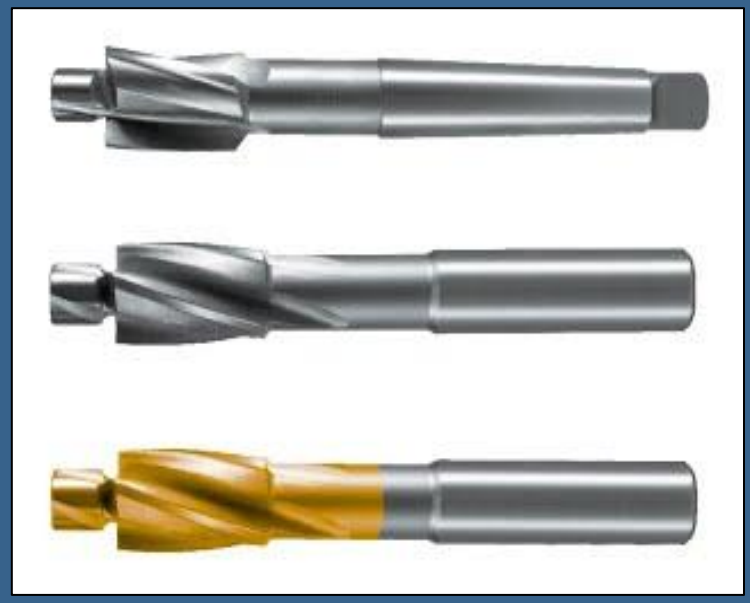
chisel

countersink

auger

reamer

counterbore



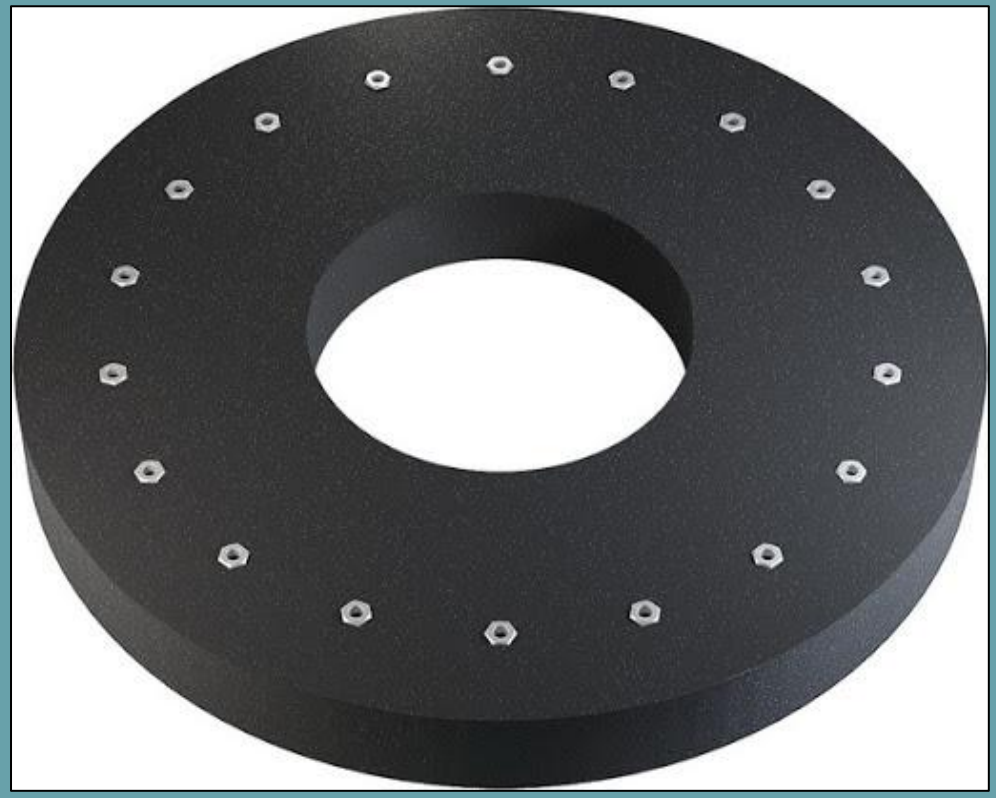
tap

shaver

die

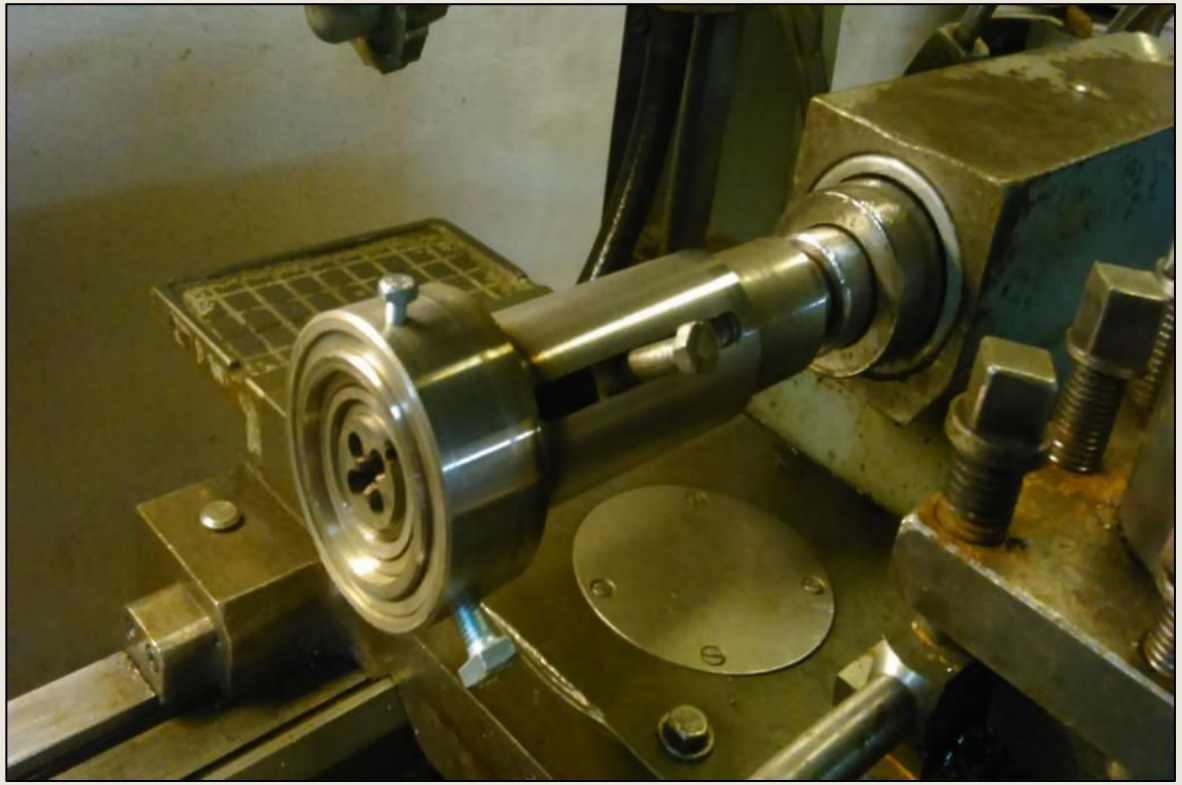
hacksaw blade

abrasive type tool



Basic operations performed by cutting tools.

1)Metal cutting tools which are used for threading. The most used for this operations are taps, dies and rollers.
They are used in the manufacture of various fasteners and connecting parts of details. With the help of taps, internal threads are cut and with the help of dies external threads.



Die mounted machine

Basic operations performed by cutting tools.

2)Metal cutting tools for gear manufacturing - shavers and rams.

Rams are also used to produce spline holes in gear wheels and shafts, as well as grooves,corners and slots on shaped and flat surfaces.

Ram

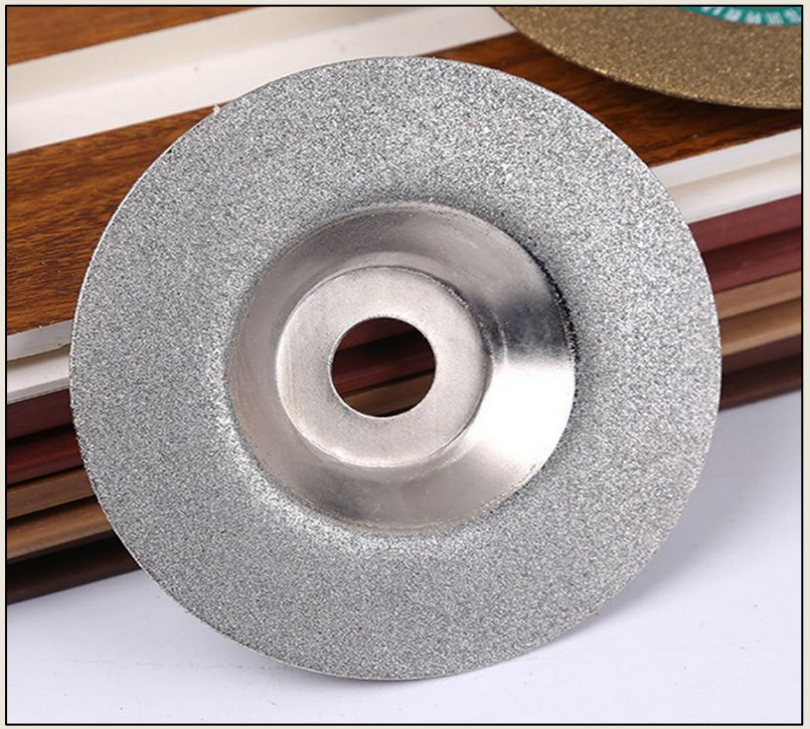
Basic operations performed by cutting tools.

Shavers are intended for special finishing of gear wheels. Its name is shaving. When processing details, excess layers of chips are removed from the surfaces of the teeth.
The principle of shaving consists in the mismatch between the wheels and shavers of the angles of inclination of the teeth during sliding while running-in.

Shaver

Basic operations performed by cutting tools.

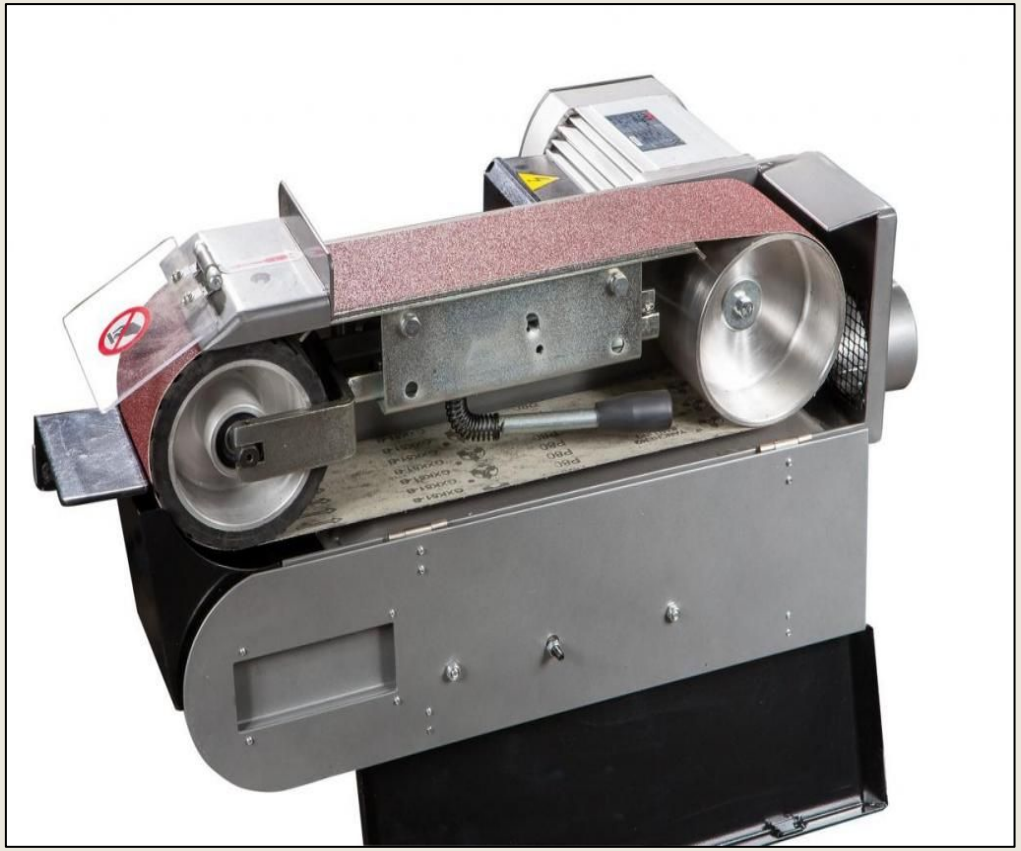
3)Metal cutting tools for grinding products' surfaces and workpieces. Most often, abrasive wheels with different grain sizes are used for this.
Fine-grained devices are used for finishing, and coarse-grained ones for roughing operations.



Diamond abrasive wheel for metal

Basic operations performed by cutting tools.

The processing of details on belt grinding machines is carried out using abrasive belts.

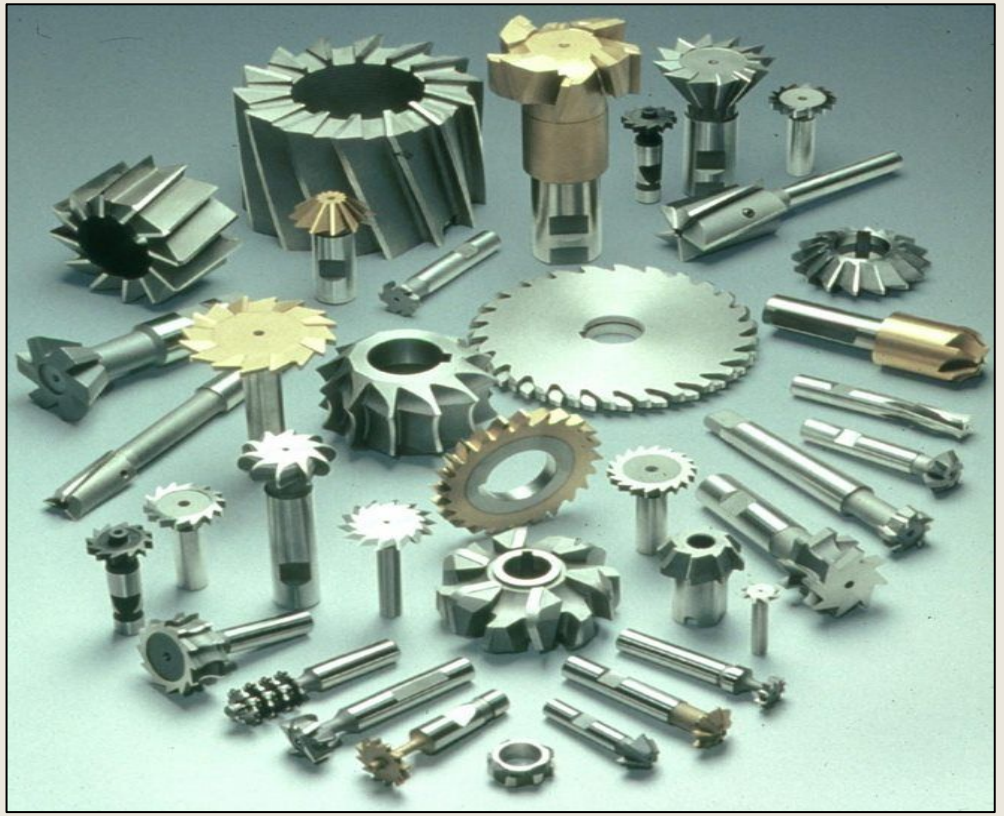


Sander with installed abrasive belt

Basic operations performed by cutting tools.

4)Metal cutting tools for processing and obtaining various surfaces, corners, slots, grooves and ledges.

Most often, milling machines are used for this. They are equipped with different types of cutters.



Metal cutter

Basic operations performed by cutting tools.

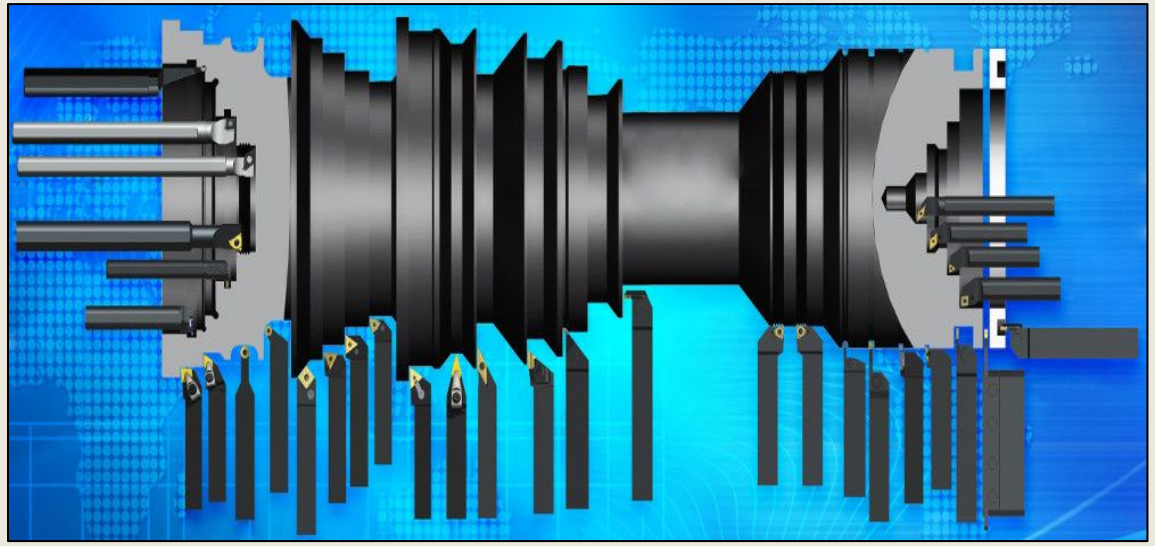
5)Metal cutting tools for making and processing through and blind holes. The main devices of this group include augers, countersinks, reamers, counterbores, etc.
For example, reamers are used to improve the accuracy and reduce the roughness of holes obtained by drilling technology.

Metal reamer

Basic operations performed by cutting tools.

6)Metal cutting tools for machining rotation solids. In most cases it is performed using cutters. With their help, the following technological operations are performed:

- threading
- chamfering and unique lathe operations
- reboring orifices
- cutting off workpieces



Use of metal cutters when processing rotating solids