

boway 27200

Material Designation

Boway Designation	boway 27200
UNS	C27200
EN	CuZn37
JIS	C2720
GB(China)	H63

Chemical Composition*

Cu	63	%
Zn	Rem.	

* Nominal composition

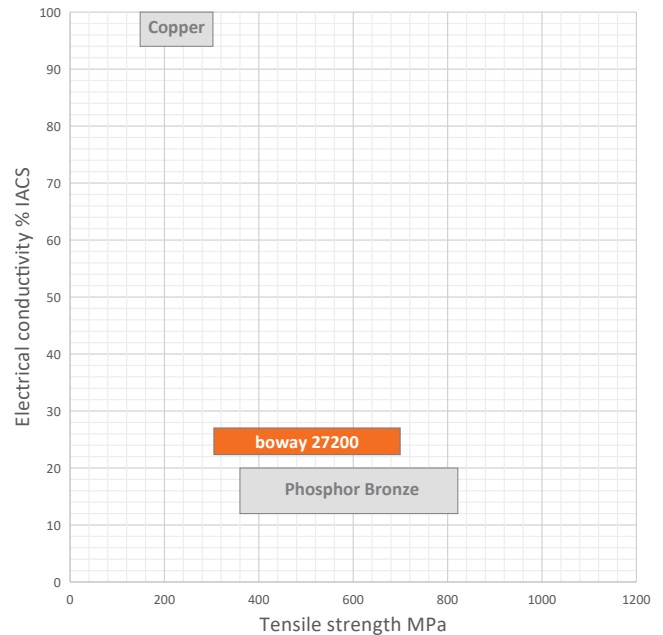
Application Target

Signal connector	Suitable
Power connector	Suitable
Miniaturized connector	Not recommended
Switch/Relay	Suitable
Semiconductor	Not recommended

Ideal for automotive, industrial connectors, decorative parts

Fabrication Properties

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



Characteristics

It has medium electrical conductivity and strength with excellent molding properties and lower material value. Alloys are suitable for connectors, electrical engineering parts, deep-drawn parts and metal products.

Physical Properties*

Density	8.44	g/cm ³
Electrical conductivity@20°C	23	% IACS
conductivity@20°C	14	MS/m
Thermal conductivity@20°C	120	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	105	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	20.2	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 %	HV0.2
R300(O)	300–370	43–54	≤ 180	≥ 38	<u>55–90</u>
R350(1/4H)	350–440	50–64	≥ 170	≥ 19	<u>95–125</u>
R410(1/2H)	410–490	59–71	≥ 300	≥ 8	<u>120–150</u>
R480(H)	480–560	69–81	≥ 430	≥ 3	<u>150–180</u>
R550(EH)	550–640	79–93	≥ 500	-	<u>170–200</u>
R630(SH)	≥ 630	≥ 91	-	-	<u>≥ 190</u>
H01*	340–405	49–59			
H02*	385–455	56–66			
H03*	435–505	63–73			
H04*	485–550	70–80			
H06*	560–625	81–91			

*According to ASTM B36

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	0
R350	0	0	0	0
R410	0	0	0	0
R480	0	0.5	0.5	1
R550	0.5	1	1	2
R630	1	2	2	4

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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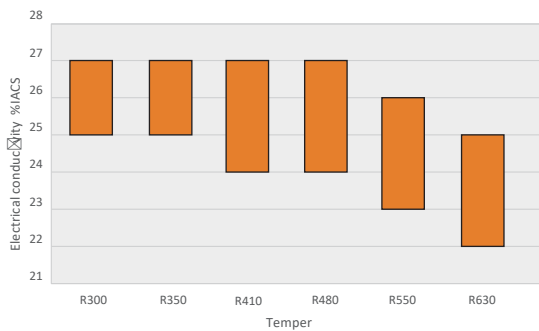
Packaging

Standard coils with outside diameters up to 1300 mm.
 Traverse-wound coils with drum weights up to 500 kg.
 Multiple-coil up to 3 tons.

Dimensions Available

Strip thickness 0.08–4.0 mm, other gauges on request.
 Strip width from 8.5 mm
 Electroplated 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.