

boway 19210

Material Designation

Boway designation	boway 19210
UNS	C19210
EN	CuFe0.1P
JIS	C1921
GB(China)	TFe0.1

Chemical Composition*

Fe	0.1	%
P	0.03	%
Cu	Rem.	

* Nominal composition

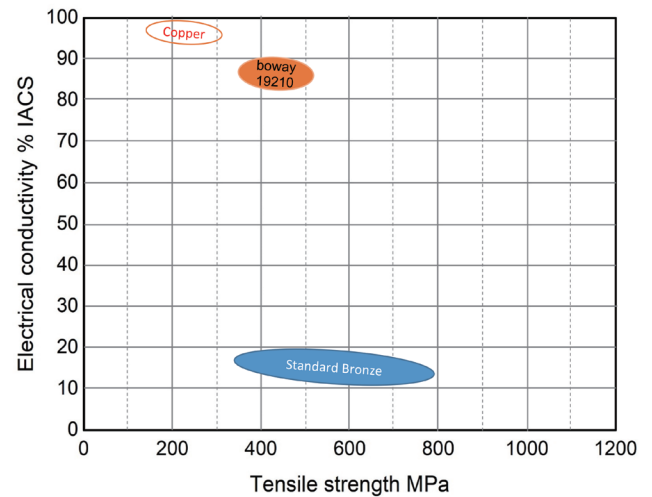
Application Target

Signal Connector	Suitable
Power Connector	Suitable
Miniaturized Connector	Not recommend
Switch / Relay	Suitable
Semiconductor	Very suitable

Ideal for semiconductor

Fabrication Properties

Cold forming	Good
Machining	Average
Electroplating	Good
Hot dip tinning	Very good
Laser welding	Average
Resistance welding	Good
Soft soldering	Good



Characteristics

Excellent electrical conductivity and thermal conductivity combined with good softening resistance. It has medium strength and excellent bending formability as well as good corrosion resistance and good plating property. No sensitivity to stress corrosion cracking.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity @ 20°C	89	% IACS
	51	MS/m
Thermal conductivity @20°C	350	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	125	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17	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			
R360(3/4H)	360 - 425	53 - 62	≥ 345	115 - 135	≥ 4
R385(H)	385 - 455	56 - 66	≥ 355	120 - 140	≥ 3
R415(EH)	415 - 480	60 - 70	≥ 400	125 - 145	≥ 2
R440(SH)	440 - 510	64 - 74	≥ 425	130 - 150	≥ 1

*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
R360(3/4H)	0.5	1	1	1.5
R385(H)	1	1	1.5	1.5
R415(EH)	1.5	1.5	1.5	2
R440(SH)	1.5	2	2	2

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

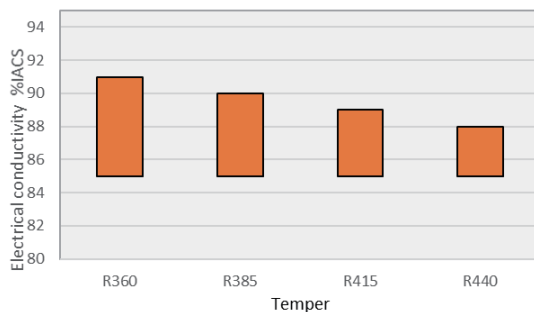
Packaging

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.