

## 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.	

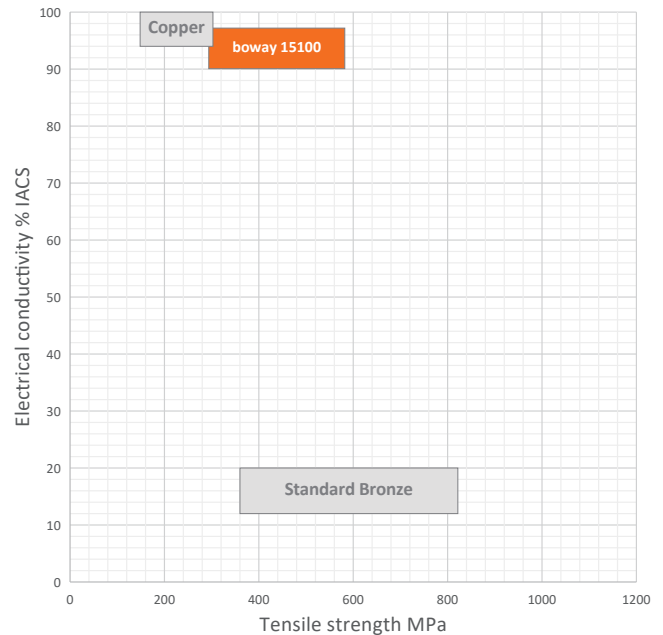
\* Nominal composition

### Application Target

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

### 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



### Characteristics

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

### Physical Properties \*

Density	8.94	g/cm <sup>3</sup>
Electrical conductivity@20°C	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 <sup>-6</sup> /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	<u>100–125</u>
R365	365–425	53–62	≥ 350	≥ 2	<u>120–145</u>
R405	405–450	59–65	≥ 395	≥ 1	<u>125–150</u>
R440	440–500	64–73	≥ 425	≥ 1	≥ 135
R470	470–550	68–80	≥ 455	≥ 1	≥ <u>135</u>
Annealed*	255–290	37–42	≥ <u>60</u>	≥ <u>35</u>	
H01*	275–310	40–45	≥ <u>180</u>	≥ <u>11</u>	
H02*	295–350	43–51	≥ <u>240</u>	≥ 4	
H03*	325–385	47–56	≥ <u>310</u>	≥ 2	
H04*	365–425	53–62	≥ <u>350</u>	≥ 2	
H06*	405–450	59–65	≥ <u>395</u>	≥ 1	
H08*	440–490	64–71	≥ <u>425</u>	≥ 1	

\*According to ASTM E 152

## 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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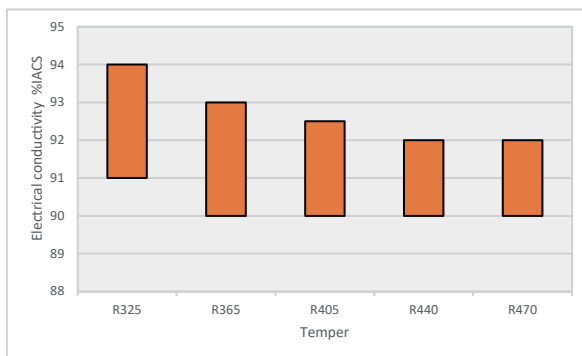
### Packaging

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.