

## THE MIDWEST FASTENERS CAPACITOR DISCHARGE (CD) STUD WELDING PROCESS



**1. STUD AGAINST WORK.**



**2. STORED ENERGY DISCHARGED  
THROUGH SPECIAL WELD  
"TIMING" TIP AND STUD  
STARTS DOWNWARD.**



**3. STUD FORCED INTO  
MOLTEN METAL.**



**4. METAL SOLIDIFIES AND  
WELD IS COMPLETED IN  
MILLISECONDS.**

Capacitor Discharge (CD) Stud Welding involves the same basic principles and metallurgical aspects as any other arc welding procedure. When the MIDWEST FASTENERS weld gun is activated, a special precision weld tip initiates a controlled electric arc from the welder capacitor bank which melts the end of the stud and a portion of the base metal. The stud is held in place as the molten metal solidifies instantly accomplishing a high quality fusion weld.

CD Stud Welding is generally used to weld smaller diameter studs to thin base metals, especially where reverse side marking is not permissible. Since the entire weld cycle is completed in milliseconds, welds can be

made to thin material without pronounced distortion, burn-through or reverse side discoloration. As long as one end of stud is designed for CD welding, CD studs can be manufactured in almost any shape.

CD Stud Welding is compatible with just about any weldable material, and permits the welding of dissimilar metals.



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