

SuperCu™ Composite Wire



SuperCu™ is a composite wire consisting of a copper core clad with steel, which is again clad with copper.

A result of innovative clad metal design and engineering SuperCu™ composite wire has been developed to extend the capabilities of copper conductors. Utilizing our clad metal technology, Torpedo Specialty Wire, Inc has attempted to approach the 100% IACS of pure copper while increasing its mechanical properties. Traditional alloying of copper degrades conductivity radically for anything beyond low percentage additions, while nonmetallic dispersion copper systems are usually expensive

A SuperCu™ Wire composite offers:

High electrical conductivity (77% to 90% of copper).

Mechanical strength improvement at room and elevated temperatures.

Increased stiffness and resistance

Magnetic properties to facilitate handling.

Copper surface characteristics for termination and solder ability.

TECHNOLOGY:

SuperCu™ composite wire is produced by a continuous bonding process assuring uniform inlays of steel and copper-both in cross section and along the length of the wire. Each component layer has a true metallurgical bond resulting in freedom from voids, high stress points, and non-uniformities at each interface.

APPLICATION ADVANTAGES:

The uniform distribution and overall concentricity of the steel layer in a SuperCu™ composite wire leads to better control of mechanical and physical characteristics for applications such as:

- **Electronic Leads** (diodes, capacitors, resistors, etc)
- Higher electrical conductivity

- High temperature strength
- Magnetic properties
- Specialty Cable
- Higher yield E.L. (elastic limit)
- High conductivity
- Termination simplicity
- Improved mechanical strength

AVAILABILITY:

SuperCu™ composite wire is currently available in both the annealed and as-drawn conditions in sizes from .0201" (24awg) / .5mm down to fine wire sizes

A range of carbon or stainless steels (magnetic or non-magnetic) can also be used as the intermediate cladding layer depending on specific application requirements.

NEW DEVELOPMENTS:

If you have an application for SuperCu™ wire or feel that a triclاد wire system can help meet your material needs, contact our engineers who will work with you to develop a composite wire to meet your specific requirements.