



Soldering Instructions

SuperPower® 2G HTS Wire has excellent soldering characteristics.

When soldering, the instructions listed below should be kept in mind:

SuperPower Wire Types SCS4050, SCS6050 and/or SCS12050 with surround copper stabilizer:

1. Clean the surface of the 2G HTS wires and the area on the fixture or current lead to which the 2G wires are to be soldered.
2. Typical resin flux, e.g., Kester® SP-44 Rosin Paste Flux, and either commercial solder material (e.g., 40Pb-60Sn) or Indium may be used.
3. Tin the fixture or current leads, and the 2G wire ([RE]BCO side) with solder material.
4. Gently press the 2G wire with (RE)BCO side facing to the fixture or the current lead to the (RE)BCO side of the 2G wire, and apply appropriate heat until solder material melts.
5. The soldering temperature should be kept below ~ 250°C, especially for elongated processing time (e.g., a few hours), to avoid possible degradation in superconductivity.

SuperPower Wire Types SF4050, SF6050, SF12100 and/or SF12050 with only silver overlayer:

1. Clean the surface of the fixture to which the HTS wires are to be soldered.
2. Typical resin flux, e.g., Kester® SP-44 Rosin Paste Flux, and commercial solder material, e.g., 40Pb-60Sn, may be used.
3. Tin the fixture or current leads, and the 2G wire ([RE]BCO side) with solder material, gently press the 2G wire with (RE)BCO side facing to the fixture or the current lead to the (RE)BCO side of the 2G wire, and apply appropriate heat until solder material melt.
4. The soldering temperature should be kept below ~ 250°C to avoid possible degradation in superconductivity.
5. When tinning the 2G wire surface, the process should be quick and brief to avoid the thin silver overlayer being scavenged.

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