

boway 70250

Material Designation

Boway designation	boway 70250
UNS	C70250
EN	CuNi3SiMg
JIS	C7025
GB(China)	BSi3.2-0.7

Chemical Composition*

Ni	3	%
Si	0.65	%
Mg	0.15	%
Cu	Rem.	

* Nominal composition

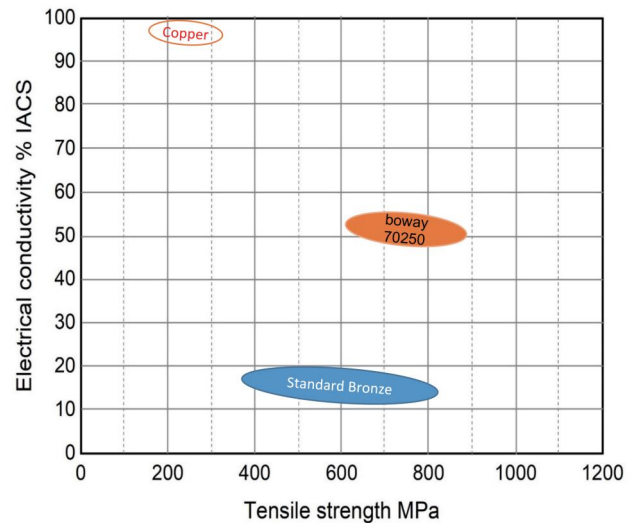
Application Target

Signal Connector	Very suitable
Power Connector	Suitable
Miniaturized Connector	Suitable
Switch / Relay	Very suitable
Semiconductor	Very suitable

Ideal for miniaturized connector and Lead frame design, special qualities for PRESSFIT, QFP, QFN available.

Fabrication Properties

Cold forming	Very good
Machining	Not suitable
Electroplating	Good
Hot dip tinning	Good
Laser welding	Good
Resistance welding	Average
Soft soldering	Good



Characteristics

High strength combined with medium electrical conductivity. Very good stress relaxation resistance up to 175°C/1000h. Very good formability. Standard HPA for automotive and semiconductor.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity @20°C	45	% IACS
	26	MS/m
Thermal conductivity @20°C	190	W/(m·K)
Specific heat capacity	0.399	J/(g·K)
Modulus of elasticity	130	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference.

** average value between 20-300°C

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Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R620(TM00)	620 – 740	90 - 107	≥ 550	180 - 220	≥ 14
R655(TM02)	655 – 785	95 – 114	≥ 585	190 - 240	≥ 7
R690(TM03)	690 – 810	100 – 117	≥ 655	210 - 250	≥ 5
R760(TM04)	760 - 850	110 - 123	≥ 720	220 - 270	≥ 2
R800(TM06)	800 - 880	116 - 128	≥ 780	250 - 290	≥ 1
R607(TR02)	607 - 726	88 - 106	≥ 550	180 - 220	≥ 6

*For reference only

Bendability Thickness range: ≤ 0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R620(TM00)	0	0	0.5	0.5
R655(TM02)	0.5	0.5	1.5	2
R690(TM03)	1	1	2	2
R760(TM04)	1.5	1.5	2.5	2.5
R800(TM06)	2	3	2	3.5
R607(TR02)	0.5	3	1	5

90° bend test According to EN ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange-peel, however no crack.

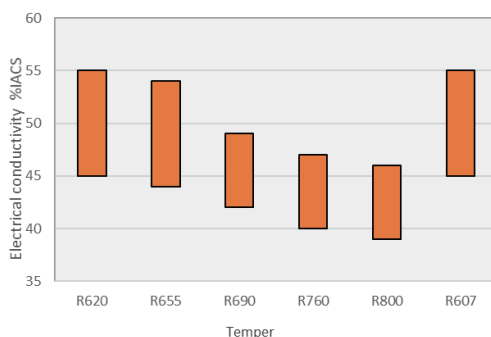
Packaging

Standard coils with outside diameter up to 1300 mm,
Traverse-wound coils with drum weight up to 500 kg.
Multiple-coil up to 3 tons.

Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.
Strip width from 8.5 mm.
Hot-dip tinned and electroplated strip available.

Electrical Conductivity



Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 * of tensile strength.