



AirBorn, Inc.
Product Technical Bulletin

Recommendations for Successful Soldering to
PPS Connectors with 22 AWG Solder Cup Terminations

1. Solder Iron: Use pencil tips rated for 800° F. or set variable temperature units to 800° F. Apply heat to the side of the solder cup. Ensure pencil tip pressure is directed radially and not axially to the solder cup. Minimize any pressure applied during soldering to prevent plastic deformation. Refer to drawing 17205 for pictorial. The amount and location of pressure applied to the contact will greatly affect the transfer of heat from the soldering iron. Below are typical times and heat settings. Lower heat settings/tip ratings require more time to heat solder cup:
 - 650° F. – 5–7 seconds
 - 700° F. – 4–6 seconds
 - 750° F. – 3–5 seconds

AirBorn solder iron tests were conducted utilizing a Weller ESD 3000 unit with a pencil tip iron.

2. Resistance Soldering Units: Operate with setting at 70 watts. Place electrodes external to and just below the solder cup cutout (scoot) for 8–10 seconds. Be certain to keep the tips of the tweezers free from residues for consistent heating time. Do not apply pressure to the contact in the axial direction. Minimize any pressure applied during soldering to prevent plastic deformation. Refer to drawing 17205 for pictorial. Increasing wattage will decrease required heating time:
 - 60 watts – 3–5 seconds
 - 70 watts – 2–4 seconds
 - 80 watts – 2–3 seconds

AirBorn resistance solder tests utilized American Beauty Model 105–A3 with micro-soldering tweezer 105133.

3. Use of hot-air type heat guns is not recommended for solder cup soldering.

4. Overheating of PPS (Polyphenylene Sulfide) may cause the plastic to deform. Discoloration may also result from excess direct heat, but this condition is acceptable for product performance. PPS (Polyphenylene Sulfide per MIL–M–24519) has a heat deflection temperature of 500° F.

5. Resistance soldering was evaluated to be the superior process. It eliminated excess and uncontrolled application of heat. Resistance soldering electrodes in contact with the plastic insulator will not create heat as will the solder iron.

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