

SECTIONAL ORTHOGRAPHIC PROJECTION



PURPOSE OF DRAWING SECTIONAL VIEWS

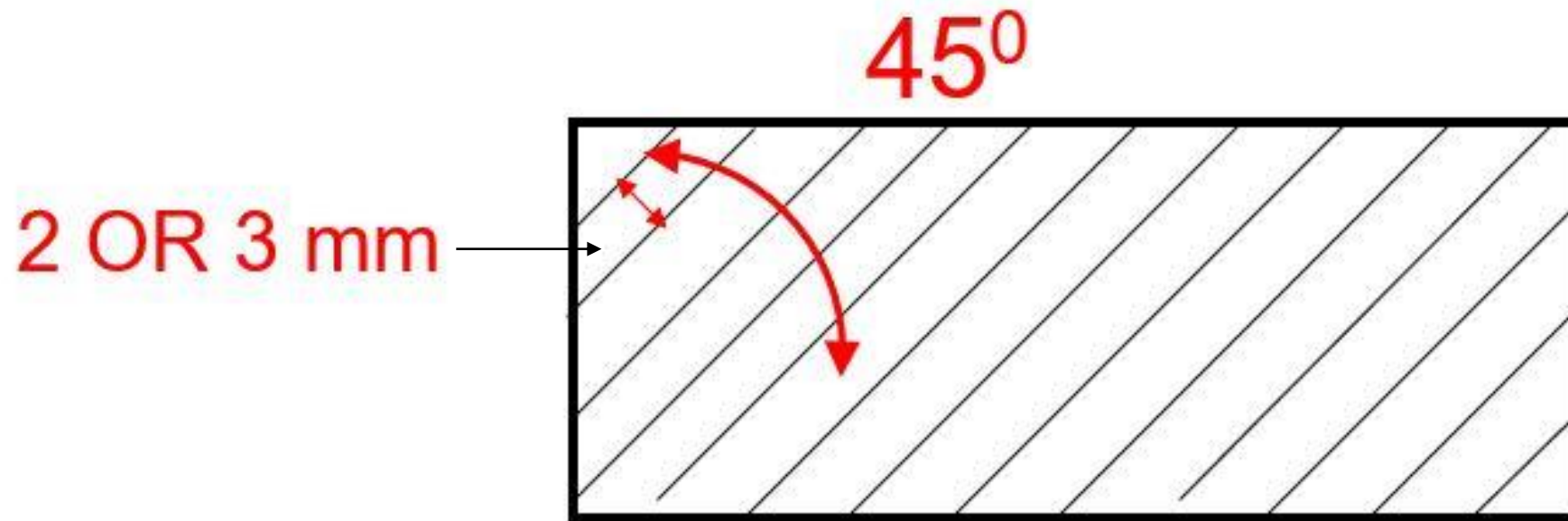
- If the object is very simple, the dotted lines will be very few.
- However, if it is complex, there will be too many dotted lines. So, It will be difficult to interpret each and every dotted line. Hence a sectional view is drawn to avoid excessive dotted lines.
- A sectional view clearly shows the internal details of the object.
- The cutting plane is shown as a center line and the ends are made thicker.

STEPS TO DRAW SECTIONAL VIEW

1. The object is imagined to be cut by a cutting plane.
2. The part of the object, in between the observer and the cutting plane, is imagined to be discarded.
3. The view of the remaining object is drawn and it is called a sectional view. Thus, there can be a sectional front view, sectional top view or a sectional side view.
4. Section lines or hatching lines are drawn.
5. The other views are unaffected by the use of the cutting plane.
6. The position of the cutting plane should be shown on the appropriate view.

SECTION LINES OR HATCH LINES

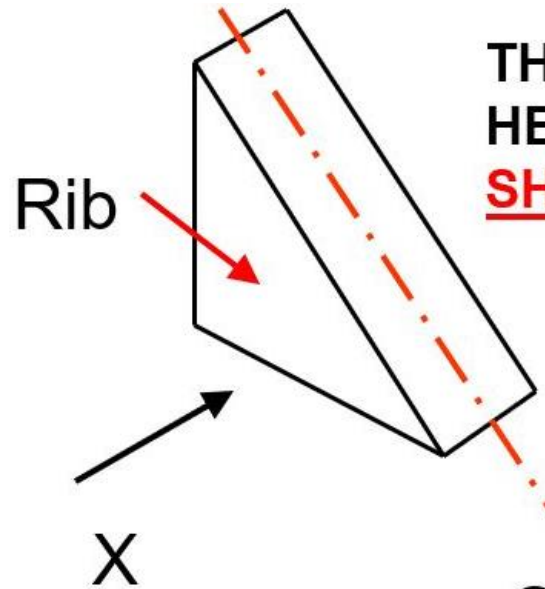
- Section lines or hatching lines are drawn in those areas, where the material is cut.
- Section line should be thin, medium dark, at 45° to the horizontal, and space uniformly about 2 to 3 mm apart as shown below.



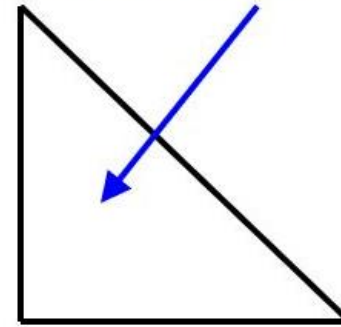
SPECIAL RULES

- Thin plates, which are used to give additional strength to the object, are called ribs. They may be triangular, rectangular etc.
- If rib is cut longitudinally (dividing its thickness), the section lines are not shown in the rib area.
- If rib is cut perpendicularly (right angle to thickness), section lines are shown in the cut portion of the rib.
- Many machine parts such as nuts bolts etc. are not shown in section, if the cutting planes passes through their axes. Such parts are – bolts, nuts, keys, studs, spindle, shafts, rivets etc.
- However, if they are cut perpendicular to their axis, then the section lines are shown in the cut surface.

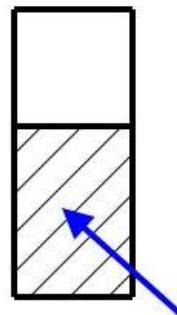
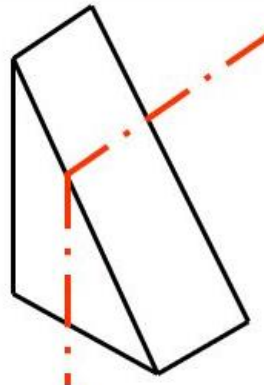
SPECIAL RULES



THE RIB IS CUT **LONGITUDINALLY**,
HENCE **SECTION LINES ARE NOT**
SHOWN IN THE RIB AREA.



SECTIONAL F.V. ALONG "X".



THE RIB IS CUT AT RIGHT
ANGLES TO ITS PLANE
(PERPENDICULARLY).
HENCE SECTION LINES **ARE**
SHOWN IN THE CUT
PORTION OF THE RIB.

THANK YOU