

boway 10300

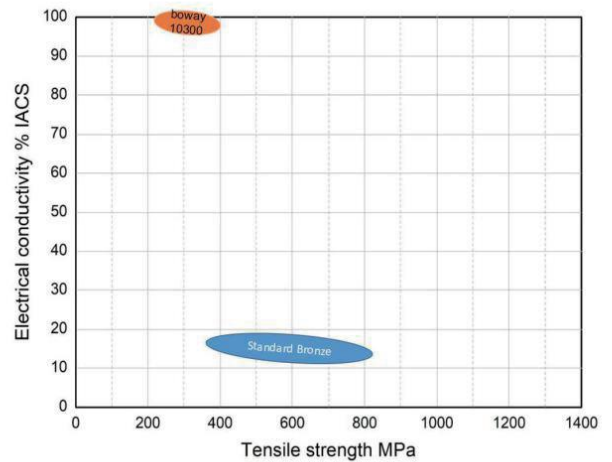
Material Designation

Boway designation	boway 10300
USN	C10300
EN	Cu-PHC
JIS	C1030
GB(China)	TUP0.003

Chemical Composition*

Cu	>99.95	%
P	0.001-0.005	%

* Nominal composition



Application Target

Signal Connector	Very suitable
Power Connector	Suitable
Miniaturized Connector	Not recommend
Switch / Relay	Suitable
Semiconductor	Suitable

Ideal for power connectors, Bus bar.

Characteristics

This alloy is low phosphorus oxygen-free copper, no hydrogen embrittlement phenomenon. It has good weldability, corrosion resistance, and excellent molding properties.

Fabrication Properties

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

Physical Properties*

Density	8.94	g/cm ³
Electrical conductivity @ 20°C	100	% IACS
	58	MS/m
Thermal conductivity @20°C	391	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	115	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	17.7	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	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R220(H00)	220-260	32-38	≤140	40-70	≥33
R245(H02)	240-300	35-44	≥180	65-95	≥8
R290(H04)	290-360	42-52	≥250	90-110	≥4
R360(H10)	≥360	≥52	≥320	≥110	≥2

*For reference only

Bendability Bending Thickness: ≤0.5 mm, bending width: 10mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R220(H00)	0	0	-	-
R245(H02)	0	0	-	-
R290(H04)	0	0	-	-
R360(H10)	0	0	-	-

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

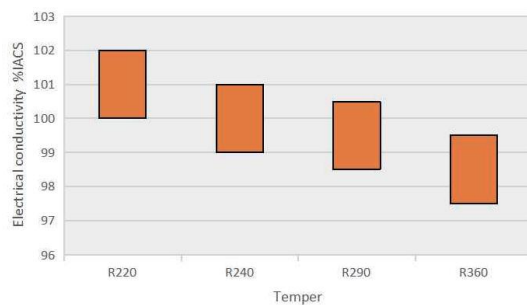
Packaging

Standard coils with outside 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 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.