

Cable Lug Joining by Magnetic Pulse



Magnetic Pulse Crimping

MP-Crimp™ utilizes electromagnetically induced forces to create a high compression joint between cable and lug, even if they are made of different materials such as copper and aluminum. As a result of this crimping process, performed within microseconds, a full 360° compression of the cable is achieved without the involvement of heat or moving parts.



Magnetic Pulse Crimping Advantages:

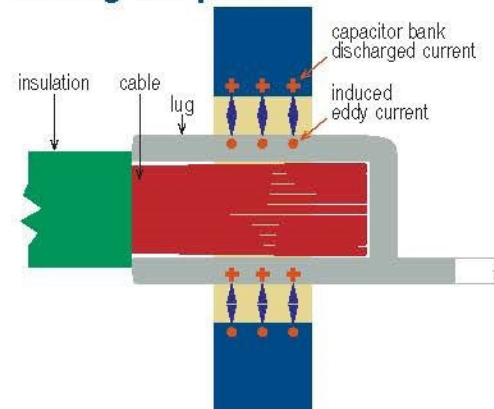
- Enables superior joining of different metal combinations
- High level of cable compression:
 - Full 360° crimp
 - Almost no voids between wires
- Increase in electrical resistance after thermal shock is smaller than with other processes
- Fast process: 5-10 cycles per minute
- Superior quality:
 - Stable process
 - Only one parameter to control
 - No springback of the lug after crimp
 - No corrosion development in the joint area
- 'Green' process: no heat, no sparks, no smoke, no radiation



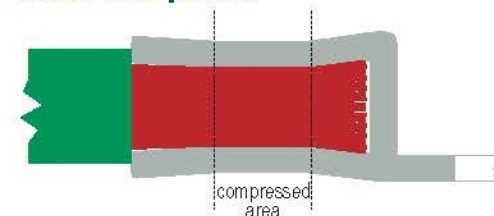
Magnetic Pulse Crimping Basic Principle

A high current is discharged through a coil, creating an inductive eddy current in the conductive lug. Two opposing magnetic fields are created, strongly repelling one another, forcing the lug to move away from the coil at a very high speed, pushing its metal well beyond its yield strength and into its plastic region. As a result, a full 360° compression of the cable is achieved, leaving almost no voids between its wires. This tight crimp provides much higher and more reliable conductivity in comparison with other joining methods.

During the pulse

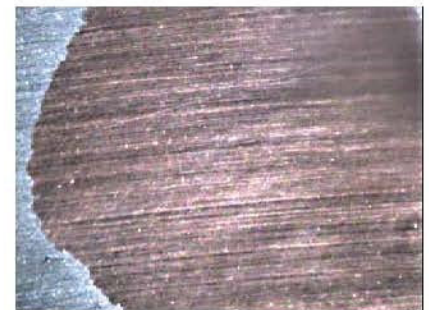


After the pulse



Magnetic Pulse Crimping Benefits

- Enables designs previously not possible
- Increases yield and quality
- Reduces manufacturing costs
- Provides superior conductivity
- Implements 'Green' process



Full compression and excellent conductivity achieved between cable and lug.



Maximum compression with almost no voids between wires achieved.

Specifications:

Materials:

Cable: Al, Cu

Lug: Al, Cu, Brass

Dimensions:

Up to Ø 25 mm

Recommended machine:

MPW 25



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