

## boway 76400

### Material Designation

Boway designation	boway 76400
UNS	C76400
EN	CuNi18Zn20
JIS	-
GB (China)	BZn18-20

### Chemical Composition\*

Cu	62	%
Ni	18	%
Zn	Rem.	

\* Nominal composition

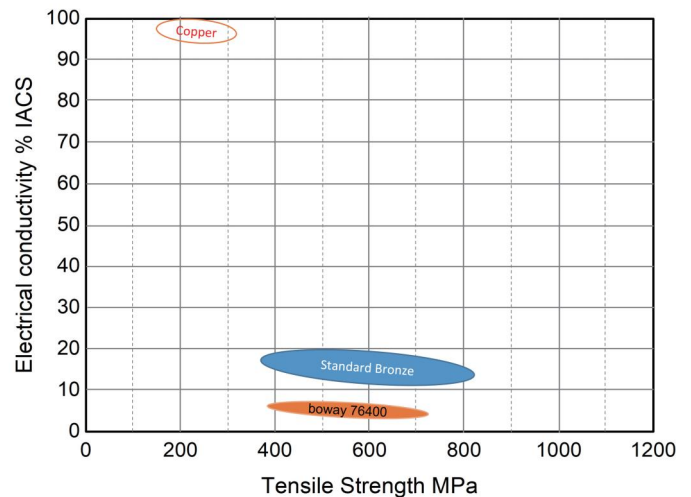
### Application Target

Signal Connector	Suitable
Power Connector	Not suitable
Switch /Relay	Suitable
Shielding	Very suitable

Ideal for shielding

### Fabrication Properties

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



### Characteristics

Excellent ductility with very good corrosion in fresh water and sea water. Very good behavior against electromagnetic interference as well as excellent stress relaxation resistance and solderability. Low sensitivity to stress corrosion cracking.

### Physical Properties\*

Density	8.7	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	6	% IACS
	3.5	MS/m
Thermal conductivity @20°C	32	W/(m·K)
Specific heat capacity	0.38	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0,34	
Coefficient of thermal expansion**	17.7	10 <sup>-6</sup> /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	HV0.2	HV	A50 %
R380	380 - 470	55 - 68	≤ 250	90 - 130	≥ 20
R450	450 - 520	65 - 75	≥ 250	115 - 160	≥ 9
R500	500 - 590	72 - 85	≥ 410	150 - 190	≥ 5
R580	580 - 670	84 - 97	≥ 510	180 - 210	≥ 3
R640	640 - 730	92 - 105	≥ 600	200 - 230	—

\*For reference only

**Bendability** Thickness range: ≤0.5 mm , bending width: 10mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R380	0	0		
R450	0	0		
R500	0	0		
R580	0	0.5		
R640	2	3.5		

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

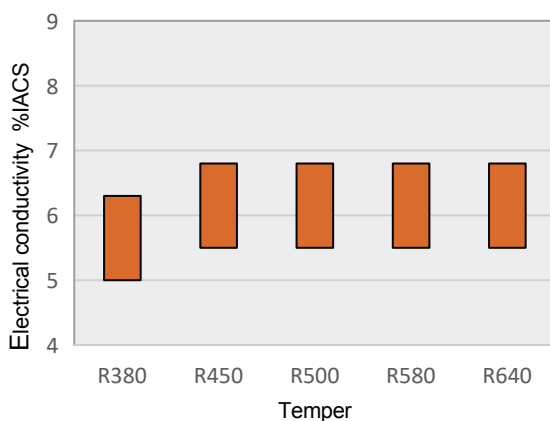
## Packaging

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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of Tensile strength.

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