

Copper-Core Connect™

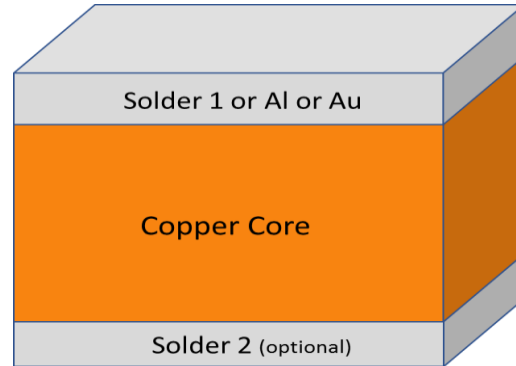
The **Copper-Core Connect** replaces the need for using thick solid solder preforms, while improving thermal and electrical conductivity by a factor up to 7x.

With the ever-increasing miniaturization of electronics and an increased number of (sub)assembly steps, not all assembly connections can be made on a 2D PCB, heat-sink or ceramic substrate, but need to be raised for making them accessible for assembly/ribbon-/wire-bonding tools or equipment and/or soldering.

With the new **Copper-Core Connect™**, Coining enables designs for making a final, high-power, wire/ribbon connection to contact spots that otherwise cannot be reached or must be made in an earlier assembly step. The **Copper-Core Connect™** can be soldered to the ground level board and can be provided with the same or a different solder top-side for placing a component at the required height or making an elevated connection.

ADVANTAGES

- Improved thermal management
- Increased reliability due to reduced solder spreading, component displacement, shorting and electro-migration and increases overall Reliability
- Exact solder volume allows reduced connection areas & increased connection density.
- The **Copper-Core Connect™** can be placed in initial 2-D assembly step using high melting point solder alloy and be connected subsequently at higher elevations.
- Enables easy accessibility for repair/replacement work of components
- Wide range of Pb-Free and Pb-containing solder alloys available



Copper-Core Connect Cross Section

Product Offerings

For Soldering Applications

Configuration: Solder1/Cu; Solder1/Cu/Solder2

Total Thickness: ≥ 0.010 " typical, for thinner gauges contact Coining engineering.

Solder 1 & 2 Thickness: 0.001" to .003" Typical

Solders: Bi57Sn42Ag1 (melting range 138-140°C)

Sn60Pb40 (melting range 183-188°C)

Sn96.5Ag3Cu.5 (melting range 217-218°C)

Au80Sn20 (melting point: 280°C)

Pb95Sn5 (melting range: 305-314°C)

Other solders available

For Wire/Ribbon Bonding Applications

Configuration: Cu/Al; Solder2/Cu/Al; Solder2/Cu/Au

Total Thickness: ≥ 0.010 " typical, for thinner gauges contact Coining engineering.

Solder 2 Thickness: 0.001" to 0.003" Typical

Al layer Thickness: 0.001" - 0.002" Typical.

Solders: Pb91Sn10 (melting range 275-302°C)

Other solders available

Custom Copper-Core Connect™

Contact Coining Engineering to discuss a custom **Copper-Core Connect™** configuration designed to meet your requirements.

Direct inquiries may be submitted through our website: www.ametek-ecp.com under [Ask An Engineer](#).