

CucorAI PLUS Bonding Wire

Aluminum Cladded Copper Wire for Power Application



CucorAI PLUS Bonding Wire Benefits

- Softness and good bonding characteristics
- Increased reliability compared to standard aluminum material
- Compatibility with standard bonding and standard chip technology
- Superior electrical and thermal capabilities
- Outstanding power cycling performance

CucorAI PLUS

The CucorAI PLUS bonding wire is a composite wire type with a copper core and aluminum coating. The material mix of aluminum and copper provides excellent electrical and mechanical properties.

This is reflected by the long-term behavior during both passive temperature cycling tests and especially active power cycling tests – in comparison to pure Al material.

The copper proportion of this thick wire is 50 percent by volume. This wire can be delivered in a diameter range from 150µm to 500µm.

This wire type can be applied on all sensitive active surfaces, as well as DBCs, AMB or leadframes. The good bondability of the wire is achieved by the softness of the aluminum coating. At the same time, the copper core provides excellent electrical, mechanical and thermal properties

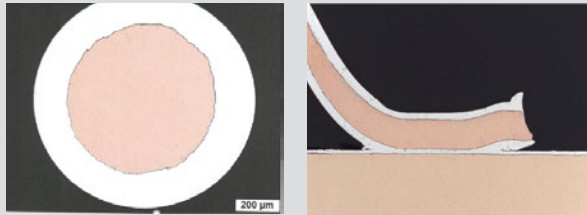
Furthermore, the Al/Cu structure enables reliable bonding windows without changing the chip metallization.

Additionally, the CucorAI PLUS bonding wire has been designed to be used with conventional aluminum bonding equipment.

Preliminary Technical Data of CuCorAI PLUS Bonding Wire

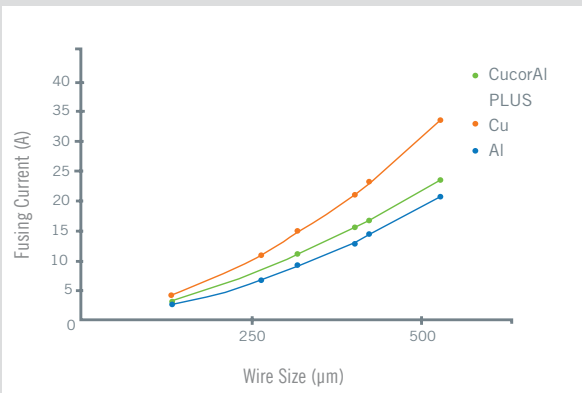
Diameter	Microns [µm]	150	200	300	380	400	500
	Mils	6	8	12	15	16	20
Elongation	[%]	> 10	> 15	> 15	> 15	>15	> 15
Breaking Load	[cN]	170–350	400–650	1000–1400	1700–2500	1800–2600	2800-4000

For other diameters, please contact Heraeus Electronics Product Management.



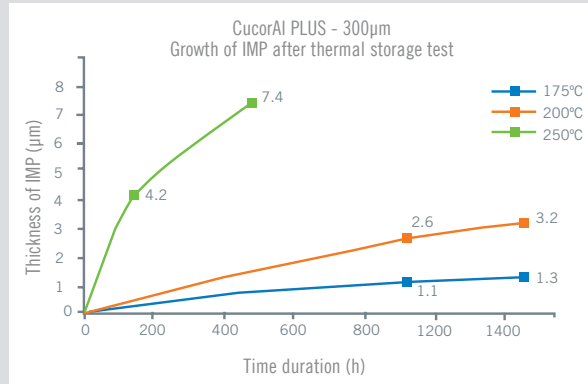
CucorAI PLUS cross section

Electrical Comparison

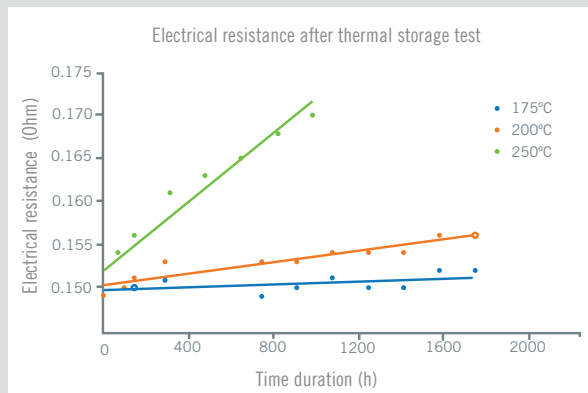


Comparison	Specific electric resistivity (Ohm x mm ² /m)	IACS (electric conductivity) (%)
Aluminum	0.026	64
CucorAI PLUS	0.021	81
PowerCu Soft	0.017	100

Thermal Storage



Electrical Resistance After Thermal Storage Test



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