

## Au HD5

### Gold Bonding Wire for High Electrical Performance and Low Loop



#### Au HD5 Benefits

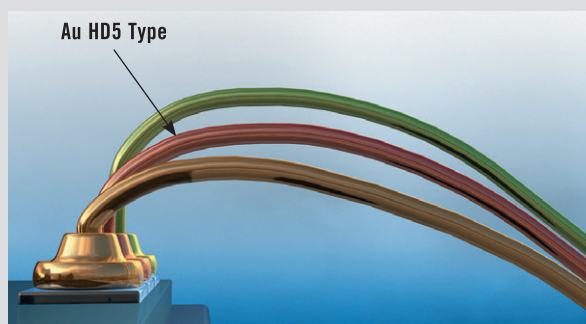
- Low and long loop wire type
- Suitable for all high performance bonding machines
- Mid strength type
- Exact loop guiding
- Well proven loop stiffness and thermal stability
- Good high temperature strength

These highly doped wires of different chemical compositions are very suitable for low and long loop applications. Both wire types are comparable in their characteristics and offer outstanding material and processing properties as well as good high temperature strength.

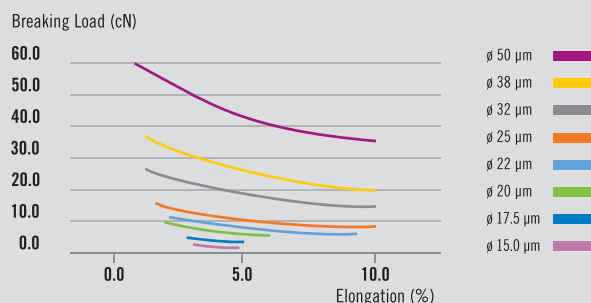
They represent an excellent bridge between doped and alloyed wires.

Areas of application

- Flat integrated circuits (BGA, MQFP, CQP, TSOP, TQFP, VSSOP, IC-cards,...)
- COB, foil frames



#### Breaking Load vs. Elongation



#### Recommended Technical Data of Au HD5

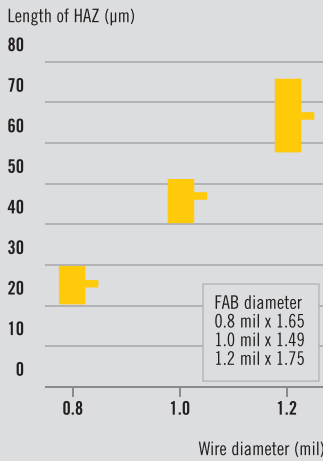
Diameter	Microns (µm)	17.5	20	23	25	30	33	38	50
	Mils	0.7	0.8	0.9	1.0	1.2	1.3	1.5	2.0
Elongation	%	2-5	2-5	2-8	2-8	2-8	2-8	3-8	3-10
Breaking Load	cN	> 5	> 6	> 7	> 9	> 14	> 16	> 20	> 35

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

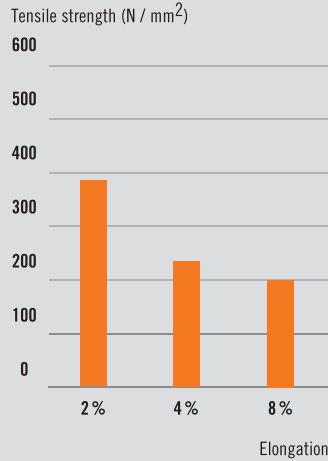
### HD5 Characteristics for 25 µm diameter

Non-Gold Elements	< 100 ppm	Heat Conductivity	3.12 W/cm.K
Elastic Modulus	> 80 GPa	Electrical Resistivity	2.3 µΩ-cm
Heat Affected Zone (HAZ)	75–115 µm	Coeff. of Linear Expansion (20 – 100 °C)	14.2 ppm/K
Melting Point	1063 °C	Fusing Current for 25 µm, dia 10 mm length (in air)	0.36 A
Density	19.32 g/cm <sup>3</sup>		

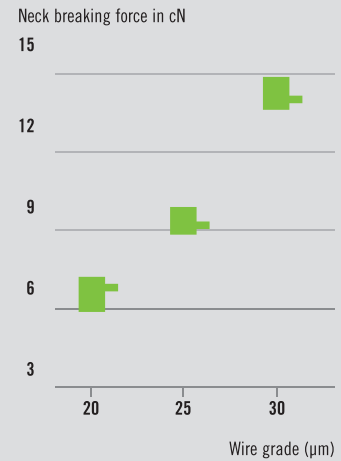
### Heat Affected Zone (HAZ)



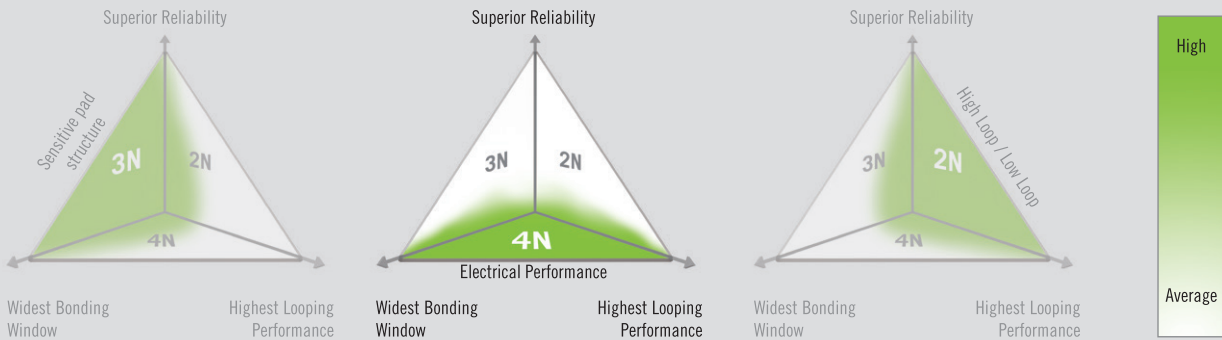
### Breaking Load vs. Elongation



### Neck Strength



### Gold Wire Segmentation by Properties



**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.