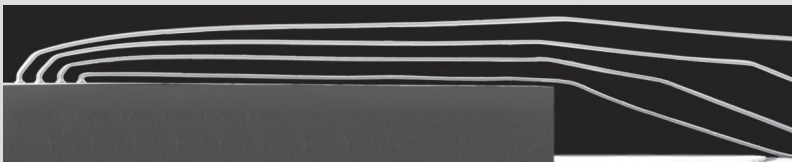
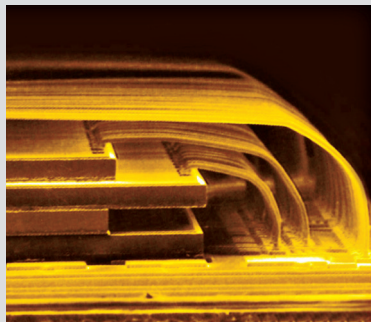
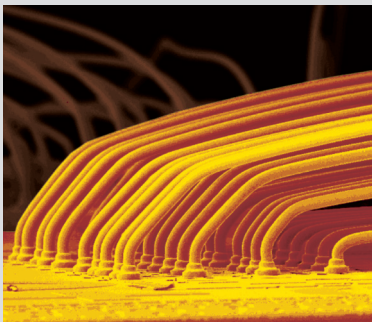


Formax™

Gold Wire for Stacked Die and Multi-tier Applications



Formax Benefits

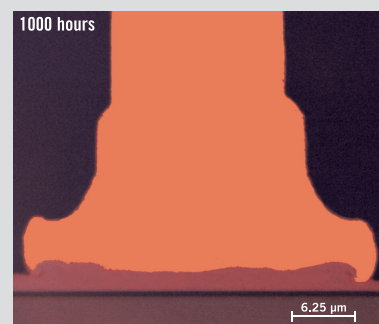
- Engineered and specifically designed for stacked die and multi-tier applications
- Highly accurate and consistent loop profiles support high wire bond yields
- Improved loop linearity and stability achieves higher moulding yields
- Versatile looping capabilities
- Robust 1st and 2nd bondability provides for consistently higher bond test results
- Proven intermetallic stability based on 3N gold composition

Recommended Technical Data of Formax

Diameter	Microns	15	18	20	23	25
	Mils	0.6	0.7	0.8	0.9	1.0
Recommended Specs for Ball Bonding						
Elongation (%)		2 – 5	2 – 6	2 – 6	2 – 7	2 – 7
Breaking Load (g)		2 – 7	4 – 8	6 – 10	7 – 12	9 – 15

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

High Reliability



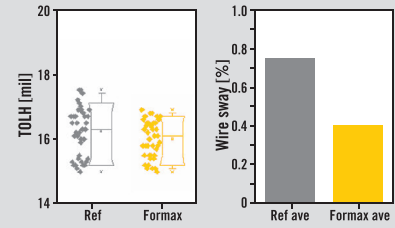
Highly reliable intermetallic growth.
Cross section of molded device after aging @175°C.

Formax Characteristics for 25 µm diameter

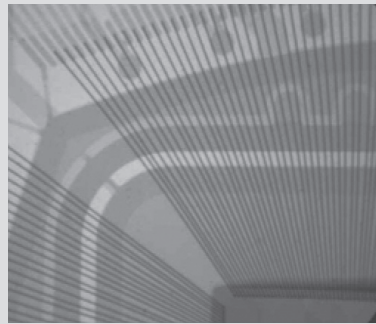
Non-Gold Elements	< 200 ppm
Elastic Modulus	~ 90 GPa
Heat Affected Zone (HAZ)	40 – 170 µm
Melting Point	1063 °C
Density	19.3 g/cm ³
Heat Conductivity	3.17 W/cm-K
Electrical Resistivity	2.3 µΩ-cm
Coeff. of Linear Expansion (20 – 100°C)	14.2 ppm/K
Fusing Current for 25 µm, dia 10 mm length (in air)	0.37 A
FAB Hardness	57 – 68 HV (0.01 N/5 s)

Loop Height Consistency & Wire Sway

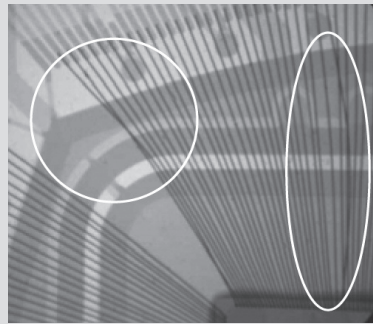
(High Loop)



16 mil loop height / 275 mil span
1 mil (25 µm) wire diameter



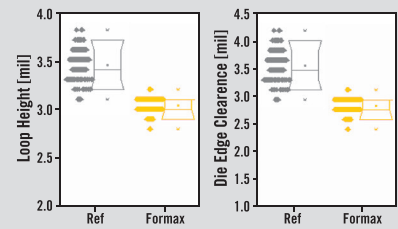
Formax accurate loops



Standard wire

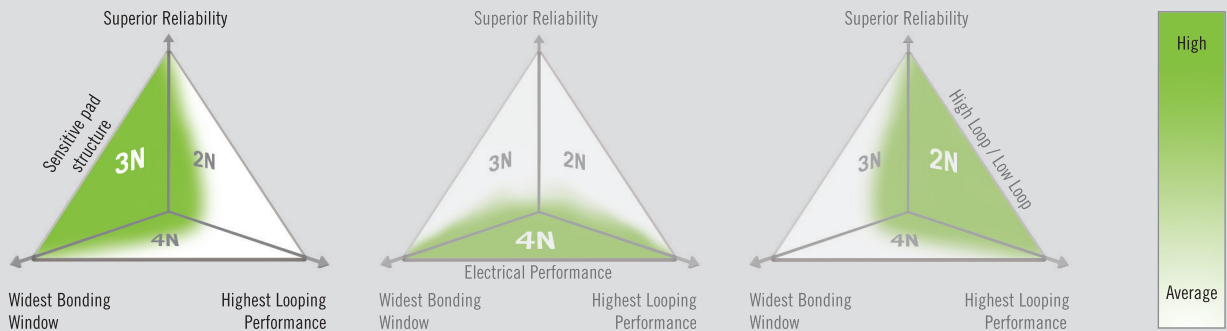
Loop Height Consistency & Die-edge Clearance

(Low Loop)



3 mil loop height / 200 mil span
1 mil (25 µm) wire diameter

Gold Wire Segmentation by Properties



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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.