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BASIC WELDED JOINTS

Depending upon how the welded parts lie with reference to each other, joints are classified :

Butt Joint

It is a joint between members lying in the same plane. (Fig. 5.1). It is best suited to withstand bending, twisting, and pulling stresses. When properly welded, this joint should be as strong as if the two plates were one.

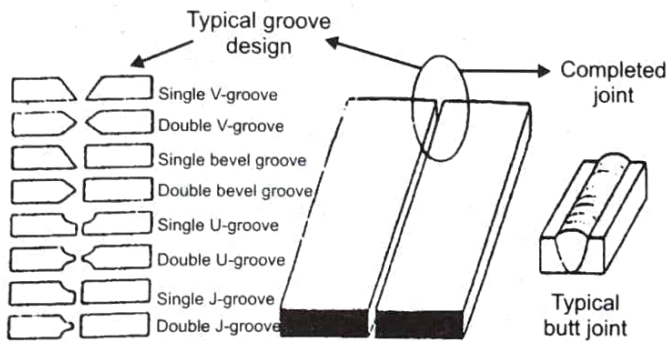


Fig. 5.1. Butt joint

Tee Joint

It is a joint between overlapping members at right angles to each other. (Fig. 5.2). If only one side is welded, it will be weak. If both sides are welded, it may be quite strong, depending upon the stock thickness.

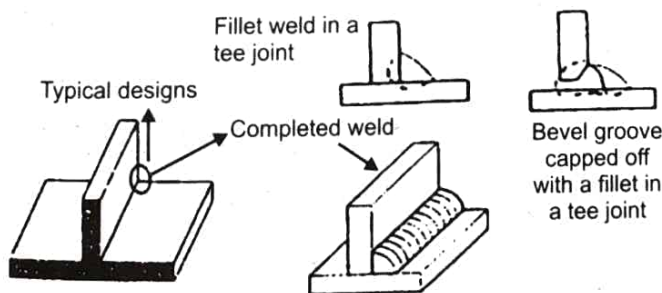


Fig. 5.2. Tee Joint

Lap Joint

It is a joint between overlapping members. (Fig. 5.3). A lap joint is quite common, but not as strong as a butt joint. It is fast joint to make because no edge preparation is necessary.

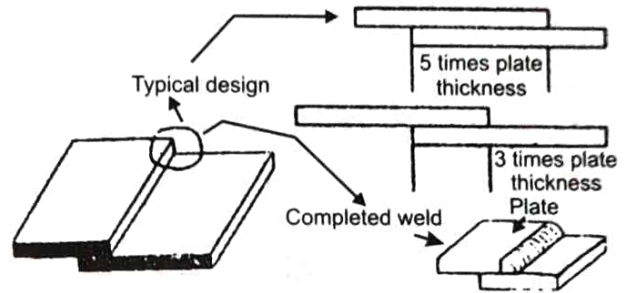


Fig. 5.3. Lap joint

Corner Joint

It is a joint between members located at right angles to each other. The weld is placed on the outside corner. (Fig. 5.4).

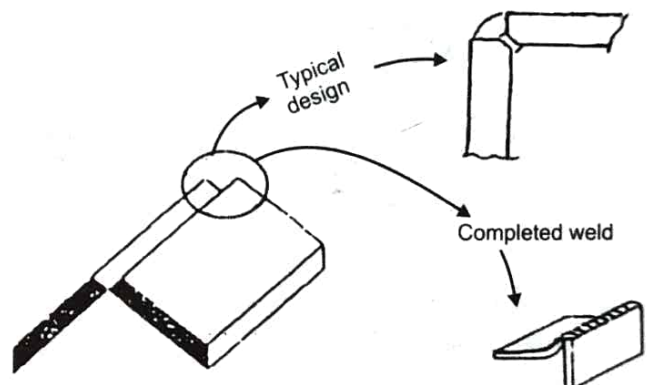


Fig. 5.4. Corner Joint

Edge Joint

It is a joint between the edges of the parallel members. (Fig. 5.5). This type of joint does not have frequent application, but it is very strong.

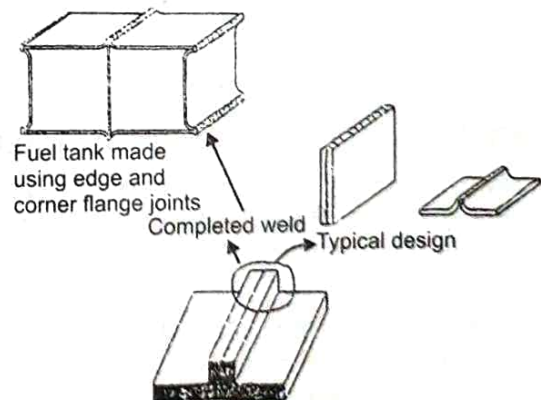









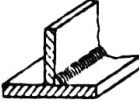

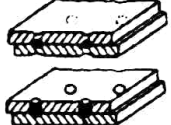

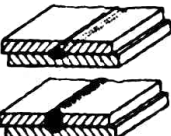


Fig. 5.5. Edge joint



Table 5.1. Elementary Symbols

Sl. No.	Designation	Illustration	Symbol
1.	Butt welded between plates with raised edges (the raised edges being melted down completely)		八
2.	Square butt weld		
3.	Single V butt weld		∨
4.	Single bevel butt weld		∇
5.	Single V butt weld with broad root face		Y
6.	Single bevel butt weld with broad root face		∇
7.	Single U butt weld (parallel or sloping sides)		Y
8.	Single J butt weld		∇
9.	Backing run; back or backing weld		D
10.	Fillet weld		△
11.	Plug weld; plug or slot weld (USA)		□
12.	Spot weld		○
13.	Seam weld 		⊕

SUPPLEMENTARY SYMBOLS

Elementary symbols may be completed by another symbol (supplementary) characterizing the shape of the external surface of the weld. (Table 5.2).

Table 5.2 : Supplementary symbols

<i>Shape of weld surface</i>	<i>Symbol</i>
(a) Flat (usually finished flush)	—
(b) Convex	
(c) Concave	

If required elementary and supplementary symbols may be combined.

(c) A certain number of dimensions and conventional signs.

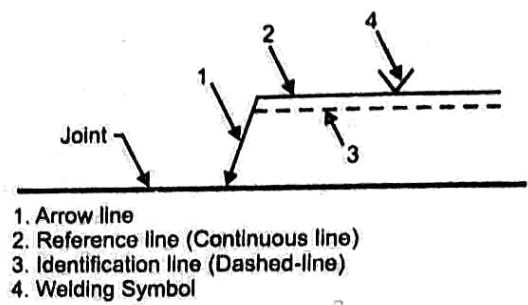


Fig. 5.40. Method of Representation

