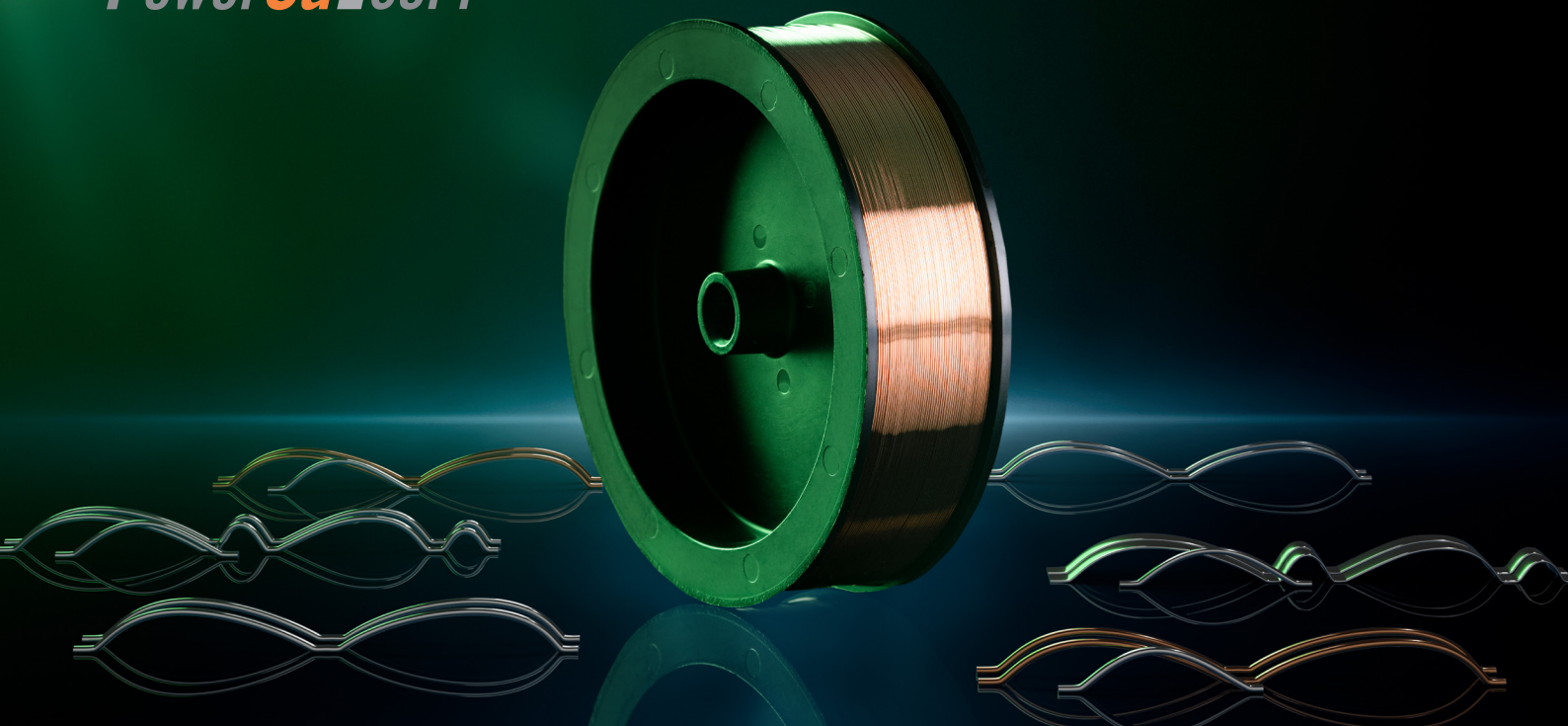


PowerCu SOFT

PowerCu SOFT Bonding Wire

Thick Copper Bonding Wire of Superior Softness

PowerCu SOFT bonding wire is designed for the next generation of power devices, targeting operating temperatures up to 250 °C. At Heraeus Electronics, special processing steps achieve the very soft copper material. It offers superior electrical conductivity, increased fusing current values, and provides 10–30 times higher cycle numbers in lifetime tests for wedge/wedge applications compared to standard aluminum bonding wire. This makes it the ideal choice for advanced packaging of modules in high-temperature and high-robustness applications.

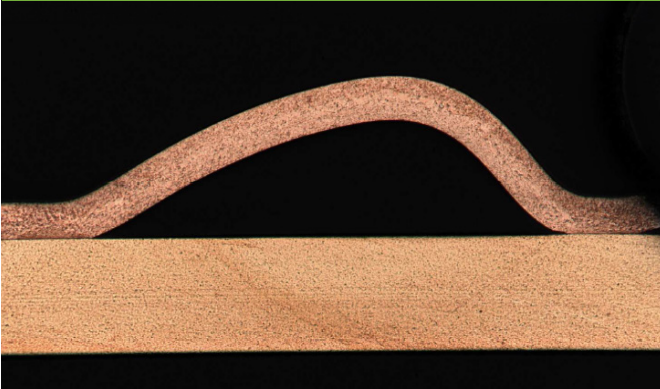
As the industry shifts towards silicon carbide (SiC) and gallium nitride (GaN) technologies, **PowerCu SOFT** bonding wire supports larger currents and higher temperatures in electronic system modules. Copper wire paves the way for advancements in hybrid and electric vehicle technologies.

Key Features

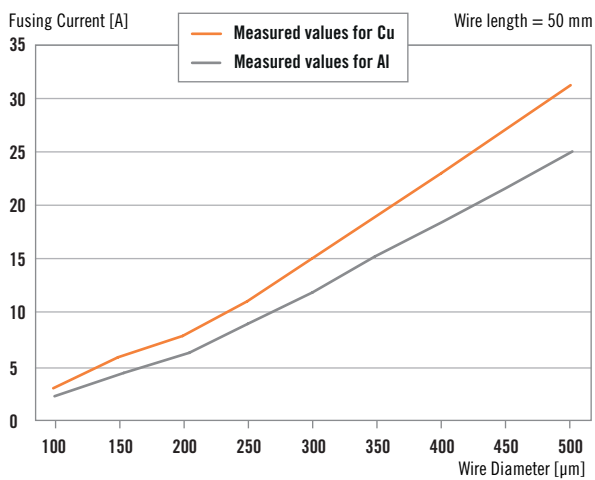
- Superior softness
- Excellent bondability
- Low deformation resistance
- Extended lifespan
- High thermal stability
- Low electrical resistance

Heraeus Electronics' Die Top System (DTS®) offers a solution for customers' latest requirements for high performance. DTS® enables copper wire bonding on today's standard chips.

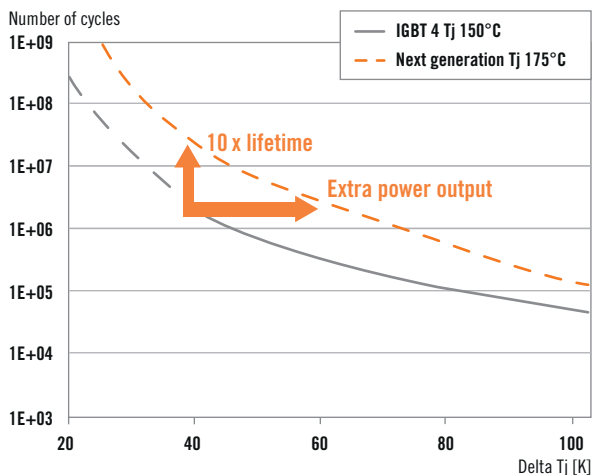
Wire of PowerCu SOFT



PowerCu SOFT Fusing Current



PowerCu SOFT Increased Module Lifetime during PC



Material Characteristics (*)

Melting point	1083 °C
Modulus of rigidity	48 GPa
Thermal conductivity at 20°C	399 W/m * K
Linear expansion coefficient (0°C – 100°C)	16.8 * 10 ⁻⁶ K ⁻¹
Electrical Resistivity at 20 °C	1.8 µΩ * cm
Temperature coefficient of electrical resistance (0°C – 100°C)	3.9 * 10 ⁻³ * K ⁻¹
Density	8.933 kg/dm ³

* Theoretical bulk material properties

Technical Parameters

Diameter / Type		Elongation (%)	Breaking Load (cN)
Microns (µm)	Mil		
75	3	> 10	70 – 120
100	4	> 10	120 – 200
125	5	> 10	190 – 300
200	8	> 15	500 – 750
250	10	> 15	780 – 1200
300	12	> 15	1100 – 1700
380	15	> 15	1700 – 2700
400	16	> 15	2000 – 3100
500	20	> 15	3100 – 4800

For other diameters, please contact Heraeus Electronics Product Management.

* 1mil ≈ 25µm

1cN ≈ 1g

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