

boway 18070

Material Designation

Boway Designation	boway 18070
UNS	C18070
EN	CuCrSiTi
JIS	-
GB(China)	TCr0.3-0.2-0.05

Chemical Composition*

Cr	0.3	%
Si	0.02	%
Ti	0.1	%
Other	≤ 0.2	%
Cu	Rem.	

* Nominal composition

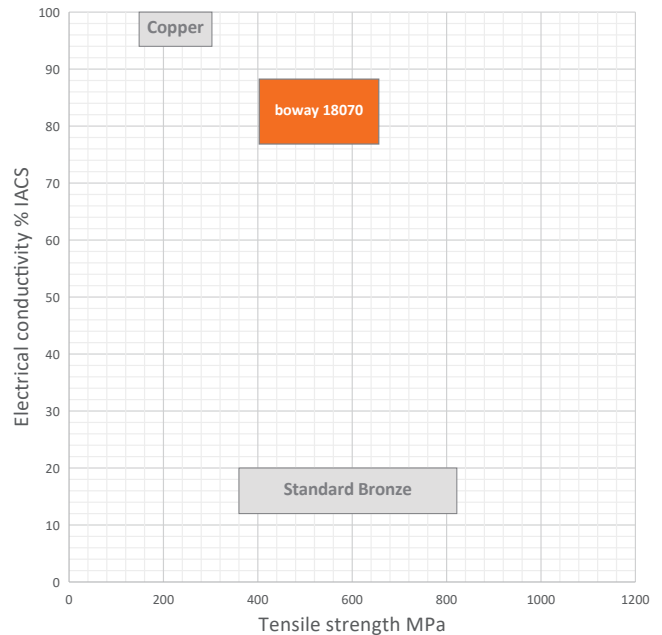
Application Target

Signal connector	Suitable
Power connector	Suitable
Miniaturized connector	Suitable
Switch/Relay	Suitable
Semiconductor	Suitable

Ideal for automotive connectors

Fabrication Properties

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



Characteristics

High electrical conductivity and thermal conductivity combined with medium strength and good bending formability. Excellent stress relaxation and softening resistance.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	78	% IACS
Thermal conductivity@20°C	45	MS/m
Thermal conductivity@20°C	310	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	138	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	18	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	Elongation	Hardness*
	MPa	ksi			
R400	400–480	58–69	≥ 300	≥ 8	120–150
R460	460–560	67–81	≥ 400	≥ 9	140–170
R530	530–610	77–88	≥ 460	≥ 8	150–190
R550	550–630	80–91	≥ 520	≥ 7	150–190

*For reference only

Bendability Bending thickness ≤ 0.5 mm; Bending width: 10 mm

Temper	90° R/T	
	Good Way	Bad Way
R400	0	0
R460	0.5	0.5
R530	1.0	1.0
R550	1.0	1.5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

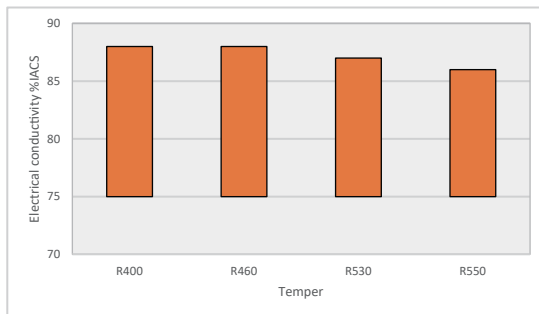
Packaging

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.
 Electroplated and hot-dip tinned 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.

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