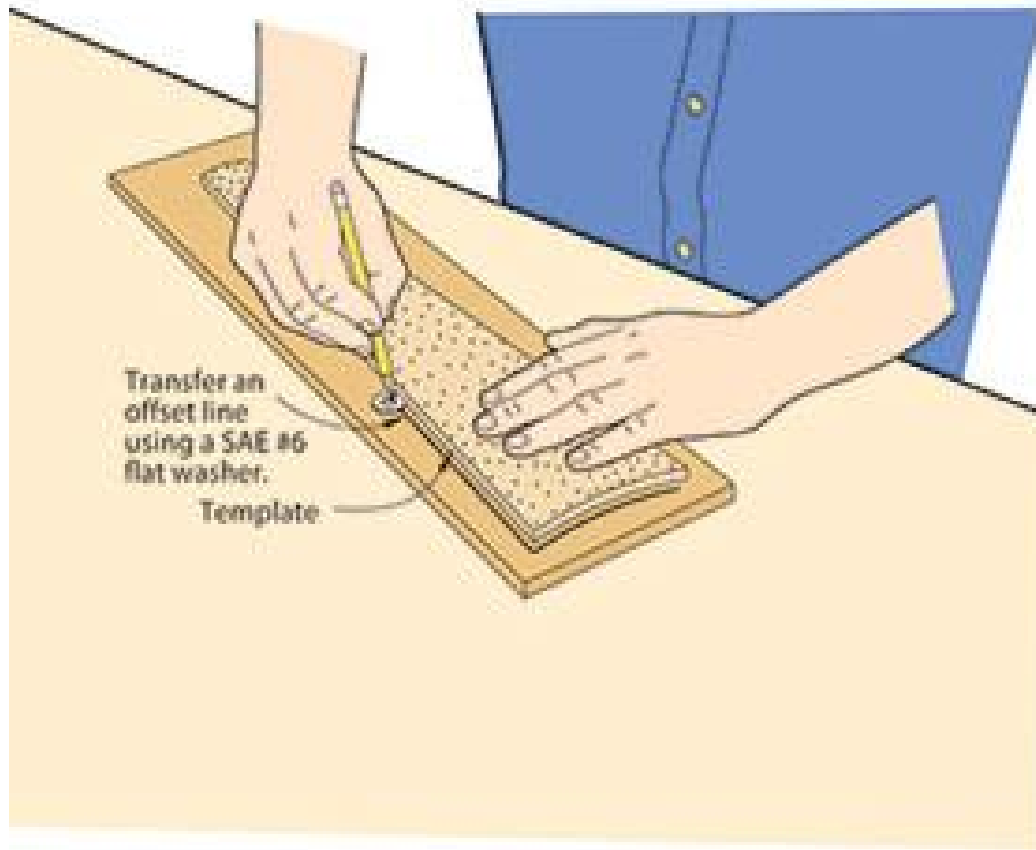


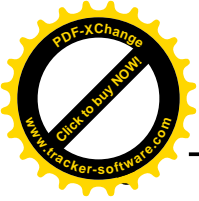


# Templates



*Prepared by:*

*Syed Farwad*



# The need of Templates



Templates or patterns are used in sheet metal and plate-work for the following reasons:

- To avoid repetitive measuring and marking out when making a batch of parts to ensure they are all identical
- To guarantee economical use of material when marking out a sheet of material for a number of components. Various layouts can be tried before cutting takes place
- To act as a guide when flame cutting by hand or for controlling automated profile flame cutting machines
- For checking bend angles and bend radii and contours during forming and rolling operations



# Manufacturing of templates

- Most sheet metal workers make their own templates for small one-off jobs from time to time. However, templates for large fabrications such as bridge, ship, aircraft and structural steel work are made by highly skilled specialist template makers.
- Such template makers work in an area of the factory known as the template shop pattern shop.



# Materials used for templates



- To minimize the weight of templates and for ease in cutting them, they are frequently made from wood or aluminum.
- However, these are soft materials and if they are to be used repeatedly for positioning drilled holes they will need to be reinforced with hardened steel bushes.



# Materials used for templates



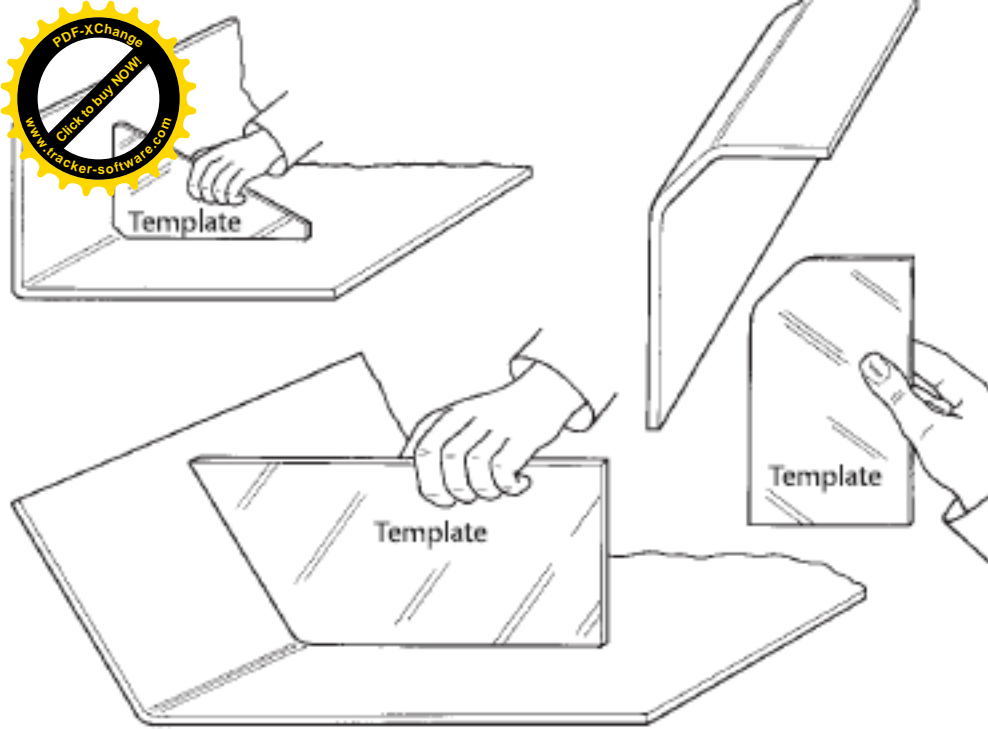
Material	Applications
Template paper	Outlines for small bent shapes, such as brackets, small pipe bends and bevelled cleats, may be set out on template paper. Used for developing patterns for sheet metal work
Hardboard	Templates for gusset plates to be produced in small quantities
Timber	Used in considerable quantities for steel-work templates. Easy to drill and cut to shape. Whitewood timber strips (battens) up to 153 mm wide and 12.7 mm thickness are used to represent steel members. Plywood used for making templates for use with oxy-fuel gas profiling machines
Sheet metal	Used for making patterns for repetition sheet metal components. Templates for checking purposes. Steel, 3.2 mm thick is used for profiling templates on oxy-fuel gas profiling machines fitted with a magnetic spindle head
Steel plate	Light steel plate fitted with drilling bushes is used as templates for batch drilling of large gusset plates



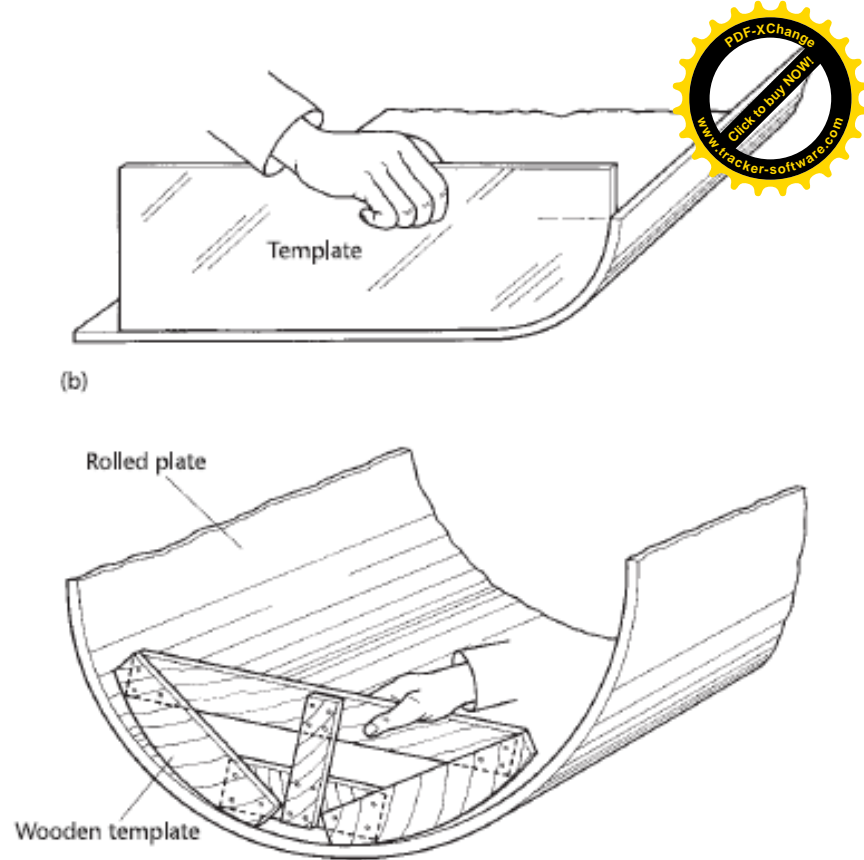
# Information given on templates



- Job or contract number
- Size and thickness of plate
- Steel section and length
- Quantity required
- Bending or folding instructions
- Drilling requirements
- Cutting instructions
- Assembly reference marks



Template suitable for measuring corners



Template suitable for measuring angular feature