

## DEFINITION OF MILLING

Milling is a process where a milling tool cuts away the material in a rotary motion. As with drilling, this is possible with a wide array of different tools with different diameters and different hardness's. Because the mill is moving, the rotational speed must be high in order to get a clean finish of the milled hole.

## MILLING OPERATION

Milling is a process where a milling tool cuts away the material in a rotary motion. As with drilling, this is possible with a wide array of different tools with different diameters and different hardness's. Because the mill is moving, the rotational speed must be high in order to get a clean finish of the milled hole.

## TYPES OF MILLING CUTTERS

- Roughing end mill
- Slab mill
- End mill cutter
- Hollow mill
- Ball mill cutter
- Involute gear cutter
- Face mill cutter
- Wood ruff cutter
- Thread mill cutter
- Fly cutter
- Slide and face cutter
- Hobbing cutter
- Dovetail cutter

### 1. Roughing End Mill



**Roughing End Mill**

This type of cutter is used when you have to remove more amount of material from the work piece. By using roughing end mills, we obtain a rough surface finishing. Roughing end mills are also famous as “rippa” cutters. They are more beneficial commercially and are used in various industrial applications.

## 2. Slab Mill



**Slab Mill Cutter**

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## 3. End mill



**End Mill Cutter**

These types of milling cutters have the cutting teeth on the both sides. We use end mill more in the vertical milling processes. High speed steel or the cemented carbide are used to create end mills. High speed steel is also called as HS or HSS.

## 4. Hollow Mill



**Hollow Mill Cutter**

They are also referred as hollow milling cutters. They look like a pipe having thicker walls. You will find the cutting teeth of the hollow mills on the inside surfaces.

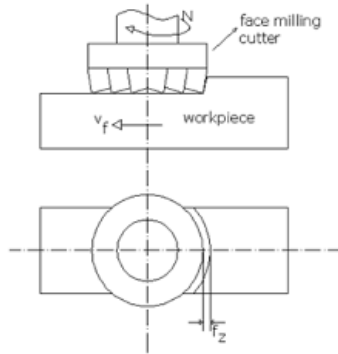
## 5. Ball Mill Cutter



**Ball Mill Cutter**

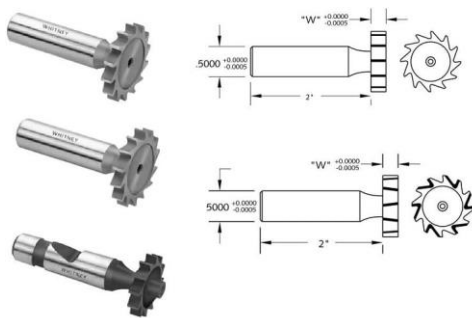
Ball cutters are also famous as ball nosed cutters. You can be easily identify as ball cutters as their end is hemispherical in shape.

## 6. face mill cutter



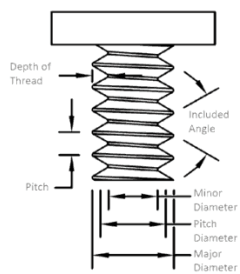
Face milling with a very high feed per tooth (up to 4 mm/tooth) is possible when using cutters that have small entering angles or when using round insert cutters, due to their chip thinning effect. Although the depth of cut is limited to less than 2.8 mm.

## 7. Wood ruff cutter



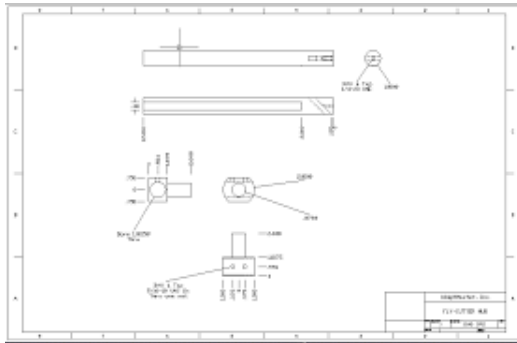
Woodruff cutters are used for milling (cutting or shaping) woodruff key slots in materials such as steel and aluminium.

## 8. Thread mill cutter



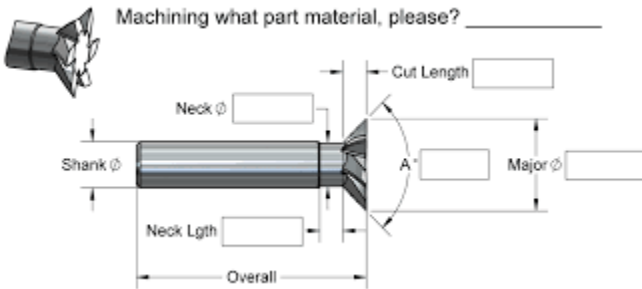
Thread mills are used for cutting internal and external thread.

## 9.fly cutter



Fly cutters are used primarily on a milling machine for machining large, flat surface areas.

## 10.Dovetail cutter



We are Manufacturers of Dovetail Milling Cutters in India, designed for cutting dovetail angled grooves into a workpiece.