

DRAWING INSTRUMENTS

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DRAWING INSTRUMENTS

- **Drawing board**
- **Tee-square**
- **Mini Drafter**
- **Set-square**
- **Scale**
- **Protractor**
- **French curves**
- **Stencil**
- **Drawing instruments box**

DRAWING EQUIPMENTS

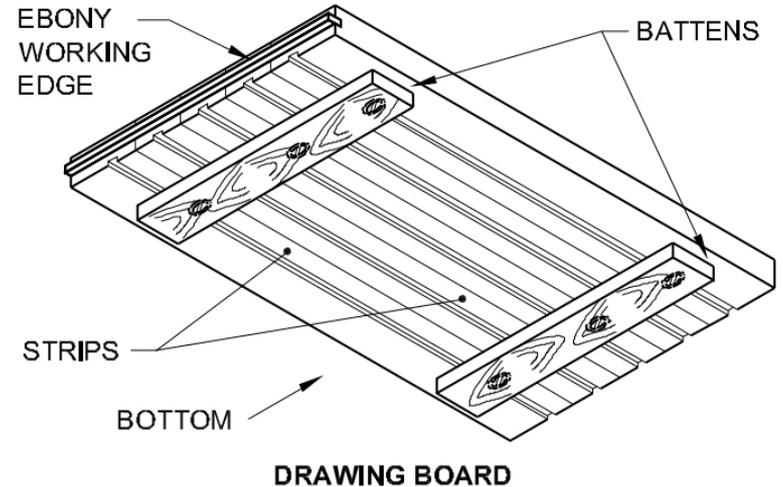
- **Computer for Auto CAD. (Monitor UPS, CPU, key board, mouse, etc.)**
- **Plotter/Printer**
- **Drafting machine**

DRAWING MATERIALS

- **Drawing papers**
- **Drawing pencils**
- **Rubber/ Eraser**
- **Drawing papers fasteners (Drawing pins, Cello tape)**
- **Tracing paper or tracing film**

DRAWING BOARD

- It is used for **supporting the drawing paper** for making drawings.
- **IS 1444 – 1989**



DRAWING BOARD

- It is **rectangular** in shape.
- Made of **well seasoned wood strips like pine , oak, fir.....etc.**
- Wood shall be from knots, cracks, sap, and shakes.
- Made of well seasoned **wooden strips about 25mm thick.**

DRAWING BOARD

- It **should be softer** enough to allow insertion and removal of drawing pins.
- **Two Battens** is hard wooden pieces (Teak or Walnut) are fastened at its back to prevent warping and at the same time **permit expansion and contraction of the strips** due to climate change.

DRAWING BOARD

- One of the shorter edges of the drawing board, is provided with an **ebony edge** (hard wood) **fitted perfectly straight.**
- This working edge facilitates the movement of
T - Square

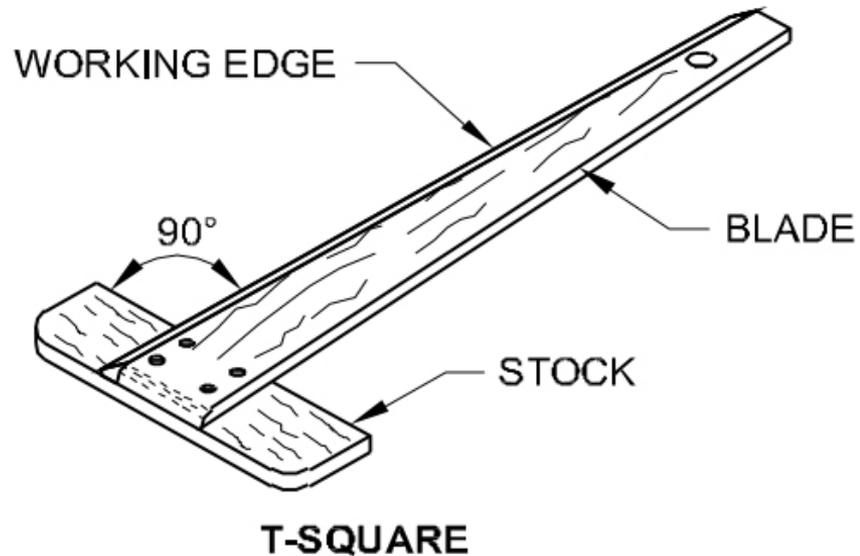
DRAWING BOARD

- Standard drawing board are designated as follows as per **IS:1444-1989**

Sl. No.	Designation	Size (mm) (length × width × thickness)
1	D0	1500 × 1000 × 25
2	D1	1000 × 700 × 25
3	D2	700 × 500 × 15
4	D3	500 × 350 × 15

T - SQUARE

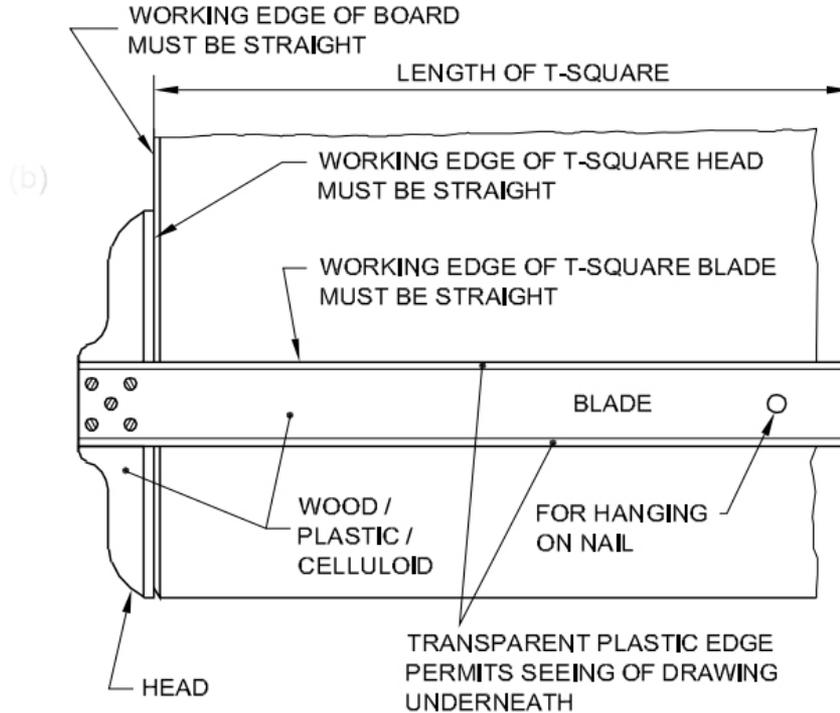
- It has two parts. **Head/Stock & Blade**



T - SQUARE

- A long strip called **blade** and a short strip called **head or stock**.
- The blade is screwed to this head such that the working edge is at right angle to head.\
- Length of T square is the distance from the working edge of head to the tip of blade.

T - SQUARE



T-SQUARE AND DRAWING BOARD

T - SQUARE

- T square is used with its head against the ebony edge of the drawing board to draw horizontal lines, parallel lines
- Set squares are used with the support of T square to draw all straight line except horizontal line.

T - SQUARE

- **Do not use lower edge of the T-square to draw horizontal lines.**
- **Do not use T-square as a hammer to drive in the drawing pins etc.**
- **Clean the blade with moist cloth to remove lead particles.**

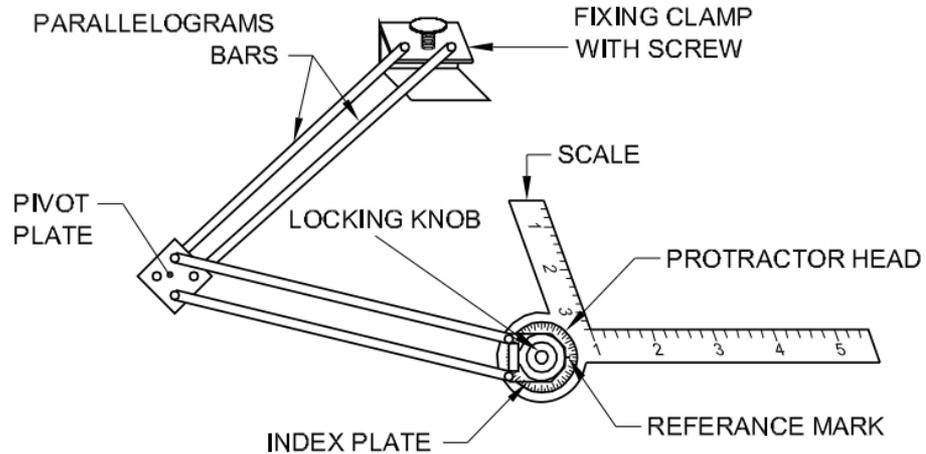
T - SQUARE

- The standard 'T' square are designated as follows with dimensions shown in mm; as per IS:1360-1989.

SI. NO.	DESIGNATION	SIZE (MM)
1	T0	1500
2	T1	1000
3	T2	700
4	T3	500

MINI DRAFTER

- It serves as function of a **T-square, Set Squares, Protractors and scale.**

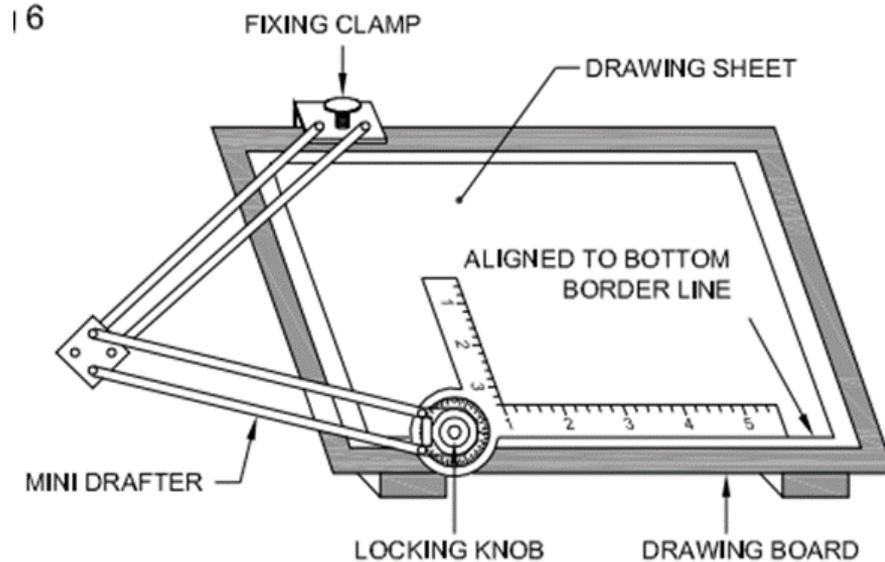


MINI DRAFTER

- They come in different sizes and a pattern called **Pantagraph** type.
- Mini drafter is an important device used for making drawing quickly & accurately.
- It has two scales at right angle

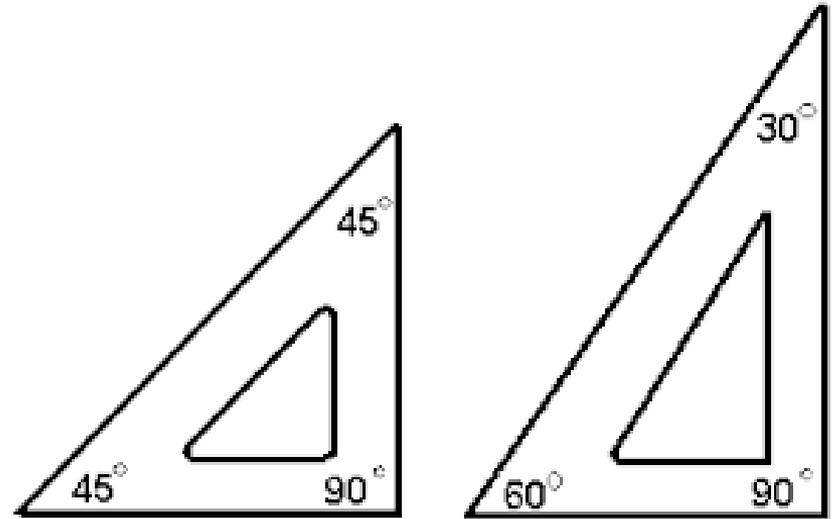
MINI DRAFTER

- It is fitted on the top left side, edge of the drafting board, mounted on an adjustable frame or table.



SET SQUARES

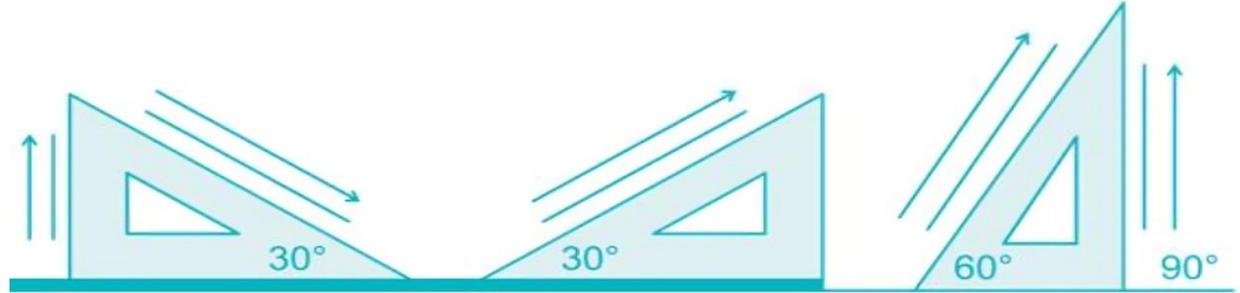
- Set-squares are made of **transparent plastic or celluloid** and are available in the shape of triangles.



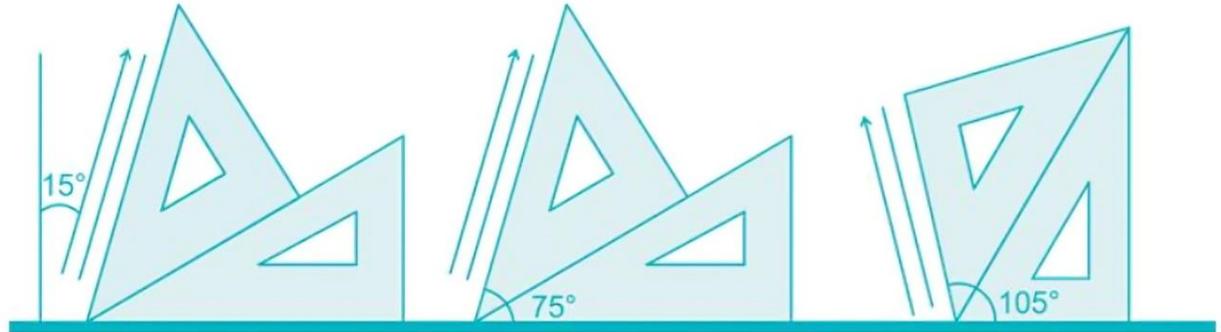
SET SQUARES

- They are two in number, each having one corner 90° .
- Size is specified by **length of longest side**
- **Set square with 30° x 60° , long edge of 250 mm and a 45° set square with each edge of 200 mm.**

SET SQUARES



Drawing lines at 30°, 60°, and 90°



Drawing lines at 15°, 75°, and 105°

SET SQUARES

- The set-squares are used for drawing all **straight lines except the horizontal lines** which are usually drawn with T-square.
- Set squares are used to **draw angles of 15° , 30° , 45° , 60° , 75° , 90° , i.e, any multiples of 15.**
- The set-squares can also be used for drawing parallel and perpendicular lines to any given line.

THANK YOU