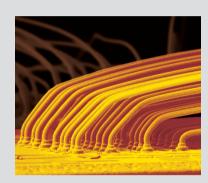
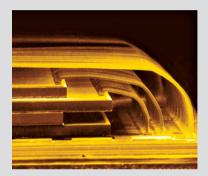
Heraeus

Formax

Gold Wire for Stacked Die and Multi-tier Applications





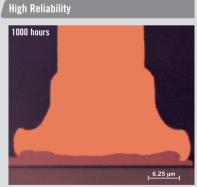


Formax Benefits

- 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 Formox							
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.

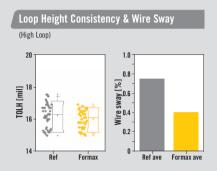


Highly reliable intermetallic growth.

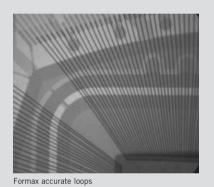
Cross section of molded device after aging @175°C.

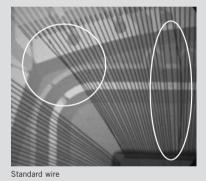
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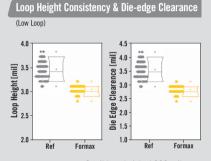
Formox Characteristics for 25 µm diameter				
Non-Gold Elements	< 200 ppm			
Elastic Modulus	\sim 90 GPa			
Heat Affected Zone (HAZ)	40 — 170 μm			
Melting Point	1063 °C			
Density	19.3 g/cm ³			
Heat Conductivity	3.17 W/cm·K			
Electrical Resistivity	2.3 μ Ω -cm			
Coeff. of Linear Expansion (20 – 100°C)	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)			



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

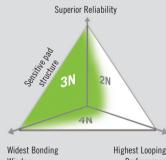




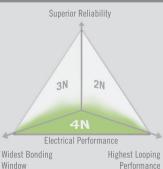


3 mil loop height / 200 mil span 1 mil (25 μ m) wire diameter

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.