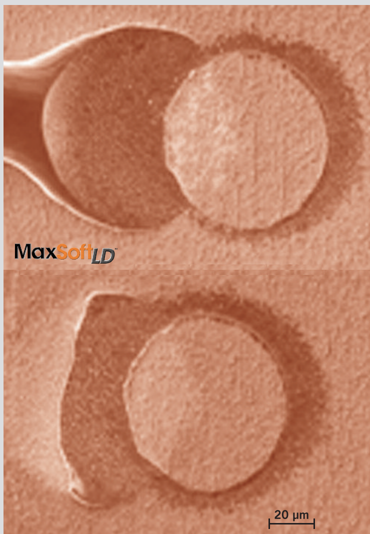
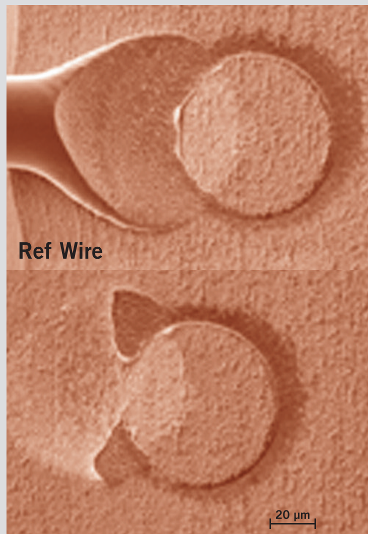
Heraeus

Electronics

MaxSoft LD™

Large Copper Wire Demanding 1st & 2nd Bond Applications



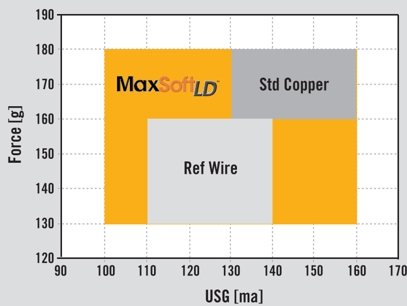


Excellent 2nd bond

MaxSoft LD Benefits

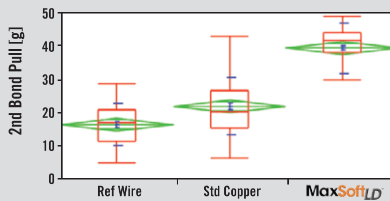
- Superior 1st and 2nd bond performance
- Soft wire characteristics enable:
  - Bonding on challenging pad structure
  - Higher stitch pull value for a stronger 2nd bond
  - Robust and wider 2nd bond process window
- High reliability wire with slow and uniform intermetallic growth
- Available in large diameters ranging from 1.5 mil to 3.0 mil (38 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

Recommended Technical Data of MaxSoft LD

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

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

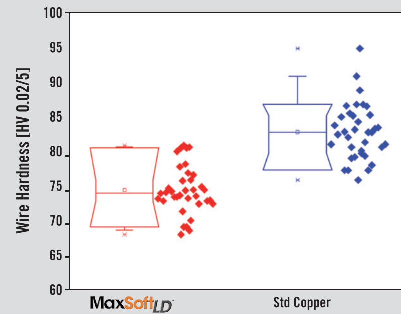
MaxSoft LD Characteristics for 50 µm diameter wire

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)	80 – 90 HV (0.02 N/5 s)
Wire Hardness	80 – 90 HV (0.02 N/5 s)
Elastic Modulus	60 – 90 GPa

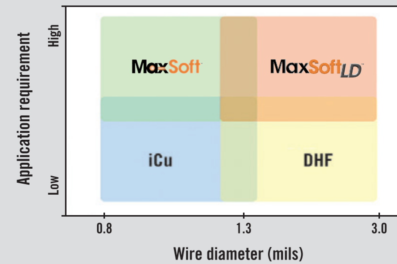
Chemical Composition	
Copper	99.99% (min)

Others	
Floor Life	7 days
Shelf Life Time	6 month
Recommended Shielding Gas	Forming Gas (95%N2, 5%H2)
Bonding Temperature (Leadframe)	200 – 240 °C

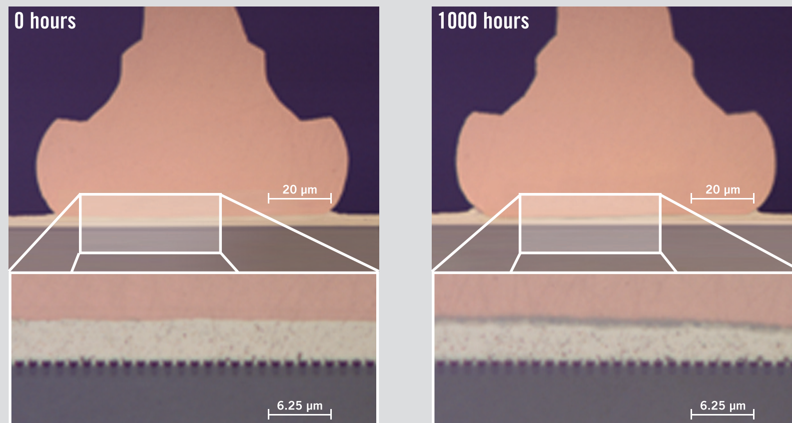
Soft Wire Characteristic



Copper Wire Products

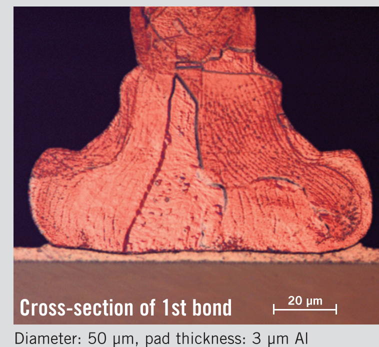


Excellent Reliability



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

Minimum Pad Deformation



Diameter: 50 µm, pad thickness: 3 µm Al

Americas
Phone +1 610 825 6050
electronics.americas@heraeus.com

Asia Pacific
Phone +65 65717649
electronics.apac@heraeus.com

China
Phone +86 53 5815 9601
electronics.china@heraeus.com

Europe, Middle East and Africa
Phone +49 6181 35 4370
electronics.emea@heraeus.com

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for particular application. The Heraeus logo, Heraeus, Condura®, DTS®, Die Top System® and the Condura, DTS, Die Top System figurative mark are trademarks or registered trademarks of Heraeus Holding GmbH or its affiliates. All rights reserved.

Heraeus Electronics GmbH & Co.KG, 63450 Hanau, Germany
Web: www.heraeus-electronics.com

N, Layout: HET13005-0516-1

The data given here is valid. We reserve the right to make technical alterations.