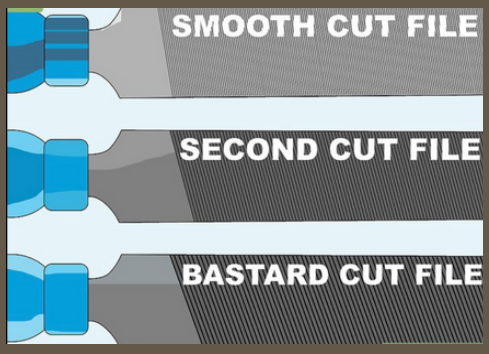
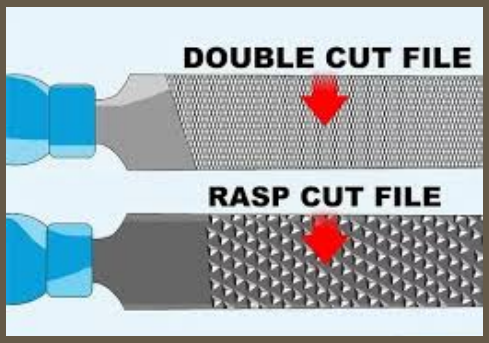
FILING IN METALWORK

Fine shaping by hand entails carefully refining materials after they have been roughly shaped to the precise size and finish required for their intended function. The most common method of achieving this refined state is to file.

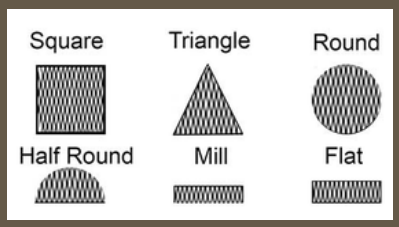




TYPES OF FILES & HOW TO DETERMINE MOST SUITABLE

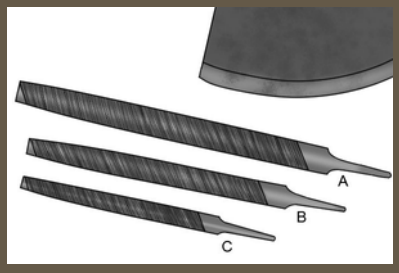
There are three sorts of files, each providing a distinct purpose:

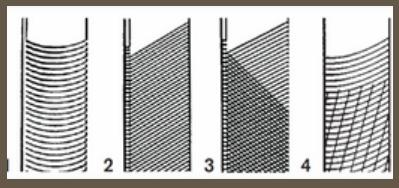
- Bastard File: This file is used for heavy material removal, which helps shape the metal down to the construction lines drawn with a scribe.
- Half-Round File/ second cut file : This tool is meant for moderate material removal and is less aggressive than the Bastard File, allowing it to approach the outlined construction lines closely.
- Flat File/ smooth: Used for little material removal, this file's finer teeth are great for smoothing edges and provide a more delicate touch than the other two files listed.



The most suitable file for a task is determined by four main traits: form, length, cut type, and grade off cut , making it easier to select the right file for the project.

- The shape of a file is its outline when you look at the end of it, like flat, round, or triangular.
- The length of a file is how long it is from one end to the other, and the most usual size is about as long as a ruler for school and a shorter one for detailed work .
- The cut of a file is the pattern of its teeth. There are single cut files that make the metal really smooth but take more time, and double cut files that work faster but are not as smooth.
- The grade of cut is like how rough the teeth are. There are rough ones for quick work and really smooth ones for finishing touches. The ones you see the most are called bastard, second cut, and smooth.



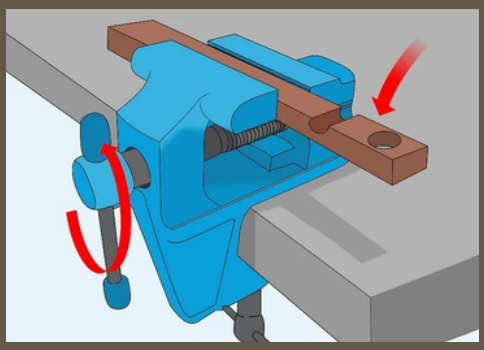
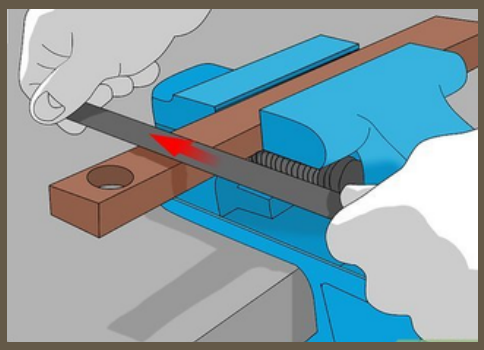
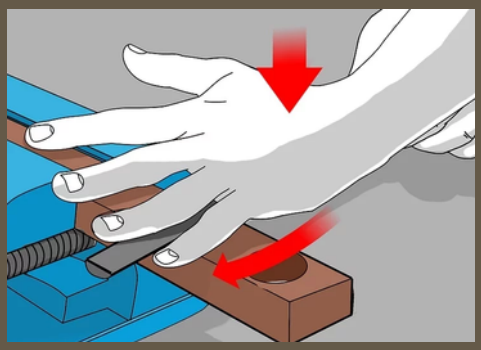


STAGES OF THE FILING PROCESS

- 1) Ensure that the file is checked for safety precautions making sure the handle is not loose and the file doesn't have any cracks.
- 2) Make sure the material is securely held in the vice without causing any damage due to pressure.
- 3) Begin with the bastard file, taking diagonal strokes to the construction line with enough pressure to remove extra material.
- 4) After you've removed the majority of the excess, use the flat side of the half-round file to remove smaller, less visible waste.
- 5) As you near the construction line, switch to the flat file and use direct forward and backwards motions to refine and smooth the metal's edges.
- 6) Apply this method to every edge of the material, and repeat the steps as needed.

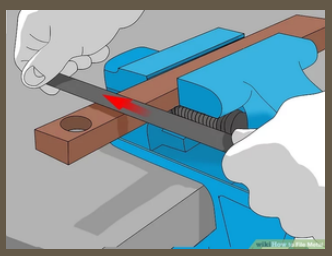
Helpful Hints:

- Apply pressure as the filing stroke moves ahead. On the return stroke, either raise the file of the metal or release the pressure.
- Make sure that the file is clean of pinning particles use wire brush to clean .
- Make sure there is a construction line drawn on metal with scribe.

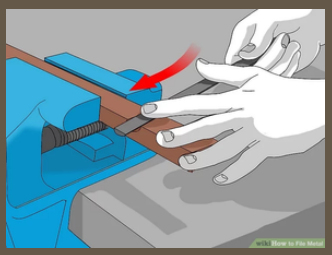




TECHNIQUES

Draw filing:To draw filing, place your hands at both ends of the file, somewhat broader than the item you're working on. Grip the file horizontally and glide it across out from you, maintaining consistent pressure on the outward stroke. When drawing the file back, make sure you release the pressure and raise it. This technique allows for a nice finish.



Cross filing:During vigourous cross filing, use your dominant hand to grasp the file handle, your other palm on the file's end, and apply diagonally pressure to cut the metal. Use long strokes away from you, raising the file on the return to keep it sharp.This technique reduces material.



Straight filing: When practicing straight filing, choose a smaller file over a bigger one for more precise handling. Hold the handle of the file with your dominant hand and use your other hand's fingers to support the end .This technique is used for detailed work in metal.