



Semiconductor Wafer Test Alloys

Material Properties and Applications

Alloy Property	Paliney® 7	Paliney® H3C	Paliney® C	Paliney® 25	Neyoro™ G
Solidus °C	1,080	956	925	1,090	925
Density g/cm³	11.8	10.4	10.4	10.5	15.9
Electrical Resistivity μΩ-cm @ 20°C	31.6	12.3	10.1	6.35	14.5
CTE 1/K	13.5 x 10 ⁻⁶	13.9 x 10 ⁻⁶	14.4 x 10 ⁻⁶	12.7 x 10 ⁻⁶	12.6 x 10 ⁻⁶
Knoop Hardness heat treated HK	350	450	350	400	325
Yield Strength MPa	1,103	1,620	1,135	1,035	896
Total Elongation %	5	2.5	2	10	4
Elastic Modulus GPa	123	122	117	135	110
Alloy Configuration	Age Hardenable Pd-Ag-Cu Alloy				Age Hardenable Au Alloy
Advantages	tarnish resistant good nobility	very high hardness and conductivity tarnish resistant, but less noble than Paliney 7	similar tarnish resistance and conductivity as H3C better cold forming ability than H3C	better tarnish resistance than H3C excellent formability best conductivity of all the Pd based alloys	excellent tarnish resistance low adhesion to debris
Typical Applications	test probes - cantilever, cobra, vertical probe pins electrodes for corrosive environments potentiometers	test probes - cantilever, cobra; widely used for pogo pin tips	test probes - cantilever, cobra, vertical probe pins	test probes - cantilever, cobra, vertical probe pins	potentiometers slip rings low noise contacts

For reference only. Contact Deringer-Ney for more information.

Contact Deringer-Ney @ 860-286-6101 or www.DeringerNey.com