

boway 77000

Material Designation

Boway Designation	boway 77000
UNS	C77000
EN	CuNi18Zn27
JIS	C7701
GB(China)	BZn18-26

Chemical Composition*

Ni	18	%
Cu	55	%
Zn	Rem.	

* Nominal composition

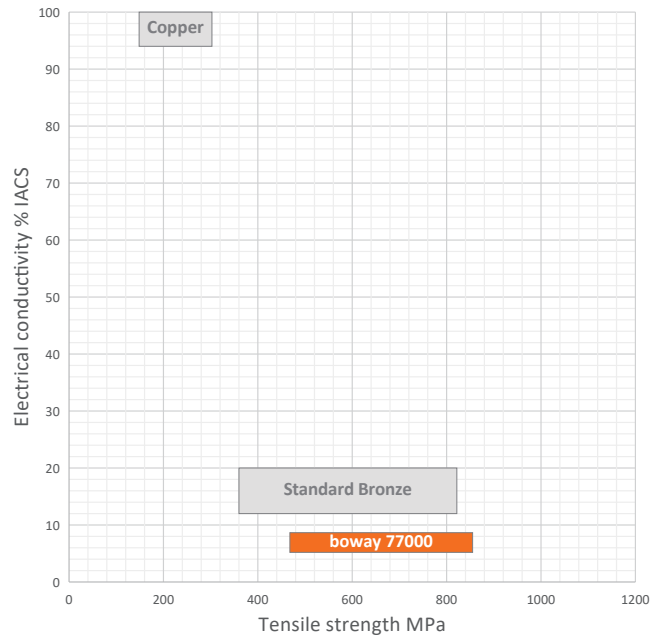
Application Target

Signal connector	Suitable
Power connector	Not recommended
Miniaturized connector	Suitable
Switch/Relay	Suitable
Shielding	Very suitable

Ideal for EMI shielding , gaskets etc.

Fabrication Properties

Cold forming	Very 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 ³
Electrical conductivity@20°C	5	% IACS
conductivity@20°C	3	MS/m
Thermal conductivity@20°C	32	W/(m·K)
Specific heat capacity	0.34	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	16.7	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
R480(1/4H)	480–660	70–96	≥ 230	≥ 25	<u>120–150</u>
R540(1/4H)	540–655	79–95	≥ 390	≥ 8	<u>150–210</u>
R630(H)	630–735	92–107	≥ 500	-	<u>180–240</u>
R705(EH)	705–805	103–117	≥ 550	-	<u>210–260</u>
R765(SH)	765–865	111–126	≥ 650	-	<u>230–270</u>
Annealed	420–525	61–76	<u>220</u>	<u>43</u>	
H01*	475–600	69–87	<u>435</u>	<u>26</u>	
H02*	540–655	78–95	<u>540</u>	<u>14</u>	
H03*	605–695	88–101	<u>635</u>	<u>8</u>	
H04*	635–750	92–109	<u>675</u>	<u>4</u>	
H06*	705–805	102–117	<u>740</u>	<u>≥ 1</u>	
H08*	745–850	108–123	<u>770</u>	<u>≤ 1</u>	
H10	≥ 800	≥ 116	<u>≥ 795</u>	<u>≤ 1</u>	

*According to ASTM B122

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
R480	0	0	0	1.5
R540	0	1.5	1.5	3
R630	1.5	2	2	4
R705	2	4	3	6
R765	-	-	-	-

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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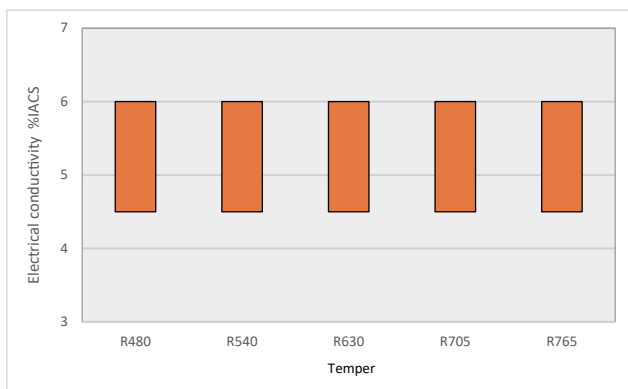
Packaging

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.

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.