

AgLite

Silver Alloy Wire for LED Device and IC Packaging

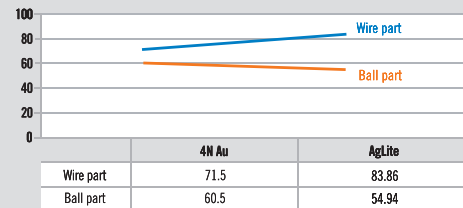


Benefits

- A cost-effective alternative to gold wires
- Good reflectivity surface
- Good bondability with both N₂ and forming gas
- Good mechanical properties
- Good reliability performance

Hardness vs Au

Vickers Hardness

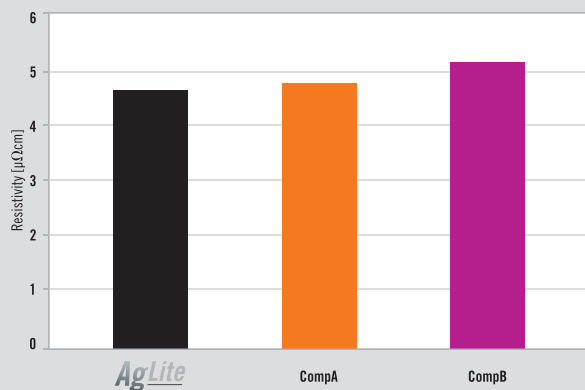


Recommended Technical Data of AgLite

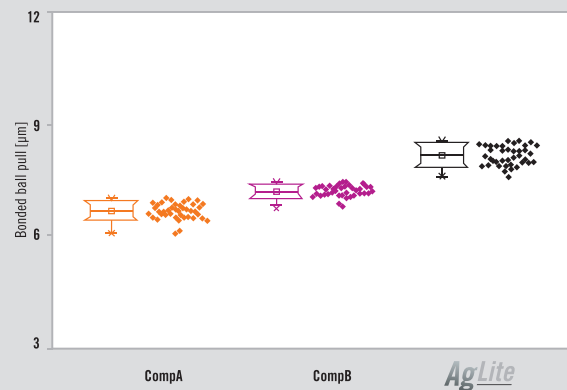
Diameter	Microns (µm)	15	17.5	20	23	25	30	38
	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5
Elongation	(%)	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8	2 ~ 8
Breaking Load	(g)	> 3	> 4	> 6	> 8	> 10	> 14	> 20

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

Electrical Resistivity



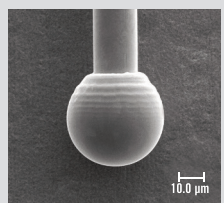
Stitch Pull Test



Physical Properties

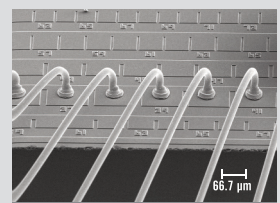
Diameter	Mils	0.6	0.7	0.8	0.9	1.0	1.2	1.5
Grain Size (µm)	Ball	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6	2 ~ 6
	Wire	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3	1 ~ 3
Hardness Hv based on 1.0 mil	FAB	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60
	Wire	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	75 – 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 N₂ Gas

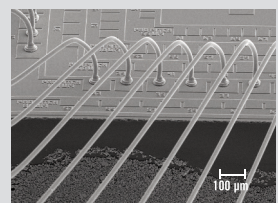


Target FAB: 34 µm
 Wire diameter: 18 µm
 EFO current: 30 – 40 mA
 N₂ Gas flow rate: 0.3 – 0.5 LPM

Good looping capability



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



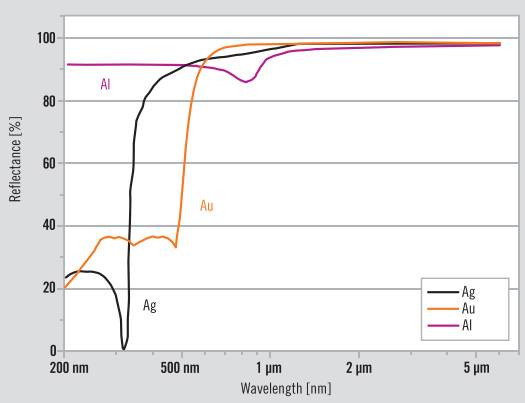
Wire diameter: 18 µm
 Loop height: 10 mil
 Wire length: 2 mm

Stable & Good IMC on Al pad

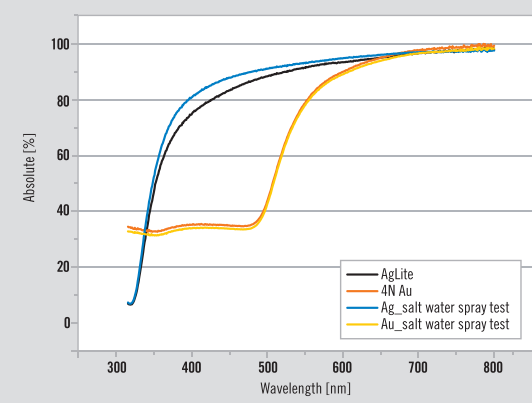


Wire diameter: 18 µm
 Die: Al-1%Si-0.5%Cu, 1 µm Al
 HTS 200 °C @ 1000 hrs

Reflectivity vs Au_Theoretical



Reflectivity vs Au_Experimental



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