

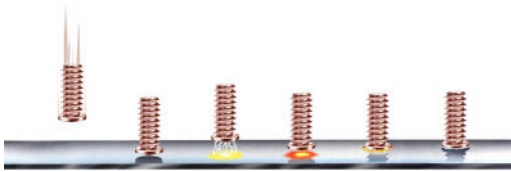


Capacitor Discharge (CD) vs. Arc Stud

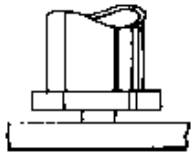
What Process Should You

Capacitor Discharge (CD)

most commonly used in sheet metal

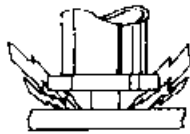


Capacitor Discharge stud welding is a semi-automatic arc welding process. However, with CD welding, you have the ability to weld small diameter studs to very thin material. Since the entire weld cycle is completed in several milliseconds, welds can be made to thin sheets of metal without pronounced distortion, burn through or discoloration. The CD process allows stud welding of dissimilar metals.



CD Fasteners generally utilize a specially engineered projection or tip at the weld base. It's design configuration and length provide accurate welding time control, for consistently reproducible results.

Instantaneous energy is discharged from banks of low voltage DC electrostatic capacitors, electronically controlled and triggered on demand by the operator.



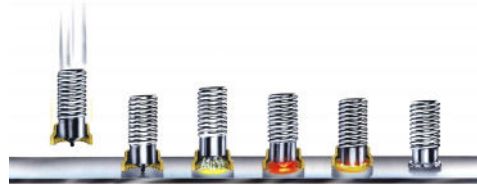
Actuating the triggering circuit releases the stored energy from the capacitors through the stud, vaporizing the high resistance tip and creating an ionization path for peak current flow and arcing across the areas to be joined.

Spring or air pressure of the gun upon the partially melted stud fuses it to the parent metal surface, completing the weld in four to six milliseconds and creating a bond stronger than the fastener itself.



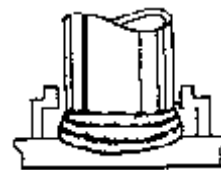
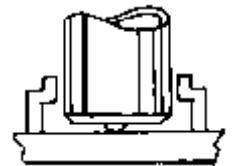
ARC

most commonly used in structural fab



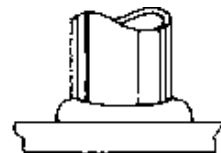
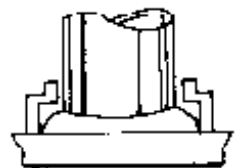
Arc stud welding allows almost any size or type of weld stud to be welded. Studs must be manufactured from weldable material and designed with a special arc stud tip. With the Arc process, you obtain a full fusion weld that becomes stronger than the stud itself. Arc stud welding is applicable to mild steel, stainless steel and aluminum.

The Stud Fastener held in the weld gun is applied firmly to the work surface under spring tension. Arc welding derives its source of energy from either DC rectifiers or motor-generator set. Its degree and intensity are automatically controlled by precision timing circuits.



The trigger button initiates the cycle which energizes the gun solenoid, lifting the stud from the metal surface and creating an arc which melts a flux-loaded end of the fastener and its immediate area.

A ceramic ferrule shields the arc, concentrates the heat and contains the molten metal in the weld zone. Simultaneously, the gun solenoid becomes de-energized and the spring tension forces the fastener into the molten pool, integrating it with the parent metal.



The trigger button initiates the cycle which energizes the gun solenoid, lifting the stud from the metal surface and creating an arc which melts a flux-loaded end of the fastener and its immediate area.