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Irvine Royal Academy—Technical Department

S1/S2 Design & Manufacture Theory Notes

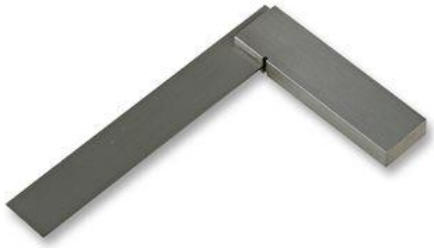
Marking Out

Steel Rule

A steel rule is used to measure accurately on metal and wood, although a **wooden rule** can also be used for woodworking. A rule starts at zero at the very end, whereas a ruler has an extra bit. This allows a rule to be used to measure depths of holes or into edges. In technical we always used **millimetres** to measure lengths.

Try Square

A try square is used to draw lines across a piece of wood at **right angles** to the side. It is made up of a **stock** and **blade** (the thin metal part, but it is not sharp). The stock, or handle, has a brass rubbing edge so that it doesn't wear away. The inside and outside angle on a try square are both 90 degrees.

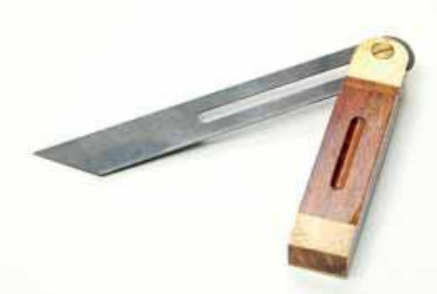


Engineer's Square

An engineer's square is used for the same purpose as a **try square**, except it is used in metalwork. It is used to draw lines across a piece of metal at **right angles** to the side. It is made up of a **stock** and **blade**, both of which are made from stainless steel. The inside and outside angle on an engineer's square are both 90 degrees.

Sliding Bevel

A sliding bevel is used to mark out lines across wood at different angles. The **blade** can be moved to different positions, and the screw is tightened to hold it in place. Sliding bevels are often used to mark out **dovetail joints**. Sliding bevels do not have a scale on them, so a protractor may be needed to set it. An **engineer's sliding bevel** is made from stainless steel.



Combination Square

A combination square is used for many different purposes in marking out. It can be used to mark right angles like a try square, or as a **mitre square**, where it is needed to mark accurately at 45 degrees. Combination squares are made from a stainless steel blade and cast metal slide, and are properly classed as a metalwork instrument. Other attachments, such as **centre finders** or **spirit levels** can be found in them.

Marking out instruments

When marking out on timber, a sharp pencil is used. When marking out on metals a **Scriber** should be used. This is like a metal pencil, with a sharp point that scrapes the metal surface.