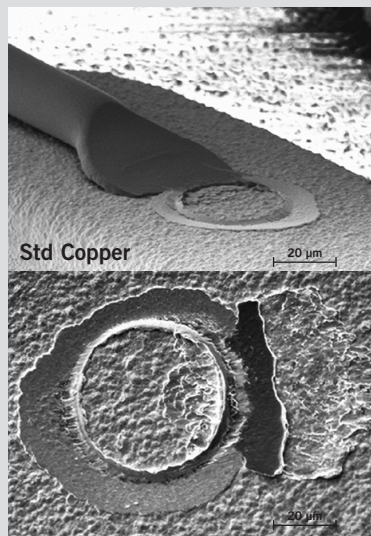
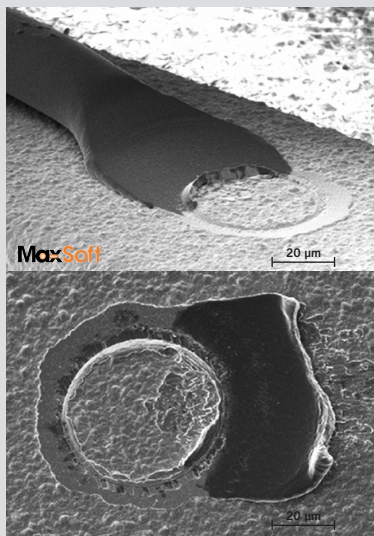




Copper Wire for High Pin Count and Fine Pitch Applications



MaxSoft Benefits

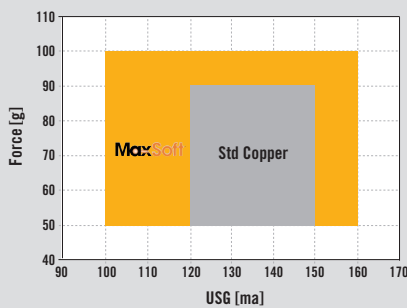
- Excellent 1st and 2nd bond performance
- Reduced pad metal splash
- Wider 2nd bond process window

Features

- Soft wire and FAB allow bonding on sensitive pad structures
- Excellent conductivity with less heat generation
- Available in diameters ranging from 0.6 – 1.3 mil

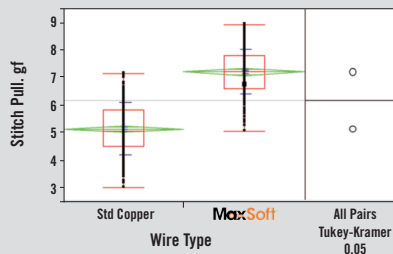
Bonding Conditions: Wire diameter: MaxSoft / Standard Copper at 1 mil · Device: K&S PBGA 2 X 2 test die · Capillary: Cupra CB-FC1011-R34 (T=4.0 mils) · Bonder: K&S 8028 PPS · Bonding temperature: 175°C

Wider 2nd Bond Process Window



Stitch pull requirement = 3 gram min.

Higher Stitch Pull Values



Recommended Technical Data of MaxSoft

Diameter	Microns	15	18	20	23	25	28	30	33
	Mils	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
Recommended Specs for Ball Bonding									
Elongation (%)		7 – 15	7 – 15	7 – 15	8 – 16	8 – 16	8 – 16	8 – 16	8 – 16
Breaking Load (g)		3 – 6	3 – 8	4 – 10	5 – 11	6 – 12	8 – 15	10 – 18	14 – 21

For other diameters, please contact Heraeus Bonding Wires sales representative.

MaxSoft Characteristics for 1 mil diameter

Physical Properties

Density	8.92 g/cm ³
Melting Point	1083 °C
Thermal Conductivity	401 W/m.K
Specific Heat Capacity @ 25 °C	385 J/kg.K
Coeff. of Thermal Expansion	16.5 μm/m °C, (20 – 100 °C)
Electrical Resistivity	1.69 μΩ/cm
FAB Hardness (120 mA EFO)	85 – 95 HV (0.01 N/5 s)
Elastic Modulus	80 ~ 90 GPa

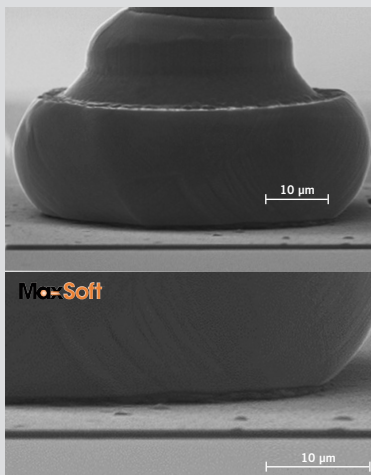
Chemical Composition

Copper	99.99% (min)
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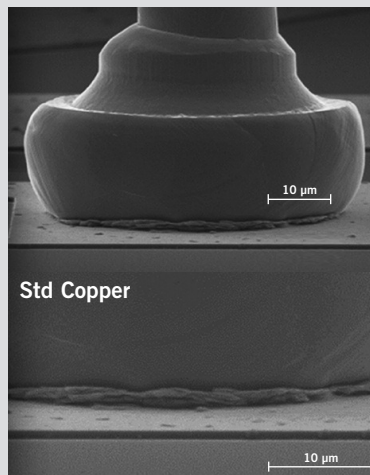
Other Guidelines

Floor Life	7 days
Shelf Life Time	6 month
Recommended Shielding Gas	Forming Gas (95%N ₂ , 5%H ₂)
Bonding Temperature (Leadframe)	200 – 240 °C
Bonding Temperature (Laminate)	165 – 175 °C

Reduced Pad Metal Splash



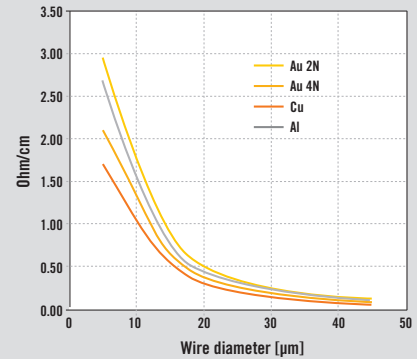
MaxSoft



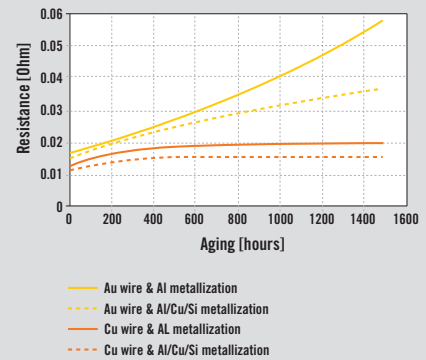
Std Copper

Bond pad: Al-1% Si-0.5Cu 10,000 – other conditions refer to front page

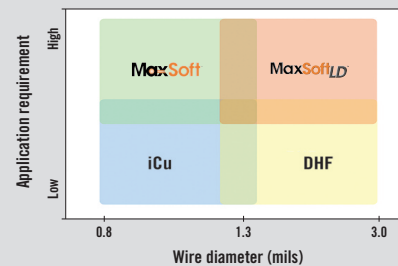
Resistance vs Wire Diameter



Electrical Resistance after Aging (at 175°C)



Copper Wire Products



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