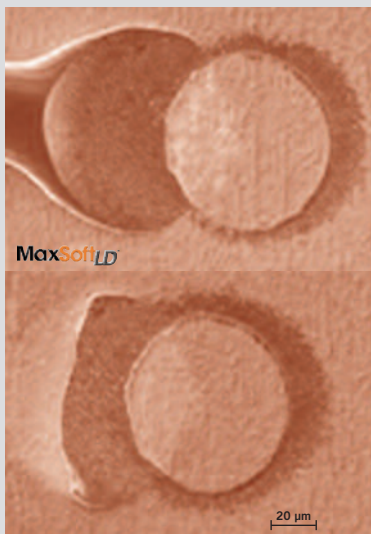
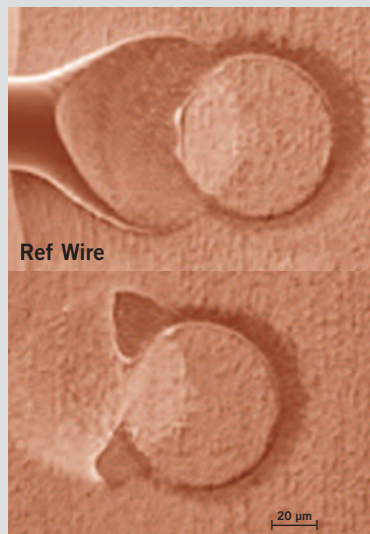


## MaxSoft<sub>LD</sub>

### Large Copper Wire Demanding 1st & 2nd Bond Applications



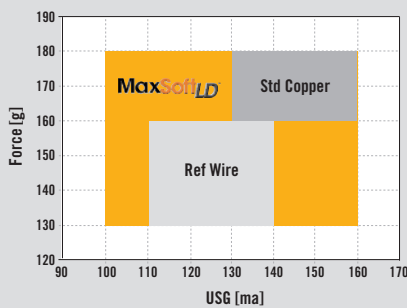
Excellent 2nd bond



#### MaxSoft<sub>LD</sub> Benefits

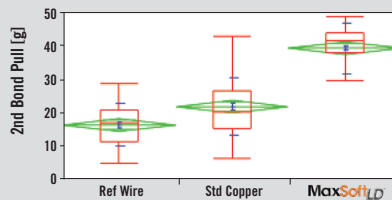
- Superior 1st and 2nd bond performance
- Soft wire characteristics enable:
  - Bonding on challenging pad structure
  - Higher stitch pull value for a stronger 2nd bond
  - Robust and wider 2nd bond process window
- High reliability wire with slow and uniform intermetallic growth
- Available in large diameters ranging from 1.3 mils to 3.0 mils (33 µm to 75 µm)

#### Wider 2nd Bond Process Window



Wire diameter: 50 µm · Device: PLCC68L Package  
 Capillary: CU-L8-1209-P37 (H2.5, CD3.1, T8.2, FA08)  
 Bonder: 8028PPS · Bonding Temperature: 220°C

#### Higher Stitch Pull Values



Wire diameter: 50 µm · Device: TSSOP Package  
 Capillary: CU-L8-1302-P37 (H2.6, CD3.7, T8.0, FA08)  
 Bonder: Maxum Plus · Bonding Temperature: 240°C

#### MaxSoft<sub>LD</sub> Mechanical Properties

Diameter	Microns	33	38	45	50	63	75
	Mils	1.3	1.5	1.8	2.0	2.5	3.0
<b>Recommended Specs for Ball Bonding</b>							
Elongation (%)		10 – 20	10 – 20	10 – 20	10 – 20	10 – 22	10 – 25
Breaking Load (g)		10 – 30	15 – 35	22 – 42	30 – 50	50 – 80	70 – 110

For other diameters, please contact your local representative.

## MaxSoft<sup>LD</sup> Characteristics for 50 µm diameter wire

### Physical Properties

Density	8.92 g/cm <sup>3</sup>
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*	68 – 76 HV 0.02/5s
Wire Hardness	68 – 80 HV 0.02/5s
Tensile Strength	160 – 220 N/mm <sup>2</sup>
Elastic Modulus	60 – 90 GPa

### Chemical Composition

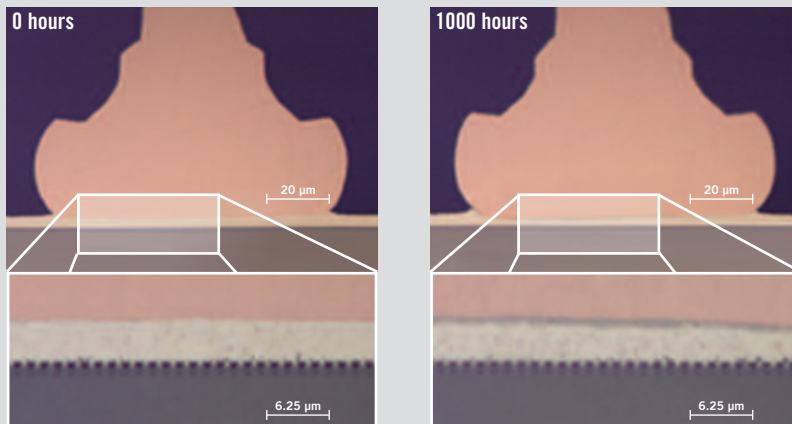
Copper	99.99% (min)
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### Others

Active Life Time (Cleanroom)	7 days
Shelf Life Time	6 month
Recommended Shielding Gas	Forming Gas (95%N <sub>2</sub> , 5%H <sub>2</sub> )
Bonding Temperature (Leadframe)	200 – 240°C

\*On K&S 8028 PPS bonder @ 120 mA EFO & 100 µm FAB diameter

## Excellent Reliability

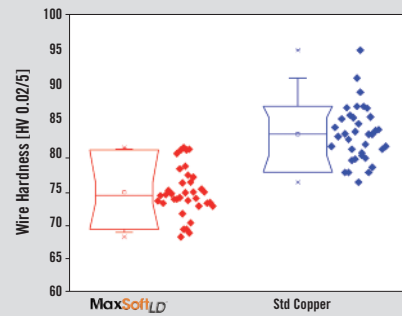


Bare die HTS @ 175°C, diameter: 50 µm, pad thickness: 3 µm Al

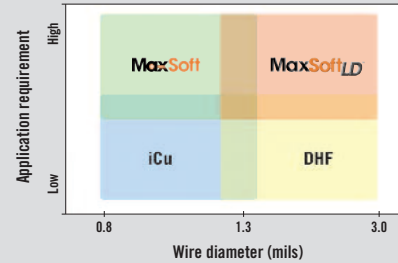
### W. C. Heraeus GmbH

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 bonding.wires@heraeus.com  
 www.heraeus-contactmaterials.com

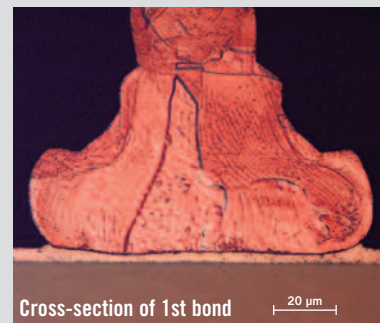
## Soft Wire Characteristic



## Copper Wire Products



## Minimum Pad Deformation



Cross-section of 1st bond  
 Diameter: 50 µm, pad thickness: 3 µm Al