

## AgLite

### Silver Alloy Wire for LED Device and IC Packaging

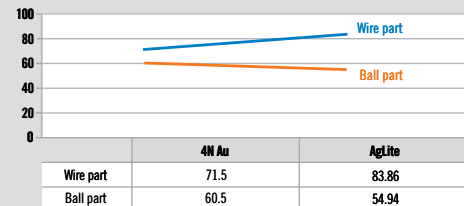


#### Benefits

- 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

#### Hardness vs Au

##### Vickers Hardness

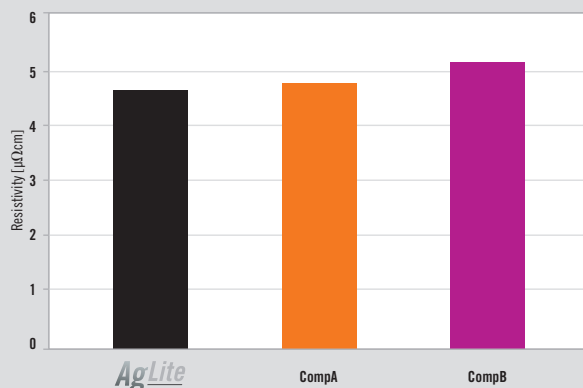


#### Recommended Technical Data of AgLite

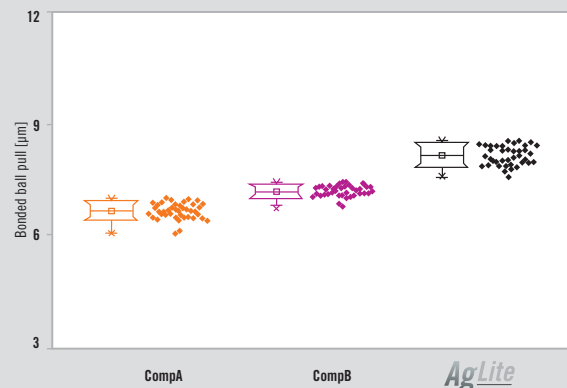
Diameter	Microns (μm)	15	17.5	20	23	25	30	38
	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5
Elongation (%)		2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8
Breaking Load (g)		> 3	> 4	> 6	> 8	> 10	> 14	> 20

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

#### Electrical Resistivity



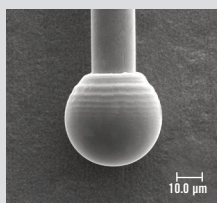
#### Stitch Pull Test



## Physical Properties

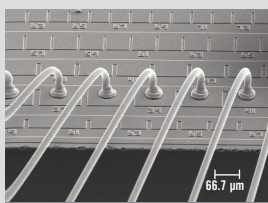
Diameter	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5
Grain Size (µm)	Ball	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6
	Wire	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3
Hardness Hv based on 1.0 mil	FAB	50 ~ 60	50 ~ 60	50 ~ 60	50 ~ 60	50 ~ 60	50 ~ 60	50 ~ 60
	Wire	75 ~ 85	75 ~ 85	75 ~ 85	75 ~ 85	75 ~ 85	75 ~ 85	75 ~ 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

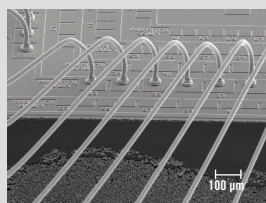


Target FAB: 34 µm  
Wire diameter: 18 µm  
EFO current: 30 – 40 mA  
N<sub>2</sub> gas flow rate: 0.3 – 0.5 LPM

### Good looping capability



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



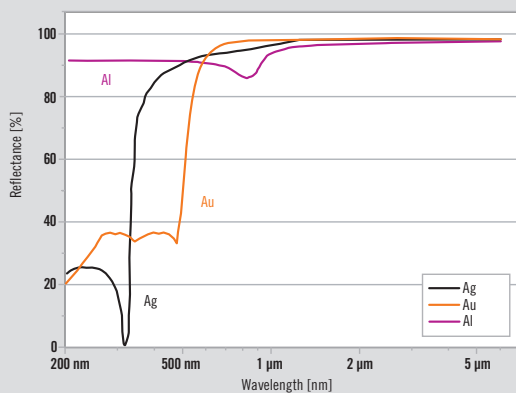
Wire diameter: 18 µm  
Loop height: 10 mil  
Wire length: 2 mm

### Stable & Good IMC on Al pad

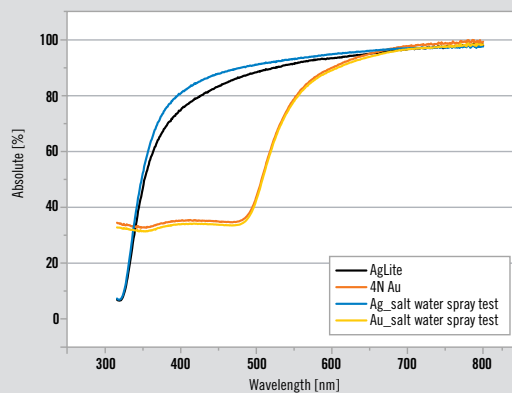


Wire diameter: 18 µm  
Die: Al-1%Si-0.5%Cu, 1 µm Al  
HTS 200 °C @ 1000 hrs

### Reflectivity vs Au\_Theoretical



### Reflectivity vs Au\_Experimental



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