## Heraeus

# Ag<u>Lite</u>

## Silver Alloy Wire for LED Device and IC Packaging



Recommended Technical Data of Ag <u>Lite</u>												
Diameter	Microns (µm)	15	17.5	20	23	25	30	38				
	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5				
Elongation	(%)	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8				
Proaking Load	(m)	~ 3	~ 1	~ 6	~ 0	~ 10	~ 1/	~ 20				

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

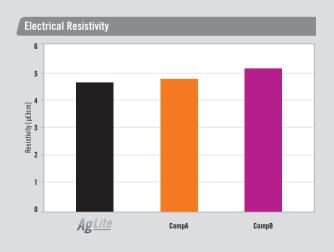
#### Benefits

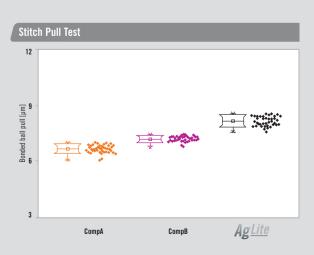
Ball part

- A cost-effective alternative to gold wires
- Good reflectivity surface
- Good bondability with both N<sub>2</sub> and forming gas
- Good mechanical properties
- Good reliability performance

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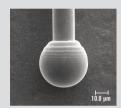
54.94





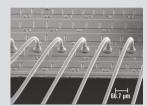
Physical Properties											
Diameter	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5			
Grain Size (µm)	Ball	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6			
	Wire	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3			
Hardness Hv based on 1.0 mil	FAB	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60			
	Wire	75 – 85	75 - 85	75 – 85	75 - 85	75 – 85	75 - 85	75 – 85			
HAZ length (µm)		50 ~ 100	60 ~ 110	70 ~ 120	80 ~ 130	90 ~ 140	100 ~ 150	110 ~ 160			
Fusing Current mA, Length = 10mm		250	280	310	340	370	470	640			
Resistivity (μΩcm)		4.66	4.66	4.66	4.66	4.66	4.66	4.66			
Recrystallization temp. (°C)		400 ~ 480	400 ~ 480	400 ~ 480	400 ~ 480	400 ~ 480	400 ~ 480	400 ~ 480			
Melting Point (°C)		~ 1150	~ 1150	~ 1150	~ 1150	~ 1150	~ 1150	~ 1150			

#### Good FAB using N<sub>2</sub> Gas



Target FAB: 34 µm Wire diameter: 18 µm EFO current: 30 - 40 mA  $N_2$  Gas flow rate: 0.3 - 0.5 LPM

#### Good looping capability



Wire diameter: 18 µm Loop height: 4 mil Wire length: 2 mm



Wire diameter: 18 µm Loop height: 10 mil Wire length: 2 mm

#### Stable & Good IMC on Al pad



Wire diameter: 18 µm Die: Al-1%Si-0.5%Cu, 1 μm Al HTS 200 °C @ 1000 hrs

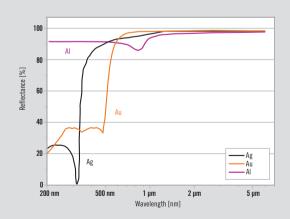
#### Reflectivity vs Au\_Theoretical

**Heraeus Electronics** 

Heraeusstraße 12-14

63450 Hanau, Germany www.heraeus-electronics.com

Heraeus Deutschland GmbH & Co. KG



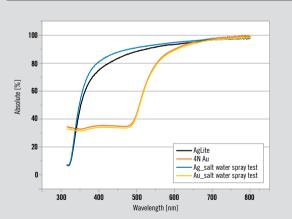
## **Americas**

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

#### Asia Pacific

Phone +65 6571 7677 electronics.apac@heraeus.com

#### Reflectivity vs Au Experimental



#### China

Phone +86 21 3357 5457 electronics.china@heraeus.com

### **Europe, Middle East and Africa**

Phone +49 6181 35 3069 +49 6181 35 3627 electronics.emea@heraeus.com

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