

# Welding Symbol Chart

**M<sub>O</sub><sub>2</sub>** | MINNEAPOLIS  
OXYGEN

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	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													
Groove																					
Location Significance	Square	V	Bevel	U	J	Flare-V	Flare-Bevel	Scarf for Brazed Joint													
Arrow Side																					
Other Side																					
Both Sides		Not Used																			
No Arrow Side or Other Side Significance		Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used													
Supplementary Symbols																					
Weld-All-Around	Field Weld	Melt-Thru	Consumable Insert	Location of Elements of a Welding Symbol																	
				<p>Finishing Symbol</p> <p>Groove Angle; Included Angle of Countersink for Plug Welds</p> <p>Root Opening; Depth of Filling for Plug and Slot Welds</p> <p>Length of Weld Segment</p> <p>Pitch(Center-to-Center Spacing) of Weld Segments</p> <p>Groove Weld Size</p> <p>Contour Symbol</p> <p>Depth of Bevel; Size or Strength for Certain Welds</p> <p>Specification, Process, or Other Reference</p> <p>Field Weld Symbol</p> <p>Weld-All-Around Symbol</p> <p>Tail (May Be Omitted When Reference is Not Used)</p> <p>(N)</p> <p>Both Sides</p> <p>Arrow Side</p> <p>Reference Line</p> <p>Weld Symbol</p> <p>Elements in This Area Remain As Shown When Tail and Arrow are Reversed</p> <p>Weld Symbols Shall Be Contained Within the Length of the Reference Line</p>																	
Backing/Spacer (Rectangular)	Contour			<p>Backing</p> <p>Spacer</p> <p>Flush or Flat</p> <p>Convex</p> <p>Concave</p>																	
Basic Joints																					
Identification of Arrow Side and Other Side Joint		<table border="1"> <tr> <td>Butt Joint</td> <td>Corner Joint</td> <td colspan="5"> <p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p> </td> </tr> <tr> <td>T-Joint</td> <td>Lap Joint</td> <td>Edge Joint</td> <td>Letter Designations</td> <td colspan="4"> <p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p> <p>Arrow of Welding Symbol</p> <p>Arrow Side Member of Joint</p> <p>Other Side Member of Joint</p> <p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p> <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> </td> </tr> </table>					Butt Joint	Corner Joint	<p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p>					T-Joint	Lap Joint	Edge Joint	Letter Designations	<p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p> <p>Arrow of Welding Symbol</p> <p>Arrow Side Member of Joint</p> <p>Other Side Member of Joint</p> <p>Arrow of Welding Symbol</p> <p>Arrow Side of Joint</p> <p>Other Side of Joint</p> <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>			
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Typical Welding Symbols		
<b>Double-Fillet Welding Symbol</b>	<b>Chain Intermittent Fillet Welding Symbol</b>	<b>Staggered Intermittent Fillet Welding Symbol</b>
Fillet Weld Size → 1/4 → 6 → 3/16 → 4 → Length	Fillet Weld Size → 5/16 → 2-5 → 7/16 → 2-6 → Length of Segments	Fillet Weld Size (Length of Leg) → 1/2 → 3-5 → Length of Segments
Omissions of Length Indicates that Weld Extends Between Abrupt Changes in Direction or as Dimensioned	Pitch (Distance Between Centers) of Segments	Pitch (Distance Between Centers) of Segments
<b>Plug Welding Symbol</b>	<b>Back Welding Symbol</b>	<b>Backing Welding Symbol</b>
Included Angle of Countersink → 30° → Plug Weld Size (Diameter of Hole at Root) → Ø1 → 3/4 → 4 → Depth of Filling (Omission Indicates Filling is Complete)	Back Weld → OR → 2nd Operation → 1st Operation	Backing Weld → OR → 1st Operation → 2nd Operation
<b>Spot Welding Symbol</b>	<b>Stud Welding Symbol</b>	<b>Seam Welding Symbol</b>
Spot Weld Size → .025 → (5) → RSW → Process → Number of Welds → Pitch	Stud Size → 1/2 → 6 → (7) → RSEW → Number of Studs → Pitch	Seam Weld Size → .030 → 3-9 → RSEW → Increment Length → Pitch
<b>Square-Groove Welding Symbol</b>	<b>V-Groove Welding Symbol</b>	<b>Double-Bevel-Groove Welding Symbol</b>
Groove Weld Size → (3/16) → 1/8 → Root Opening	Depth of Bevel → 3/8 (1/2) → 1/8 → Groove Weld Size → Root Opening → Groove Angle → 60°	Groove Weld Size → (1) → Arrow Points Toward Member to be Beveled
<b>Symbol with Backgouging</b>	<b>Flare-V-Groove Welding Symbol</b>	<b>Flare-Bevel-Groove Welding Symbol</b>
Depth of Bevel → 1/4 → Backing Weld Backgouge	(1/4) → Groove Weld Size	(1/4) → Groove Weld Size
<b>Multiple Reference Lines</b>	<b>Complete Joint Penetration</b>	<b>Edge Welding Symbol</b>
1st Operation On Line Nearest Arrow	Indicates Complete Joint Penetration Regardless of Type of Weld or Joint Geometry	Edge Weld Size → 1/8
2nd Operation	3rd Operation	CJP
<b>Flash or Upset Welding Symbol</b>	<b>Melt-Thru Symbol</b>	<b>Joint with Backing</b>
Process Reference → FW	1/32 → Root Reinforcement	R → 'R' Indicates Backing Removed After Welding
<b>Joint with Spacer</b>	<b>Flush Contour Symbol</b>	<b>Convex Contour Symbol</b>
With Modified Groove Weld Symbol	Double-Bevel Groove	G