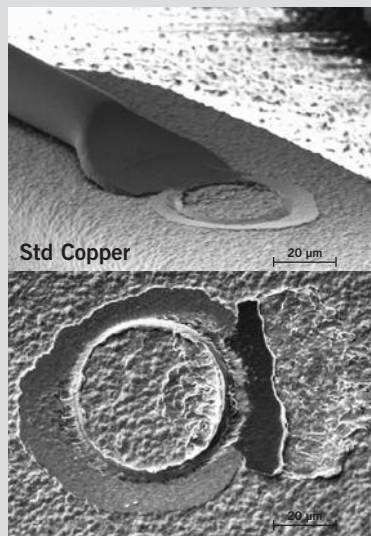
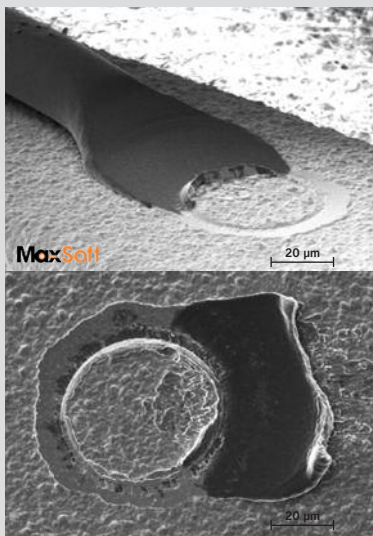




Copper Wire for High Pin Count and Fine Pitch Applications



MaxSoft Benefits

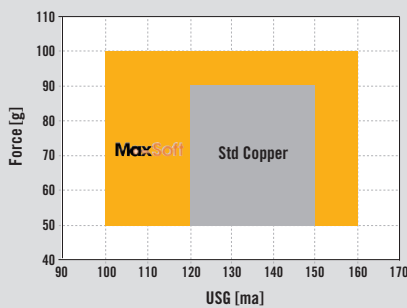
- Excellent 1st and 2nd bond performance
- Reduced pad metal splash
- Wider 2nd bond process window

Features

- Soft wire and FAB allow bonding on sensitive pad structures
- Excellent conductivity with less heat generation
- Available in diameters ranging from 0.8 – 1.3 mil

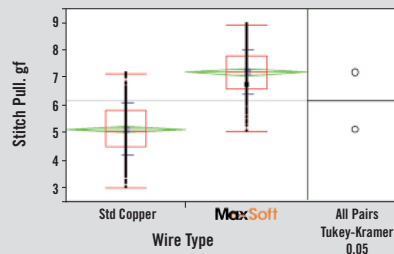
Bonding Conditions: Wire diameter: MaxSoft / Standard Copper at 1 mil · Device: K&S PBGA 2 X 2 test die · Capillary: Cupra CB-FC1011-R34 (T=4.0 mils) · Bonder: K&S 8028 PPS · Bonding temperature: 175°C

Wider 2nd Bond Process Window



Stitch pull requirement ≠ 3 gram min.

Higher Stitch Pull Values



MaxSoft Mechanical Properties

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

For other diameters, please contact your local representative.

MaxSoft Characteristics for 1 mil diameter

Physical Properties

Density	8.92 g/cm ³
Melting Point	1083°C
Heat Conductivity	0.94 Cal/cm sec °C
Specific Heat @ 25°C	0.09 Cal/g °C
Coeff. of Thermal Expansion	16.5 ppm / K (0 – 100°C)
Specific Electrical Resistivity	1.7 µOhm-cm
FAB Hardness*	85 – 95 HV 0.01/5s
Tensile Strength	190 – 210 N/mm ²
Elastic Modulus	80 ~ 90 GPa

Physical Properties

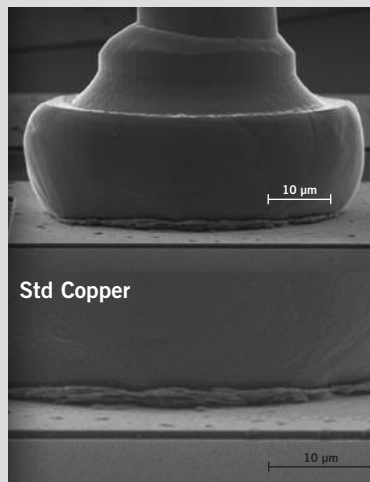
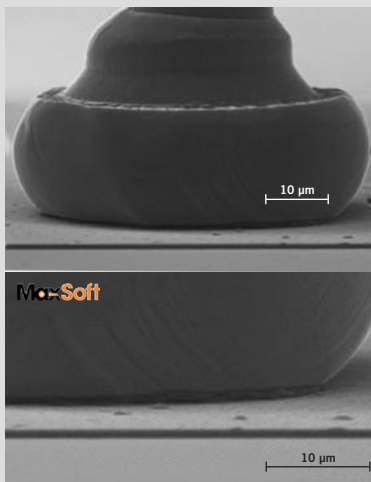
Copper	99.99% (min)
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Chemical Composition

Active Life Time (Cleanroom)	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

*On K&S 8028 PPS bonder, at 120 mA EFO & 49 µm FAB diameter

Reduced Pad Metal Splash

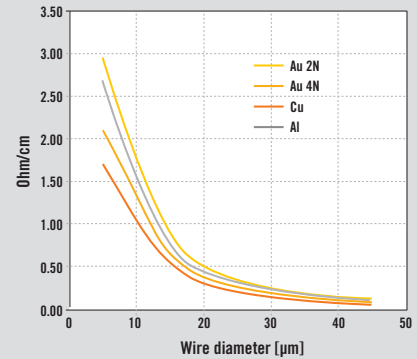


Bond pad: Al-1% Si-0.5Cu 10,000 – other conditions refer to front page

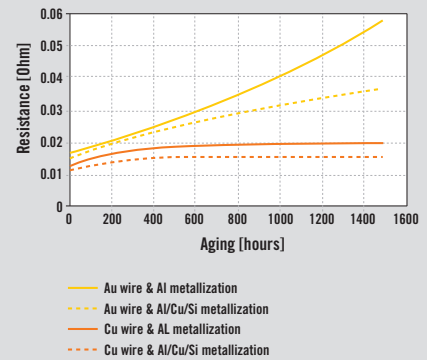
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Resistance vs Wire Diameter



Electrical Resistance after Aging (at 175°C)



Copper Wire Products

