boway 11000

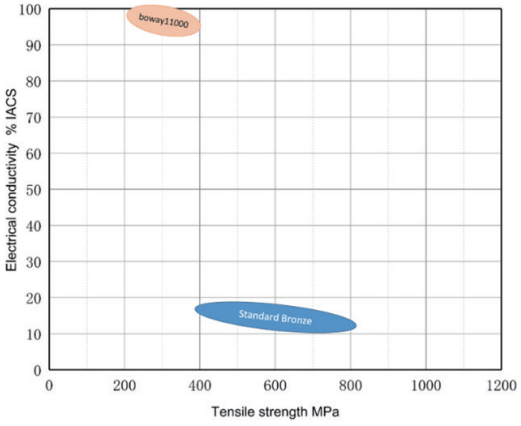
Material Designation

Boway designation	boway 11000
UNS	C11000
EN	Cu-ETP
JIS	C1100
GB(China)	T2

Chemical Composition*

Cu	≥99.9	%

* Nominal composition



Application Target

Signal Connector	Suitable
Power Connector	Very suitable
Miniaturized Connector	Suitable
Switch / Relay	Suitable
Semiconductor	Suitable

Ideal for power connectors,Bus bar

Characteristics

Oxygen containing copper. Good forming performance, high electrical and thermal conductivity, excellent electroplating, good/medium hot dip tinned and welding performance.

Fabrication Properties

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

Physical Properties*

Density	8.94	g/cm^3
Electrical	100	% IACS
conductivity @ 20° C	58	MS/m
Thermal conductivity @20° C	390	W/(m·K)
Specific heat capacity	0.386	J/(g·K)
Modulus of elasticity	115	GPa
Poisson's ratio	0.33	
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	HV	A50 %
R220(H00)	220 - 275	32 - 40	≤140	55 - 80	≥33
R245(H02)	245 - 315	36 - 46	≥190	75 - 105	≥10
R290(H04)	290 - 360	42 - 52	≥250	80 - 110	≥4
R360(H10)	≥360	≥52	≥320	≥110	≥1

*For reference only

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
R220(H00)	0	0	-	-
R245(H02)	0	0	-	-
R290(H04)	0	0.5	-	-
R360(H10)	1	2	-	-

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

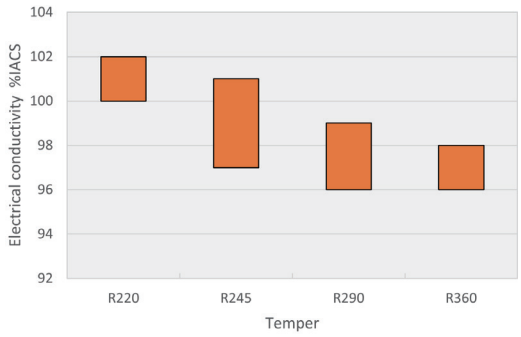
Packaging

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.