

B30414 王琴理  
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# boway 18070

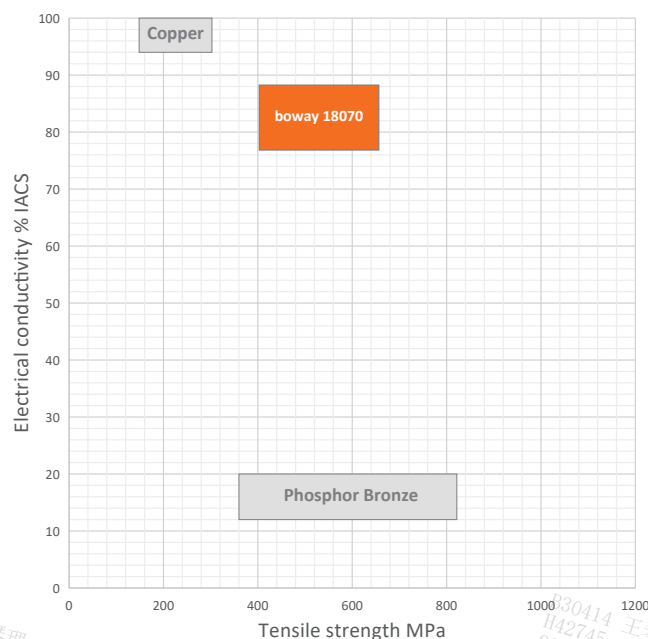
## Material Designation

Boway Designation	boway 18070
UNS	C18070
EN	CuCrSiTi
JIS	-
GB(China)	TCr0.3-0.2-0.05

## Chemical Composition\*

Cr	0.3	%
Si	0.02	%
Ti	0.1	%
Other	≤ 0.2	%
Cu	Rem.	

\* Nominal composition



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## Application Target

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

Ideal for automotive connectors

## Characteristics

High electrical conductivity and thermal conductivity combined with medium strength and good bending formability. Excellent stress relaxation and softening resistance.

## Fabrication Properties

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

## Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity@20°C	78	% IACS
conductivity@20°C	45	MS/m
Thermal conductivity@20°C	310	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	138	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	18	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	Elongation	Hardness*
	MPa	ksi			
R400	400-480	58-69	≥ 300	≥ 8	120-150
R460	460-560	67-81	≥ 400	≥ 9	140-170
R530	530-610	77-88	≥ 460	≥ 8	150-190
R550	550-630	80-91	≥ 520	≥ 7	150-190

\*For reference only

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

Temper	90° R/T	
	Good Way	Bad Way
R400	0	0
R460	0.5	0.5
R530	1.0	1.0
R550	1.0	1.5

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

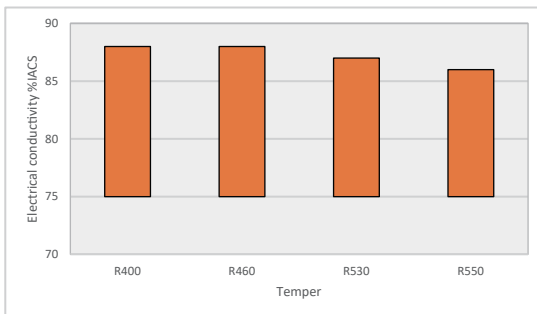
## Packaging

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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