boway 10200

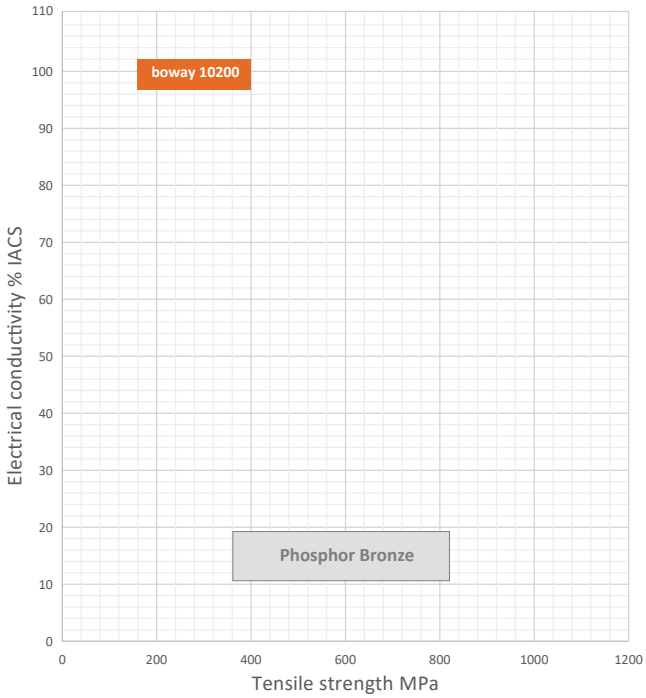
Material Designation

Boway Designation	boway 10200
UNS	C10200
EN	Cu-OF
JIS	C1020
GB(China)	TU3

Chemical Composition*

Cu	≥ 99.95	%

* Nominal composition



Application Target

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

Ideal for power connectors, busbar

Characteristics

This alloy has no hydrogen embrittlement, high electrical conductivity, excellent processing and welding properties, corrosion resistance and low temperature performance.

Fabrication Properties

Cold forming	Very good
Machining	Average
Electroplating	Very good
Hot dip tinning	Very good
Laser welding	Less suitable
Resistance welding	Good
Soft soldering	Very good

Physical Properties*

Density	8.94	g/cm^3
Electrical conductivity@20℃	100 58	%IACS MS/m
Thermal conductivity@20℃	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 (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R220(1/4H)	220–260	32–38	≤140	≥33	40–70
R240(1/2H)	240–300	35–44	≥180	≥8	65–95
R290(H)	290–360	42–52	≥250	≥4	90–110
R360(ESH)	≥360	≥52	≥320	≥2	≥110
Annealed	180–260	26–38	70	35	
H01*	235–290	34–42	220	23	
H02*	255–315	37–46	255	20	
H03*	285–345	41–50	295	14	
H04*	295–360	43–52	310	9	
H06*	325–385	47–56	345	4	
H08*	345–400	50–58	360	3	
H10*	≥360	≥52	≥350	≤3	

*According to ASTM B152

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	0	0	-	-
R240	0	0	-	-
R290	0	0	-	-
R360	1	0	-	-

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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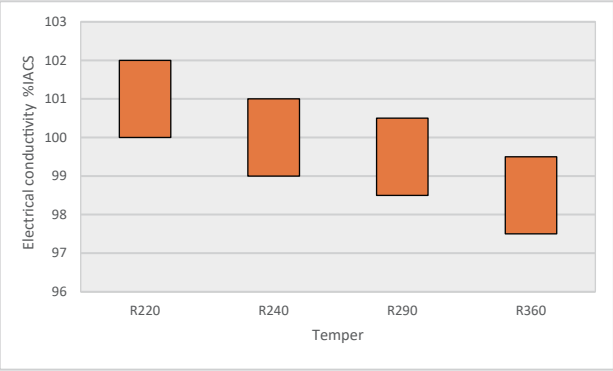
Packaging

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 0.08–4.0 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.

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