



## Remove plastic coating from steel tubes

**Objective** Recover the polypropylene insulation from hollow steel tubes to allow recycling of both the tubes and the insulation.

**Material** Hollow steel tubes 1/8" (0.318 cm) to 5/8" (1.59 cm) ID  
Protective polypropylene coating

**Temperature** 150 °C (302°F)

**Frequency** 185 kHz

**Equipment**

- Ambrell 5 kW induction heating system, equipped with a remote workhead containing one 1.5 µF capacitor
- An induction heating coil designed and developed specifically for this application.

**Process/Narrative** A six turn letterbox shaped coil is used to heat the inner steel pipes. The plastic coating is softened enough to be easily removed and recycled. The time required to melt the plastic from one meter of wire is approximately 45 seconds. This varies based on the diameter of the tube.

**Results/Benefits** Induction heating is the only feasible way to remove the plastic coating, leaving it in an unpolluted form for recycling. It is a faster processing method and also reduces in the company's carbon footprint.

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