

# Welding Symbols

Welding symbols are graphical representations used to communicate how a welded joint is to be constructed. These symbols are essential for conveying the information necessary for welders, inspectors, and engineers to understand the specifications for a particular weld. The American Welding Society (AWS) sets the standards for these symbols, and they are typically included on engineering drawings, also known as blueprints, to provide clear guidance for welders.

Welding symbols consist of several elements that convey specific information about the weld. Some of the key components of a welding symbol include:

1. **Reference Line:** This is a horizontal line that is the foundation for the welding symbol. It is the main line upon which other elements are placed.
2. **Arrow:** The arrow is attached to the reference line and points to the joint that is to be welded. The tail of the arrow is connected to the reference line, and the arrow point indicates the location where the weld is to be made.
3. **Welding Symbol:** This symbol appears on or above the reference line and signifies the specific type of weld that is to be performed.
4. **Dimensions and Other Data:** These are typically included in or around the welding symbol to provide additional information such as the length, pitch, or height of the weld.
5. **Supplementary Symbols:** These symbols can be added to the welding symbol to convey additional information, such as the need for specific welding processes or post-welding treatments.

Understanding welding symbols is crucial for anyone involved in the welding process as they provide precise instructions on how the weld should be executed. By adhering to the information conveyed in these symbols, welders can ensure that the final welded joint meets the required standards for strength, quality, and safety.

Commonly used welding symbols include fillet, groove, plug, slot, and spot weld symbols. Each of these symbols represents a specific type of weld and provides detailed instructions on its dimensions, preparation, and other relevant details.

In summary, welding symbols are indispensable tools for conveying welding specifications on engineering drawings and ensuring that welds are carried out as per the required standards. Mastery of these symbols is essential for welders, inspectors, and engineers in the fabrication and construction industries.

Basic Welding Symbols and Their Location Significance								
Location Significance	Fillet	Plug or Slot	Spot or Projection	Stud	Seam	Back or Backing	Surfacing	Edge
Arrow Side								
Other Side				Not Used			Not Used	
Both Sides		Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	
No Arrow Side or Other Side Significance	Not Used	Not Used		Not Used		Not Used	Not Used	Not Used
Location Significance	Groove							Scarf for Brazed Joint
	Square	V	Bevel	U	J	Flare-V	Flare-Bevel	
Arrow Side								
Other Side								
Both Sides								
No Arrow Side or Other Side Significance		Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Supplementary Symbols				Location of Elements of a Welding Symbol				
Weld-All-Around	Field Weld	Melt-Thru	Consumable Insert					
Backing/Spacer (Rectangular)		Contour						
Backing Spacer	Flush or Flat	Convex	Concave					
Basic Joints								
Identification of Arrow Side and Other Side Joint								
Butt Joint		Corner Joint						
T-Joint		Lap Joint		Edge Joint		Letter Designations		
						<p>Where letter designations are to be included in the tail of the welding symbol, reference is made to Table 1. Letter Designations of Welding and Allied Processes and Their Variations, of AWS A2.4-98.</p> <p>American Welding Society 550 N.W. LeJeune Road Miami, Florida 33126</p>		