boway 15100

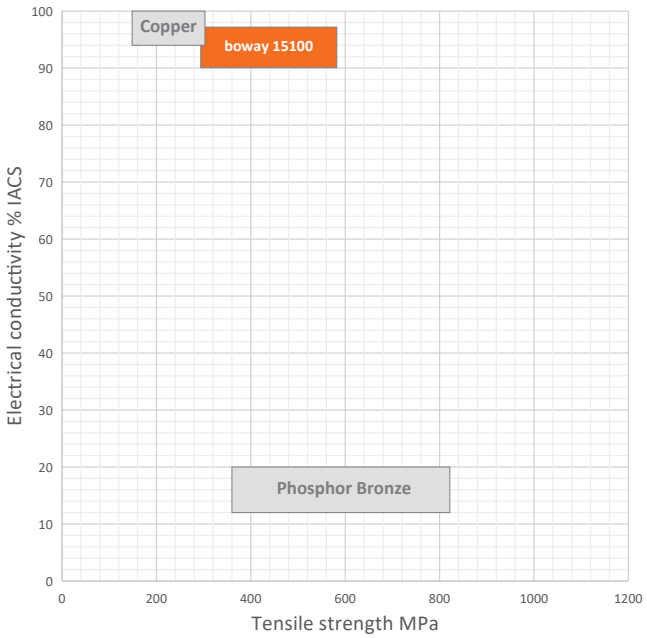
Material Designation

Boway Designation	Boway 15100
UNS	C15100
EN	CuZr0.1
JIS	C1510
GB(China)	TZr0.1

Chemical composition*

Zr	0.05–0.15	%
Cu	Rem.	

* Nominal composition



Application Target

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

Characteristics

High conductivity and medium strength, excellent bending performance, good formability, softening resistance and corrosion resistance; Good stress relaxation resistance.

Fabrication Properties

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

Physical Properties *

Density	8.94	g/cm^3
Electrical	92	% IACS
conductivity@20°C	53	MS/m
Thermal conductivity@20°C	360	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	120	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 (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R325	325–385	47–56	≥ 310	≥ 2	100–125
R365	365–425	53–62	≥ 350	≥ 2	120–145
R405	405–450	59–65	≥ 395	≥ 1	125–150
R440	440–500	64–73	≥ 425	≥ 1	≥135
R470	470– 550	68–80	≥ 455	≥ 1	≥135
Annealed*	255–290	37–42	≥ 60	≥ 35	
H01*	275–310	40–45	≥ 180	≥ 11	
H02*	295–350	43–51	≥ 240	≥ 4	
H03*	325–385	47–56	≥ 310	≥ 2	
H04*	365–425	53–62	≥ 350	≥ 2	
H06*	405–450	59–65	≥ 395	≥ 1	
H08*	440–490	64–71	≥ 425	≥ 1	

*According to ASTM E152

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

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R325	0	0	-	-
R365	0	0	-	-
R405	0.5	0.5	-	-
R440	1	1	-	-
R470	-	-	-	-

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

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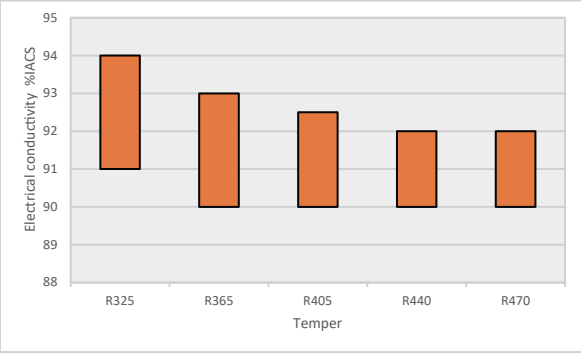
Packaging

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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