



Melting the end of a plastic tube to create a seal

Objective Melting the end pieces of a plastic tube together to create an air tight seal

Material Plastic tube 2.5" (63.5mm) long, 0.75" (19mm) diameter

Frequency 185 kHz

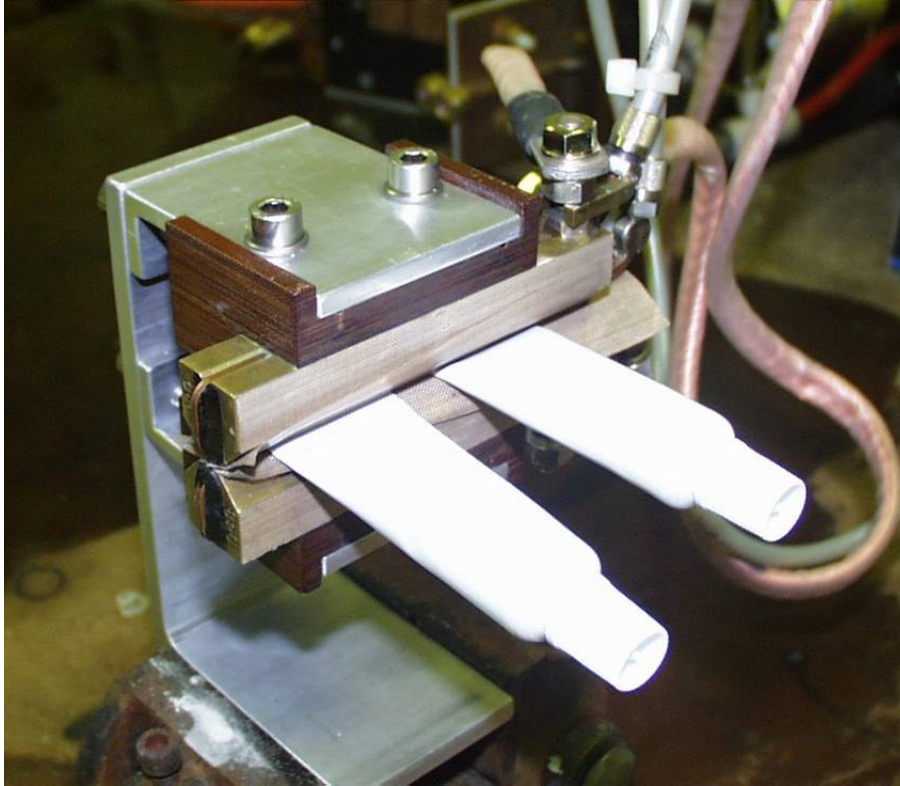
Equipment

- Ambrell 4.2 kW induction heating system, equipped with a remote workhead containing two 1.5 μ F capacitors for a total of 0.75 μ F
- An induction heating coil designed and developed specifically for this application.

Process A single turn coil encapsulated in custom blocks is used for sealing the tube. Two tubes are placed between the coil blocks and a 7lb (3.2kg) load is applied to the top of the coil. Power is only supplied to the top block of the coil for 250 milli-seconds causing the plastic to melt and create an air tight seal.

Results/Benefits Induction heating provides:

- Fast and precise application of heat
- Hands-free heating that involves no operator skill for manufacturing
- Even distribution of heating



Ends of tubes in coil with pressure applied prior to heating