boway 14415

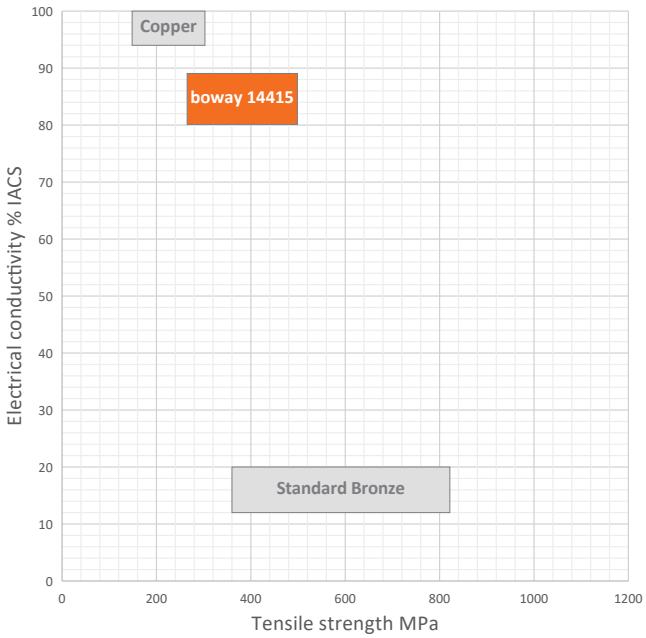
Material Designation

Boway Designation	boway 14415
UNS	C14415
EN	CuSn0.15
JIS	-
GB(China)	TSn0.12

Chemical Composition*

Sn	0.15	%
Cu	Rem.	

* Nominal composition



Application Target

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

Ideal for power connectors

Characteristics

High conductivity and medium strength, excellent bending performance, formability and good corrosion resistance. Standard alloy for tabs and pins.

Fabrication Properties

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

Physical Properties*

Density	8.93	g/cm^3
Electrical conductivity@20°C	83 48	% IACS MS/m
Thermal conductivity@20°C	330	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**	17.3	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	MPa	A50 %	HV
R300	300–370	44–54	≥ 250	≥ 4	85–110
R360	360–430	52–62	≥ 300	≥ 3	110–130
R420	420–490	61–71	≥ 350	≥ 2	120–150
R460	≥ 460	≥ 67	≥ 410	-	≥ 130

*For reference only

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
R300	0	0	0.5	0.5
R360	0	0	1	1
R420	1	1	2	2.5
R460	1.5	2	2.5	4

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

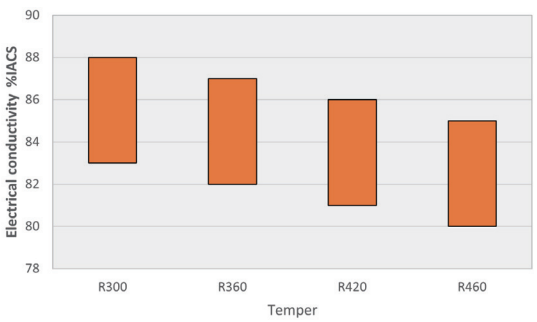
Packaging

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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