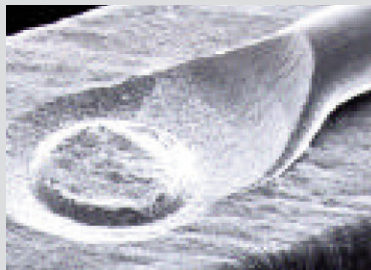
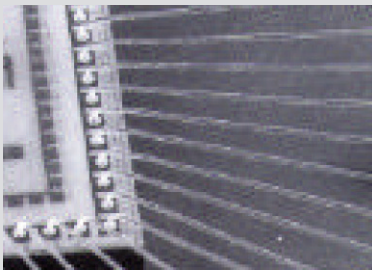


AW-28 Gold Bonding Wire Series



AW-28 Benefits

- High strength wire, suitable for standard-intermediate loop formation
- Consistent fine grain size formation in the Heat Affected Zone (HAZ) at ball neck.
- Usable for gold ball bonding and gold wedge bonding
- Usable for all existing high speed wire bonders
- Usable on a wide range of package types

AW-28 Characteristics

Starting gold raw materials 99.999 % purity prior to controlled doping/stabilizing stage

Non-Gold Elements < 100 ppm

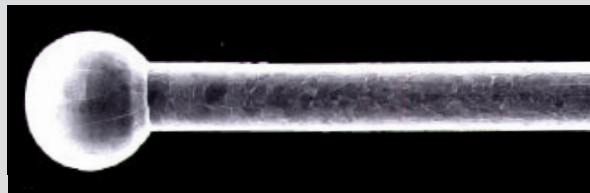
Density 19.32 g/cm³

Melting Point 1063 °C

Electrical Resistivity @ 20 °C 2.3 μΩ-cm

Thermal Conductivity @ 20 °C 3.17 W/cm-K

Electrical Conductivity @ 20 °C 75 % IACS



Recommended Technical Data of AW-28

Diameter	Microns	18	20	23	25	28	30	32	33	35	38	50
	Mils	0.7	0.8	0.9	1.0	1.1	1.2	1.25	1.3	1.4	1.5	2.0
Recommended Specs												
Elongation (%)		2-6	2-6	2-6	2-6	2-6	2-7	2-7	2-7	2-7	2-7	4-12
Breaking Load (g)		3-6	3-8	5-10	7-11	9-15	10-17	12-19	13-20	15-23	16-30	35-48

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

Heat Affected Zone (HAZ) Length [in micron]

Wire Size	FAB Size	Min	Max
25.00	50.00	139	150
25.00	76.00	180	195
33.00	68.58	190	205
33.00	104.00	278	296

Measurement accuracy within $\pm 20 \mu\text{m}$

Bondability of 1st Bond Results

	Mean	$\sigma(n-1)$	Min	Max	n
Ball Shear Force (g)	69.9	3.1	62.0	74.5	25
Ball Shear Strength (g/mil ²)	6.7	0.4	6.0	7.6	25

1st Bond Parameters

Bond force: 65 g
Bond power: 75 mWatt
Bond time: 15 mSec
Mean ball size: 93 μm

Bondability of 2nd Bond Results (g)

	Mean	$\sigma(n-1)$	Min	Max	n
	14.0	0.8	12.7	15.4	25

2nd Bond Parameters

Bond force: 52 g
Bond power: 60 mWatt
Bond time: 15 mSec

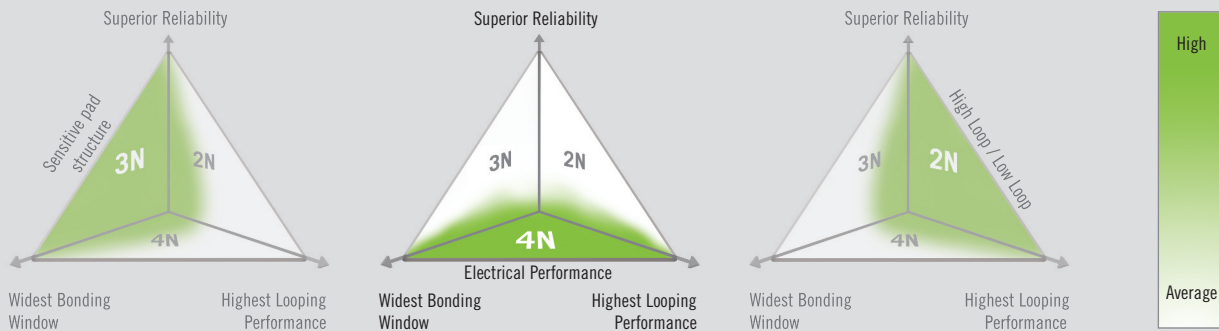
Bonding Conditions:

Wire diameter: 33 μm
Wire bonder: K&S 1488 turbo
Package type: PLCC 68 leads
Die metallization: AlSi (1%) Cu (0.5%)
Leadframe: Ag plated Cu
Wire span: 3.2 – 4 mm
Loop height range: 229 $\mu\text{m} \pm 25 \mu\text{m}$
Bonding temperature: 240°C
Capillary: 41413-0013-335

Mid-Span Pull Results (g)

	Mean	$\sigma(n-1)$	Min	Max	n
	8.3	0.4	7.9	9.2	25

Gold Wire Segmentation by Properties



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