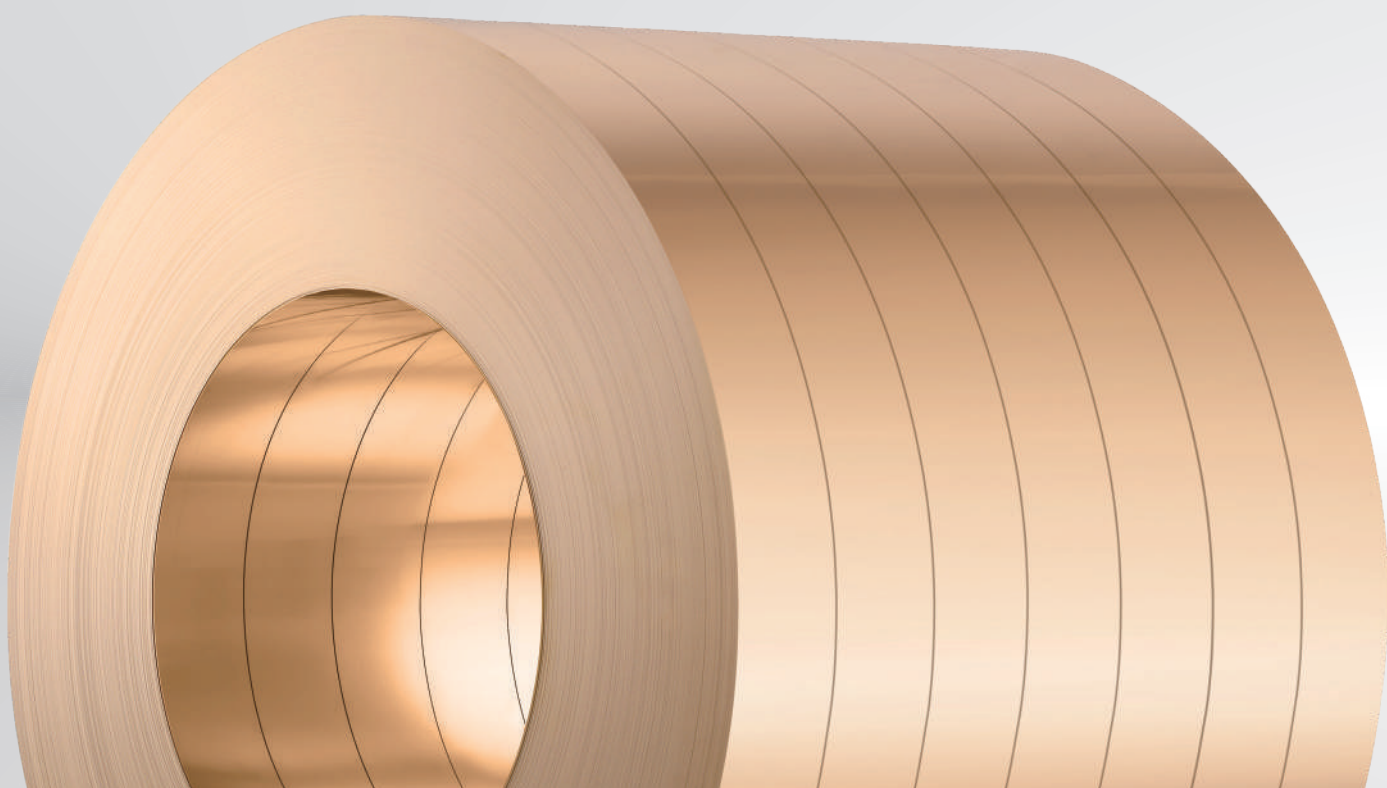


ROLLED PRODUCTS DATASHEET



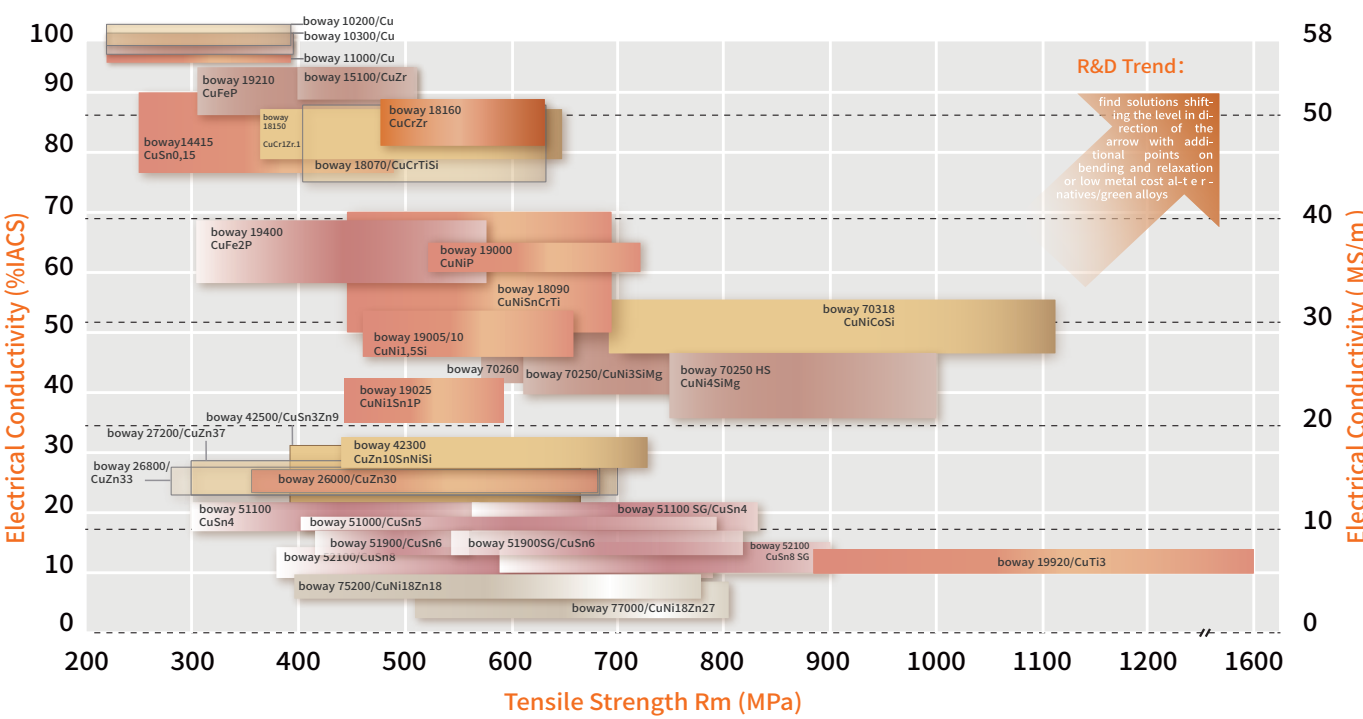
PRODUCT LIST

Alloy System	Boway Designation	Former Designation	UNS	EN	JIS	GB (China)	Page
Pure Copper	boway 11000	C11000	C11000	Cu-ETP	C1100	T2	1
	boway 10200	C10200	C10200	Cu-OF	C1020	TU3	4
	boway 10300	C10300	C10300	Cu-PHC	C1030	TUP0.003	7
CuCr/Zr	boway 15100	C15100	C15100	CuZr0.1	C1510	TZr0.1	10
	boway 18160	C18160	C18160	CuCr1Zr	-	-	13
	boway 18150	C18150	C18150	CuCr1Zr	-	TCr1-0.15	15
CuCrSiTi	boway 18070	C18070	C18070	CuCrSiTi	-	TCr0.3-0.2-0.05	17
CuNiSnCrTi	boway 18090	C18090	C18090	-	-	-	19
CuNiP	boway 19000	PW49700	C19000	CuNi1P	-	-	21
CuNiSnP	boway 19025	C19025	C19025	CuNiSn1P	-	-	23
CuTi	boway 19920	C91000	C19920	-	-	-	25
CuFe	boway 19210	C19210	C19210	CuFe0.1P	C1921	TFe0.1	27
	boway 19400	C19400	C19400	CuFe2P	C1940	TFe2.5	30
CuNiSi	boway 19005	C19005	C19005	-	-	-	33
	boway 19010	C19010	C19010	CuNiSi	-	-	35
	boway 70260	C70260	C70260	CuNi2Si	C7026	BSi0.6-2.1	37
	boway 70250	C7025	C70250	CuNi3SiMg	C7025	BSi3.2-0.7	39
	boway 70250HS	C7025	C70250	CuNi4SiMg	C7025	-	42
CuNiCoSi	boway 70318	PW47100	C70318	CuNi3CoSi	-	-	44
Special Brass	boway 42300	PW33520	C42300	CuZn10Sn1Ni1Si	-	-	47
	boway 42500	C42500	C42500	CuSn3Zn9	-	HSn88-2	49
CuZn/ Brass	boway 26000	C26000	C26000	CuZn30	C2600	H70	52
	boway 27200	C27200	C27200	CuZn37	C2720	H63	55
CuSn/ Bronze	boway 14415	C14415	C14415	CuSn0.15	-	TSn0.12	58
	boway 51000	C51000	C51000	CuSn5	C5102	QSn5-0.2	60
	boway 51100*	C51100	C51100	CuSn4	C5111	QSn4-0.3	63
	boway 51900*	C5191	C51900	CuSn6	C5191	QSn6-0.2	68

*SG Version
Available

Alloy System	Boway Designation	Former Designation	UNS	EN	JIS	GB (China)	Page
CuSn/Bronze *SG Version Available	boway 52100*	C5210	C52100	CuSn8	C5210	QSn8-0.3	73
CuNiZn	boway 77000	C7701	C77000	CuNi18Zn27	C7701	BZn18-26	78
	boway 75200	C7521	C75200	CuNi18Zn18	C7521	BZn18-18	81

Alloy Strip Map



This datasheet is for your general information only and is not subject to revision. No claim can be derived from it unless there is evidence of intent or gross negligence. The data given is to our best knowledge, no warranty can be derived from the data provided. The given Info may not replace the customers own tests.

boway 11000

Material Designation

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

Chemical Composition*

Cu	≥ 99.9	%
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* Nominal composition

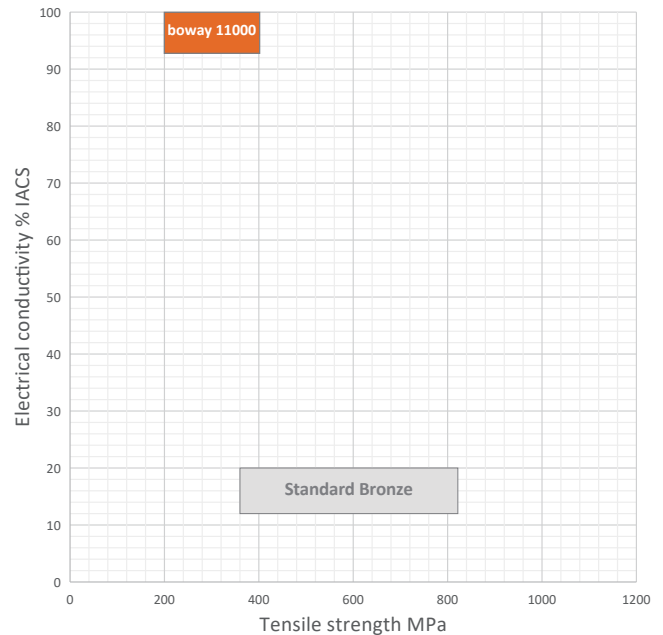
Application Target

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

Ideal for power connectors, busbar

Fabrication Properties

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



Characteristics

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

Physical Properties*

Density	8.94	g/cm ³
Electrical conductivity@20°C	100	%IACS
	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

boway 11000

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R220(1/4H)	220–275	32–40	≤ 140	≥ 33	<u>55–80</u>
R245(1/2H)	245–315	36–46	≥ 190	≥ 10	<u>75–105</u>
R290(H)	290–360	42–52	≥ 250	≥ 4	<u>80–110</u>
R360(ESH)	≥ 360	≥ 52	≥ 320	≥ 1	<u>≥ 110</u>
Annealed	180–260	26–38	<u>70</u>	<u>35</u>	
H01*	235–290	34–42	<u>220</u>	<u>23</u>	
H02*	255–315	37–46	<u>255</u>	<u>20</u>	
H03*	285–345	41–50	<u>295</u>	<u>14</u>	
H04*	295–360	43–52	<u>310</u>	<u>9</u>	
H06*	325–385	47–56	<u>345</u>	<u>4</u>	
H08*	345–400	50–58	<u>360</u>	<u>3</u>	
H10*	≥ 360	≥ 52	<u>≥ 350</u>	<u>≤ 3</u>	

*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	-	-
R245	0	0	-	-
R290	0	0.5	-	-
R360	1	2	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 11000

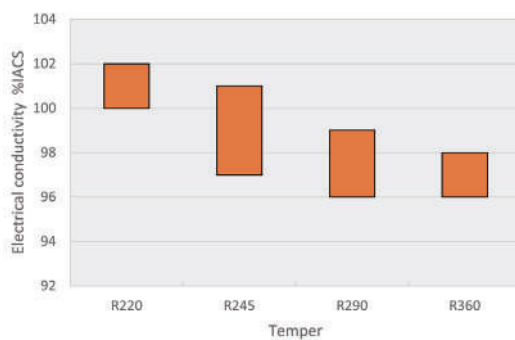
Packaging

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.

boway 10200

Material Designation

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

Chemical Composition*

Cu	≥ 99.95	%
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* Nominal composition

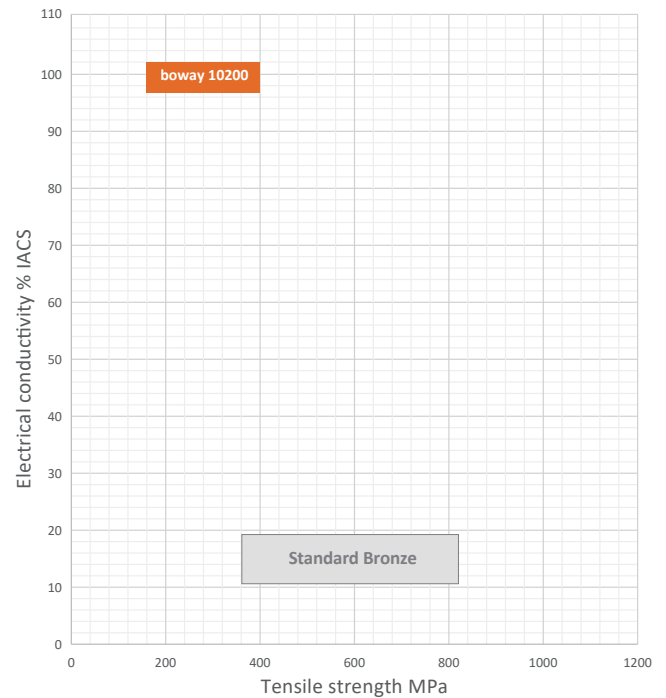
Application Target

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

Ideal for power connectors, busbar

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



Characteristics

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

Physical Properties*

Density	8.94	g/cm ³
Electrical conductivity@20°C	100	%IACS
conductivity@20°C	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

boway 10200

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	<u>40–70</u>
R240(1/2H)	240–300	35–44	≥ 180		≥ 8	<u>65–95</u>
R290(H)	290–360	42–52	≥ 250		≥ 4	<u>90–110</u>
R360(ESH)	≥ 360	≥ 52	≥ 320		≥ 2	<u>≥ 110</u>
Annealed	180–260	26–38	<u>70</u>		<u>35</u>	
H01*	235–290	34–42	<u>220</u>		<u>23</u>	
H02*	255–315	37–46	<u>255</u>		<u>20</u>	
H03*	285–345	41–50	<u>295</u>		<u>14</u>	
H04*	295–360	43–52	<u>310</u>		<u>9</u>	
H06*	325–385	47–56	<u>345</u>		<u>4</u>	
H08*	345–400	50–58	<u>360</u>		<u>3</u>	
H10*	≥ 360	≥ 52	<u>≥ 350</u>		<u>≤ 3</u>	

*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	-	-
R245	0	0	-	-
R290	0	0.5	-	-
R360	1	2	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 10200

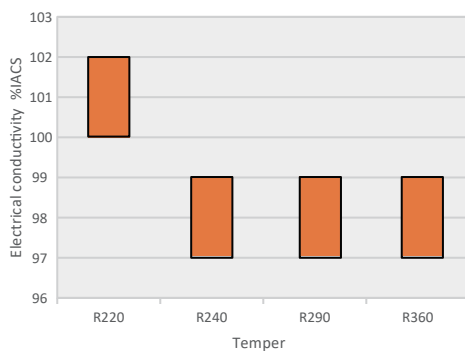
Packaging

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.

boway 10300

Material Designation

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

Chemical Composition*

Cu	> 99.95	%
P	0.001–0.005	%

* Nominal composition

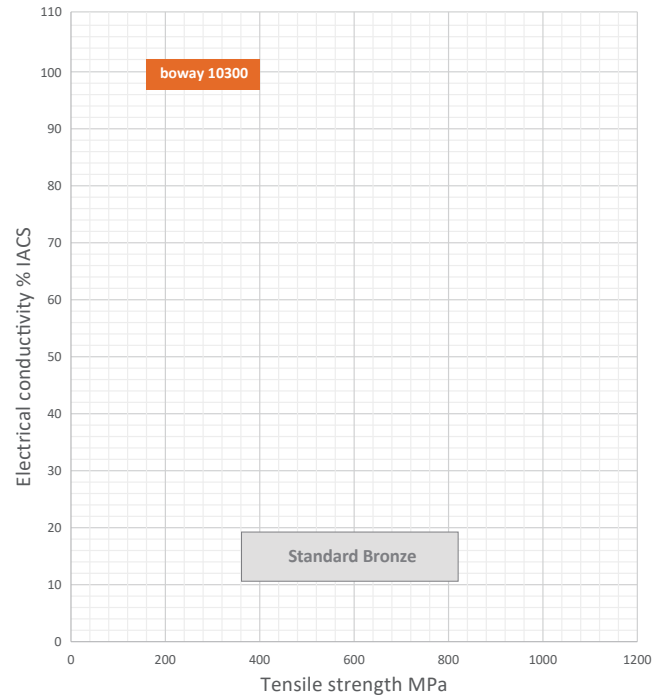
Application Target

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

Ideal for power connectors, busbar

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



Characteristics

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

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

boway 10300

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV0.2
R220(1/4H)	220–260	32–38	≤ 140	≥ 33	<u>40–70</u>
R240(1/2H)	240–300	35–44	≥ 180	≥ 8	<u>65–95</u>
R290(H)	290–360	42–52	≥ 250	≥ 4	<u>90–110</u>
R360(ESH)	≥ 360	≥ 52	≥ 320	≥ 2	<u>≥ 110</u>
Annealed	180–260	26–38	<u>70</u>	<u>35</u>	
H01*	235–290	34–42	<u>220</u>	<u>23</u>	
H02*	255–315	37–46	<u>255</u>	<u>20</u>	
H03*	285–345	41–50	<u>295</u>	<u>14</u>	
H04*	295–360	43–52	<u>310</u>	<u>9</u>	
H06*	325–385	47–56	<u>345</u>	<u>4</u>	
H08*	345–400	50–58	<u>360</u>	<u>3</u>	
H10*	≥ 360	≥ 52	≥ <u>350</u>	≤ <u>3</u>	

*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	0.5	-	-
R360	1.0	2.0	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 10300

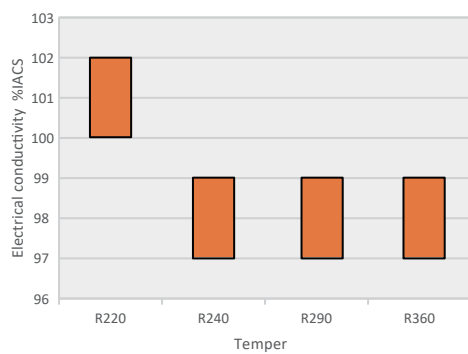
Packaging

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.

boway 15100

Material Designation

Boway Designation	boway 15100
UNS	C15100
EN	CuZr0.1
JIS	C1510
GB(China)	TZr0.1

Chemical composition*

Zr	0.05–0.15	%
Cu	Rem.	

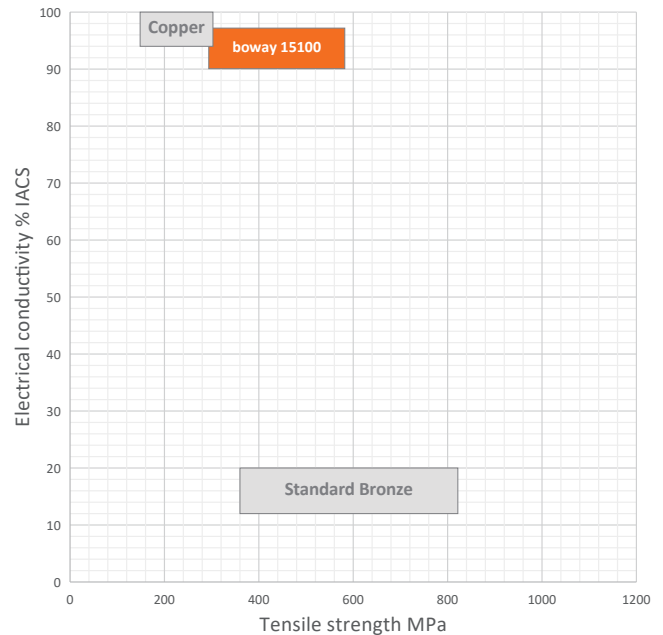
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

High conductivity and medium strength, excellent bending performance, good formability, softening resistance and corrosion resistance; Good stress relaxation resistance.

Physical Properties *

Density	8.94	g/cm ³
Electrical conductivity@20°C	92	% IACS
conductivity@20°C	53	MS/m
Thermal conductivity@20°C	360	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 15100

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R325	325–385	47–56	≥ 310	≥ 2	<u>100–125</u>
R365	365–425	53–62	≥ 350	≥ 2	<u>120–145</u>
R405	405–450	59–65	≥ 395	≥ 1	<u>125–150</u>
R440	440–500	64–73	≥ 425	≥ 1	≥135
R470	470–550	68–80	≥ 455	≥ 1	≥135
Annealed*	255–290	37–42	≥ 60	≥ 35	
H01*	275–310	40–45	≥ 180	≥ 11	
H02*	295–350	43–51	≥ 240	≥ 4	
H03*	325–385	47–56	≥ 310	≥ 2	
H04*	365–425	53–62	≥ 350	≥ 2	
H06*	405–450	59–65	≥ 395	≥ 1	
H08*	440–490	64–71	≥ 425	≥ 1	

*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
R325	0	0	-	-
R365	0	0	-	-
R405	0.5	0.5	-	-
R440	1	1	-	-
R470	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 15100

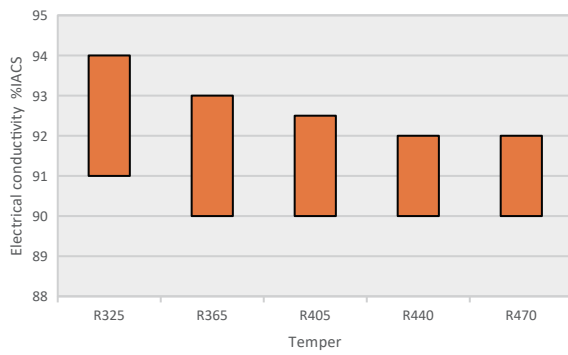
Packaging

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.

boway 18160

Material Designation

Boway Designation	boway 18160
UNS	C18160
EN	CuCr1 Zr
JIS	-
GB(China)	-

Chemical Composition*

Cr	0.7	%
Zr	0.1	%
Cu	Rem.	

* Nominal composition

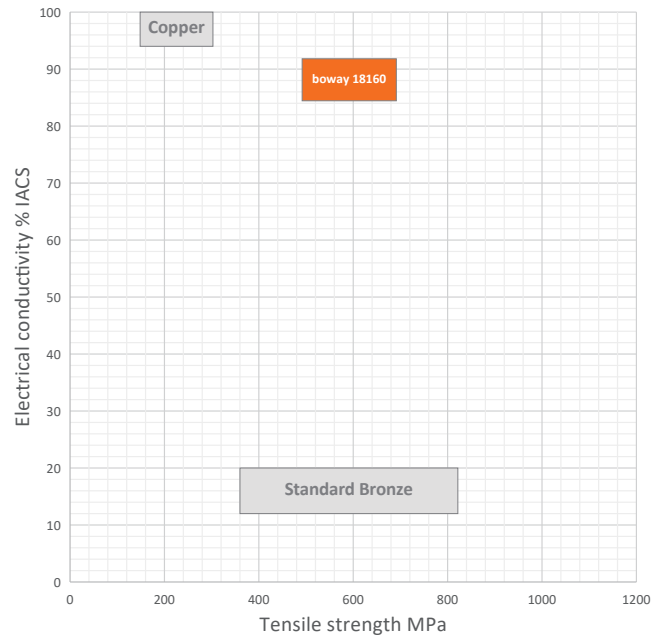
Application Target

Signal connector	Suitable
Power connector	Very suitable
Miniaturized connector	Suitable
Switch/Relay	Suitable
Semiconductor	Average

Ideal for power connectors

Fabrication Properties

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



Characteristics

Highest conductivity combined with medium strength, very good bending properties.
Excellent stress relaxation and softening resistance. The alloy for high power contacts.

Physical Properties*

Density	8.9	g/cm ³
Electrical	88	% IACS
conductivity@20°C	51	MS/m
Thermal conductivity@20°C	340	W/(m·K)
Specific heat capacity	0.381	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	18.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 18160

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R480	480–570	70–83	≥ 450	150–190	≥ 8
R540	540–630	79–92	≥ 500	160–200	≥ 4
R600	600–690	87–101	≥ 560	170–200	≥ 2

*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
R480	0.5	0.5	1	1
R540	1	1	2	2.5
R600	1.5	2.5	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

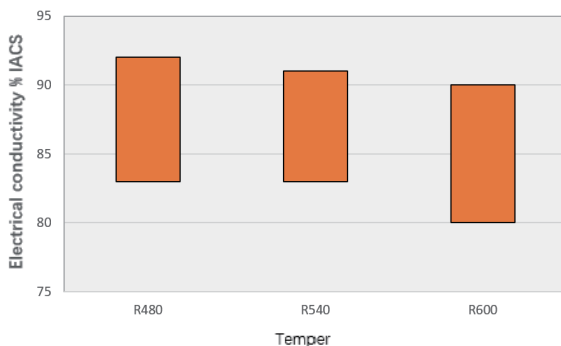
Packaging

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.

boway 18150

Material Designation

Boway Designation	boway 18150
UNS	C18150
EN	CuCr1Zr
JIS	-
GB(China)	TCr1-0.15

Chemical Composition*

Cr	1	%
Zr	0.1	%
Cu	Rem.	

* Nominal composition

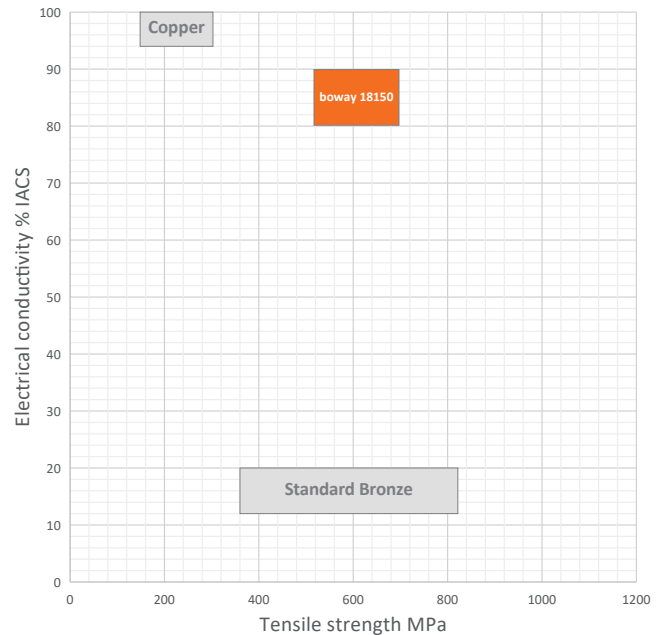
Application Target

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

Ideal for power connectors

Fabrication Properties

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



Characteristics

High electrical conductivity and thermal conductivity combined with medium strength.

Excellent stress relaxation and softening resistance.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	85	% IACS
	49	MS/m
Thermal conductivity@20°C	320	W/(m·K)
Specific heat capacity	0.381	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	18.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 18150

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R480	480–570	70–83	≥ 450	150–190	≥ 8
R540	540–630	79–92	≥ 500	160–200	≥ 4
R600	600–690	87–101	≥ 560	170–200	≥ 2

*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
R480	0.5	0.5	1	1
R540	1	1	2	2.5
R600	1.5	2.5	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

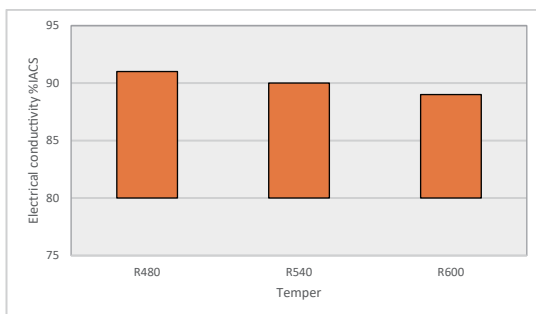
Packaging

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.

boway 18070

Material Designation

Boway Designation	boway 18070
UNS	C18070
EN	CuCrSiTi
JIS	-
GB(China)	TCr0.3-0.2-0.05

Chemical Composition*

Cr	0.3	%
Si	0.02	%
Ti	0.1	%
Other	≤ 0.2	%
Cu	Rem.	

* Nominal composition

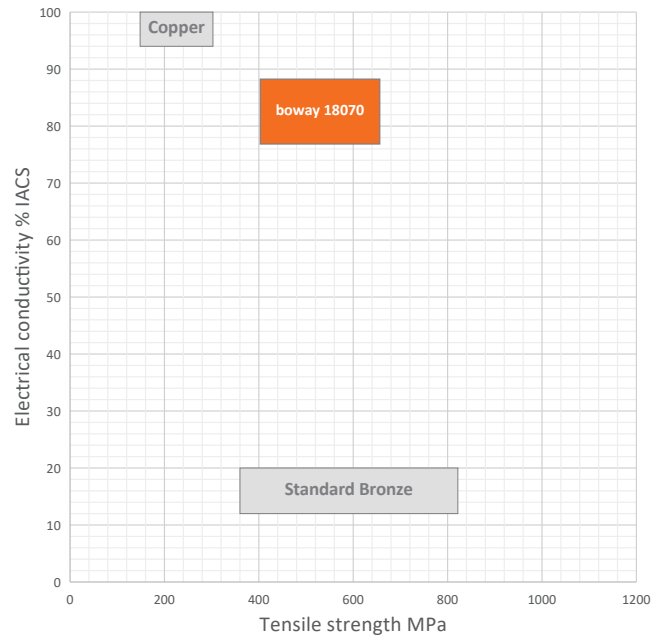
Application Target

Signal connector	Suitable
Power connector	Suitable
Switch/Relay	Suitable
Semiconductor	Suitable

Ideal for automotive connectors

Fabrication Properties

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



Characteristics

High electrical conductivity and thermal conductivity combined with medium strength and good bending formability. Excellent stress relaxation and softening resistance.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	78	% IACS
	45	MS/m
Thermal conductivity@20°C	310	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	138	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	18	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 18070

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R400	400–480	58–69	≥ 300	120–150	≥ 8
R460	460–560	67–81	≥ 400	140–170	≥ 9
R530	530–610	77–88	≥ 460	150–190	≥ 8
R550	550–630	80–91	≥ 520	150–190	≥ 7

*For reference only

Bendability Bending thickness ≤ 0.5 mm; Bending width: 10 mm

Temper	90° R/T	
	Good Way	Bad Way
R400	0	0
R460	0.5	0.5
R530	1.0	1.0
R550	1.0	1.5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

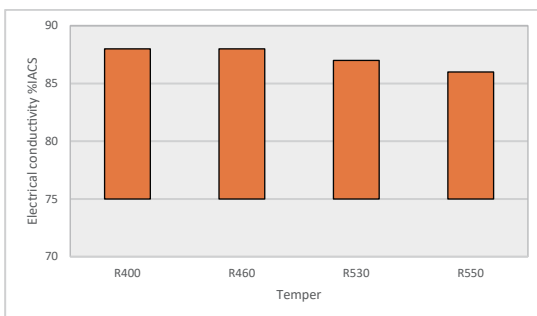
Packaging

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.

boway 18090

Material Designation

Boway Designation	boway 18090
UNS	C18090
EN	-
JIS	-
GB(China)	-

Chemical Composition*

Ni	0.3–1.2	%
Sn	0.5–1.2	%
Cr	0.2–1.0	%
Ti	0.1–0.8	%
Cu	Rem.	

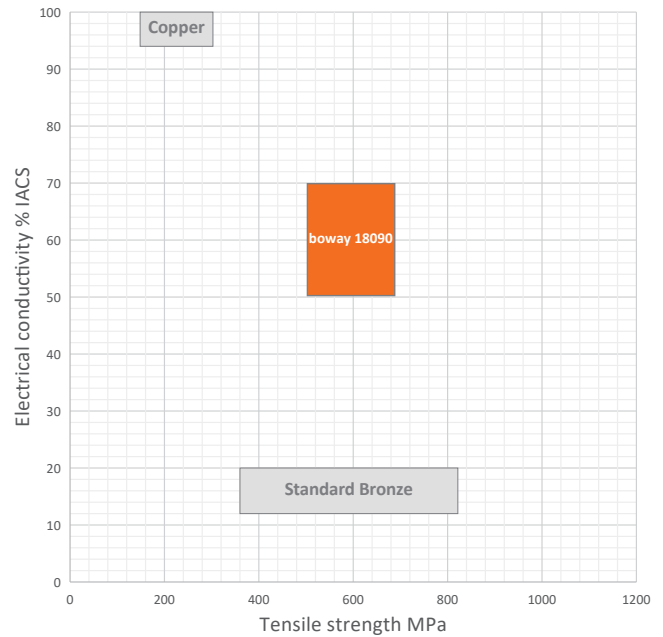
* Nominal composition

Application Target

Signal connector	Suitable
Power connector	Suitable
Switch/Relay	Suitable
Semiconductor	Suitable

Fabrication Properties

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



Characteristics

It has excellent bending performance, excellent cold and hot forming performance, high strength and good corrosion resistance; Excellent electrical and thermal conductivity, and good welding, soldering and brazing properties.

Physical Properties*

Density	8.82	g/cm ³
Electrical conductivity@20°C	60	% IACS
	35	MS/m
Thermal conductivity@20°C	240	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	133	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 18090

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R450	450–540	65–78	≥ 350	≥ 130	≥ 6
R540	540–620	78–90	≥ 450	≥ 160	≥ 3
R620	620–700	90–102	≥ 520	≥ 180	≥ 1

*For reference only

Bendability Bending thickness ≤ 0.5 mm; Bending width: 10 mm

Temper	90° R/T	
	Good Way	Bad Way
R450	0.5	0.5
R540	1.0	2.0
R620	3.0	6.0

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

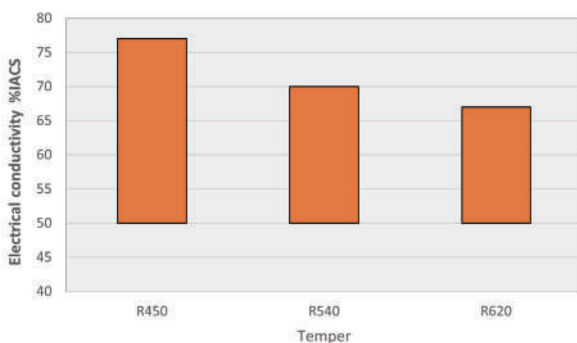
Packaging

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 0.1–0.3 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.

boway 19000

Material Designation

Boway Designation	boway 19000
UNS	C19000
EN	CuNi1P
JIS	-
GB(China)	-

Chemical Composition*

Ni	1.1	%
P	0.25	%
Cu	Rem.	

* Nominal composition

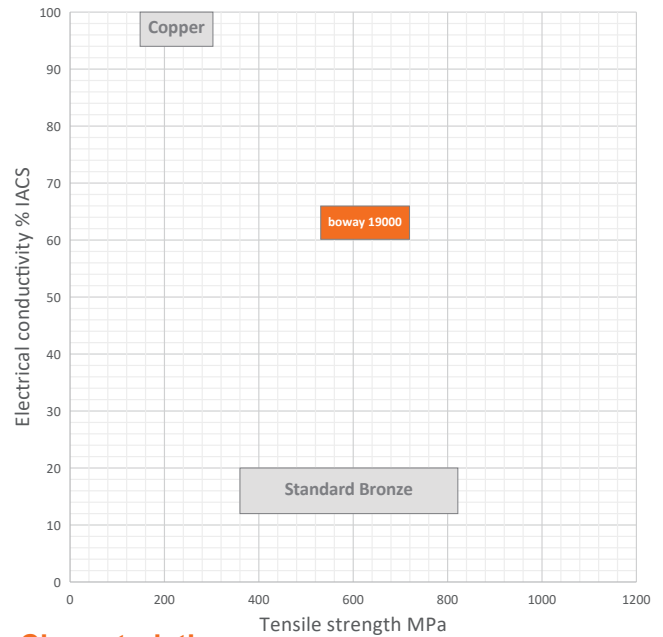
Application Target

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

Well suited for USB type-c, particularly for 5G vapor chamber, relay spring and others.

Fabrication Properties

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



Characteristics

Superb combination of high conductivity and relatively high strength. Excellent stress relaxation resistance and bending performance. Good corrosion resistance.

Physical Properties*

Density	8.88	g/cm ³
Electrical conductivity@20°C	64	% IACS
Thermal conductivity@20°C	37	MS/m
Specific heat capacity	253	W/(m·K)
Modulus of elasticity	0.385	J/(g·K)
Poisson's ratio	130	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19000

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R350(TB00)	≤ 350	≤ 51	≤ 200	≤ 100	≥ 20
R530(TM00)	530–620	77–90	500–600	165–200	≥ 4
R580(TM02)	580–650	85–95	560–640	175–210	≥ 4
R620(TM04)	620–720	90–105	600–710	180–220	≥ 2

*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
R530(TM00)	0.5	1.0	-	-
R580(TM02)	0.5	1.3	-	-
R620(TM04)	1.0	1.7	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

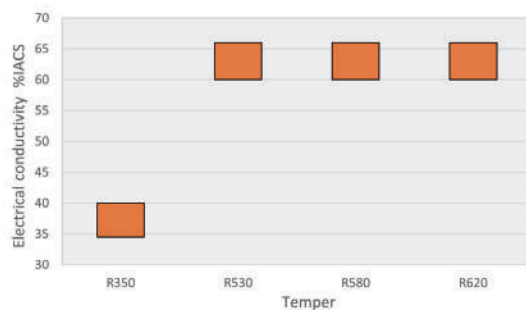
Packaging

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 0.08–2.0 mm, other gauges on request.
 Strip width from 10 mm.
 Hot-dip tinned and 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.

boway 19025

Material Designation

Boway Designation	boway 19025
UNS	C19025
EN	CuNi1 Sn1P
JIS	-
GB(China)	-

Chemical Composition*

Cu	Rem.	
Ni	1	%
Sn	0.9	%
P	0.05	%

* Nominal composition

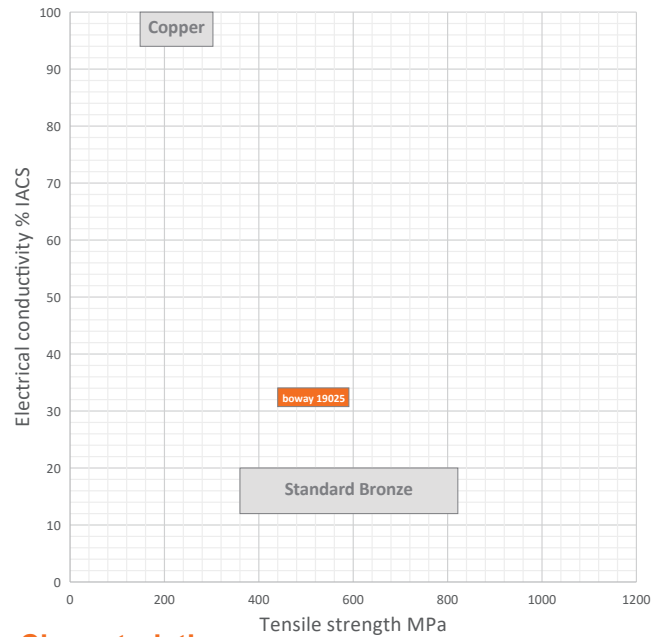
Application Target

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

Well suited for USB type-c, particularly for 5G vapor chamber, relay spring and others

Fabrication Properties

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



Characteristics

Superb combination of high conductivity and relatively high strength. Excellent stress relaxation resistance and bending performance. Good corrosion resistance.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	40	% IACS
conductivity@20°C	23	MS/m
Thermal conductivity@20°C	161	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	130	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19025

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R440(HR02)	440–520	64–75	≥ 400	135–170	≥ 7
R500(HR04)	500–570	73–82	≥ 470	155–180	≥ 5
R540(HR06)	540–590	78–85	≥ 510	160–195	≥ 4

*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
R440(HR02)	0	0	-	-
R500(HR04)	0	0	-	-
R540(HR06)	0.5	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.

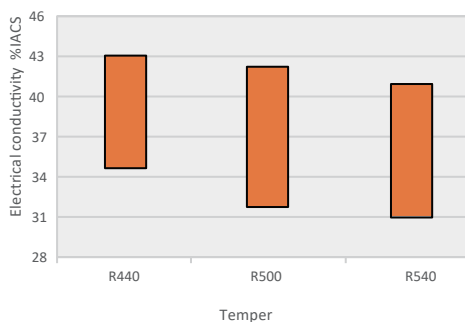
Packaging

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.
 Hot-dip tinned and 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.

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Rev.2024,06

boway 19920

Material Designation

Boway Designation	boway 19920
UNS	C19920
EN	-
JIS	-
GB (China)	-

Chemical Composition*

Ti	2.5–3.5	%
Others	≤ 1	%
Cu	Rem.	

* Nominal composition

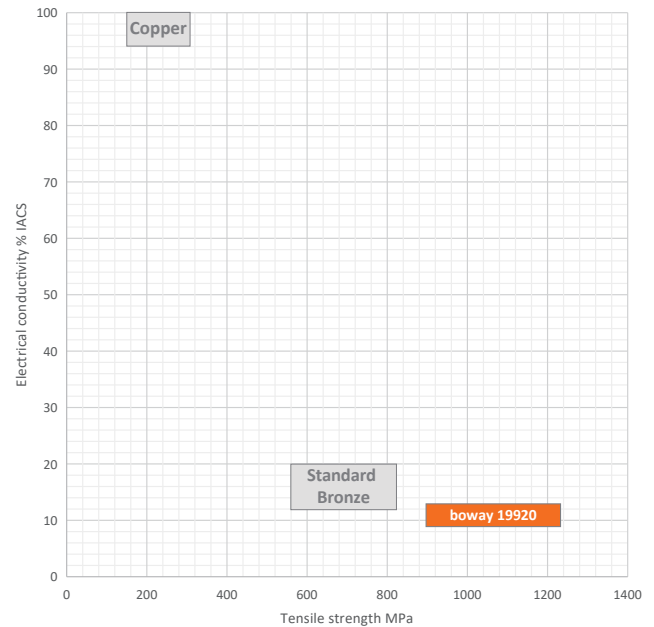
Application Target

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

Ideal for signal connector and spring

Fabrication Properties

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



Characteristics

boway 19920 alloy is a Cu-Ti based alloy. The alloy is beryllium-free combining very high strength with excellent bending properties, superb thermal stress relaxation properties and high fatigue resistance.

Physical Properties*

Density	8.66	g/cm ³
Electrical conductivity@20°C	12	% IACS
conductivity@20°C	7	MS/m
Thermal conductivity@20°C	50	W/(m·K)
Specific heat capacity	0.39	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	17.76	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19920

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R880(H)	880–1000	128–145	800–900	280–320	10
R920(EH)	920–1050	133–152	850–950	290–330	6
R960(SH)	960–1100	139–160	900–1000	300–340	3
R1000(ESH)	1000–1150	145–167	950–1050	310–350	2
R1050(XSH)	1050–1200	152–174	1000–1100	320–360	1
R1100(GSH)	1100–1250	160–181	1050–1200	330–370	-
R1200	1200–1400	174–203	1150–1350	350–420	-
R1300	1300–1600	188–232	1250–1550	360–450	-

*Only for reference

Bendability Bending thickness: 0.03–0.20 mm; Bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R880(H)	0	0	-	-
R920(EH)	0	0.5	-	-
R960(SH)	0	1	-	-
R1000(ESH)	-	-	-	-
R1050(XSH)	-	-	-	-
R1100(GSH)	-	-	-	-
R1200	-	-	-	-
R1300	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

Packaging

Standard coils with outside diameter up to 1300 mm.

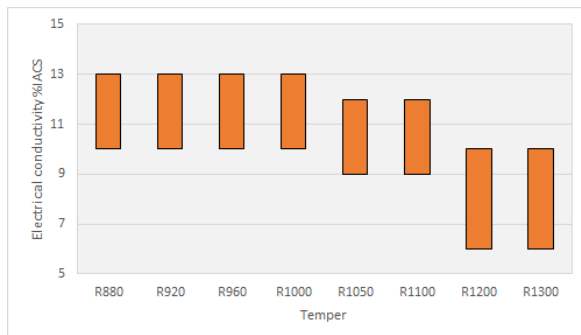
Dimensions Available

Strip thickness 0.03–0.20 mm, other gauges on request.

R1200–R1300 is only available in thickness specifications of 0.03–0.08 mm. Other thickness specifications can be discussed.

The minimum strip width is 8.5 mm.

Electrical Conductivity



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boway 19210

Material Designation

Boway Designation	boway 19210
UNS	C19210
EN	CuFe0.1P
JIS	C1921
GB(China)	TFe0.1

Chemical Composition*

Fe	0.1	%
P	0.03	%
Cu	Rem.	

* Nominal composition

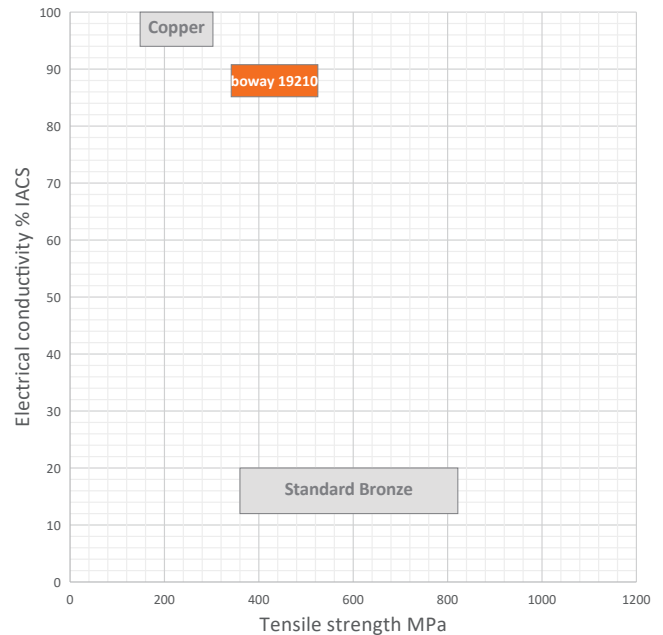
Application Target

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

Ideal for semiconductor

Fabrication Properties

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



Characteristics

Excellent electrical conductivity and thermal conductivity combined with good softening and corrosion resistance. Medium strength and excellent bending formability. No sensitivity to stress corrosion cracking.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	89	% IACS
Thermal conductivity@20°C	51	MS/m
Specific heat capacity	350	W/(m·K)
Modulus of elasticity	0.385	J/(g·K)
Poisson's ratio	125	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19210

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R360 (3/4H)	360–425	53–62	≥ 345	≥ 4	<u>115–135</u>
R385 (H)	385–455	56–66	≥ 355	≥ 3	<u>120–140</u>
R415 (EH)	415–480	60–70	≥ 400	≥ 2	<u>125–145</u>
R440 (SH)	440–510	64–74	≥ 425	≥ 1	<u>130–150</u>
Annealed	190–290	27–42	≥ 110	≥ 30	
H01*	300–365	43–53	≥ 135	≥ 20	
H02*	325– 410	47–60	≥ 310	≥ 5	
H03*	355–425	52–62	≥ 345	≥ 4	
H04*	385–455	56–66	≥ 355	≥ 3	
H06*	410–480	60–70	≥ 400	≥ 2	
H08*	440–510	64–74	≥ 425	≥ 1	
H10*	≥ 455	≥ 66	≥ 440	≥ 1	

*According to ASTM E 152

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
R360	0.5	1	1	1.5
R385	1	1	1.5	1.5
R415	1.5	1.5	1.5	2
R440	1.5	2	2	2

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 19210

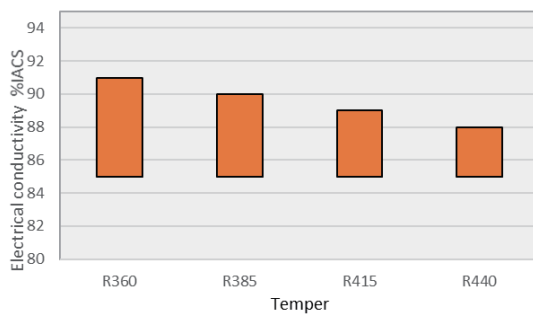
Packaging

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.
 Hot-dip tinned and 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.

boway 19400

Material Designation

Boway Designation	boway 19400
UNS	C19400
EN	CuFe2P
JIS	C1940
GB(China)	TFe2.5

Chemical Composition*

Fe	2.3	%
P	0.03	%
Cu	Rem.	

* Nominal composition

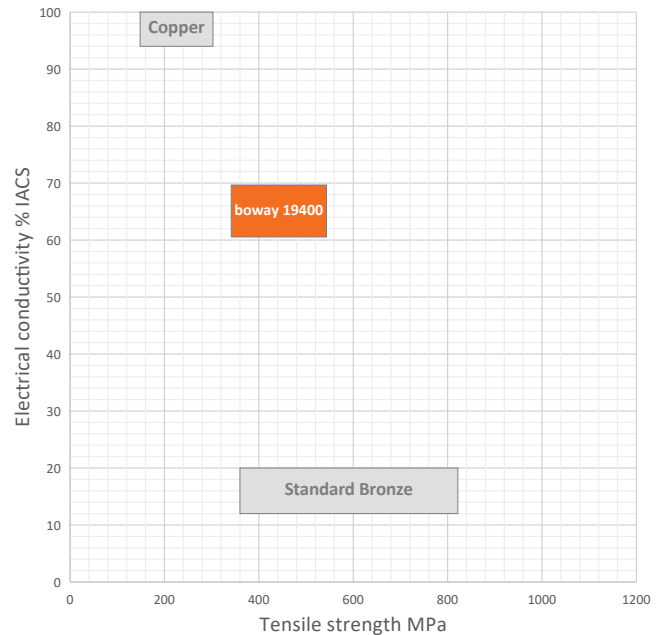
Application Target

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

Ideal for semiconductor

Fabrication Properties

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



Characteristics

High strength and good electrical conductivity with excellent softening resistance performance and good corrosion resistance. Standard material for semiconductor applications, stamping as well as etching quality available.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	66	% IACS
	38	MS/m
Thermal conductivity@20°C	280	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	121	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19400

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R365(1/2H)	365–435	53–63	≥ 250	≥ 6	<u>110–140</u>
R415(H)	415–485	60–70	≥ 365	≥ 3	<u>125–145</u>
R460(EH)	460–525	67–77	≥ 440	≥ 2	<u>130–155</u>
R480(SH)	485–545	70–79	≥ 460	≥ 2	<u>135–160</u>
R530(XSH)	≥ 530	≥ 77	≥ 500	≥ 1	<u>≥ 150</u>
R550(SSH)	≥ 550	≥ 80	≥ 520	≥ 1	<u>≥ 155</u>
Annealed*	275–435	40–63	≥ 100	10	
Light Anneal	310–380	45–55	<u>160</u>	<u>26</u>	
H02*	365–435	53–63	≥ 250	≥ 6	
H04*	415–485	60–70	≥ 365	≥ 3	
H06*	460–505	67–73	≥ 440	≥ 2	
H08*	485–525	70–76	≥ 460	≥ 2	
H10*	505–550	73–80	≥ 485	≥ 1	

*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
R365	0	0	1	1
R415	0.5	0.5	1.5	1.5
R460	0.5	1	1.5	1.5
R480	0.8	1.2	2.0	2.0
R530	1.5	2	-	-
R550	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 19400

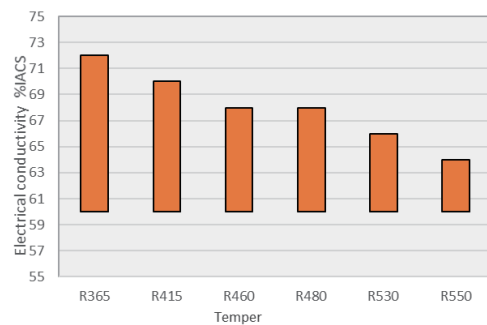
Packaging

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.
 Hot-dip tinned and 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.

boway 19005

Material Designation

Boway Designation	boway 19005
UNS	C19005
EN	-
JIS	-
GB(China)	-

Chemical Composition*

Ni	1.5	%
Si	0.3	%
Zn	0.4	%
Cu	Rem.	

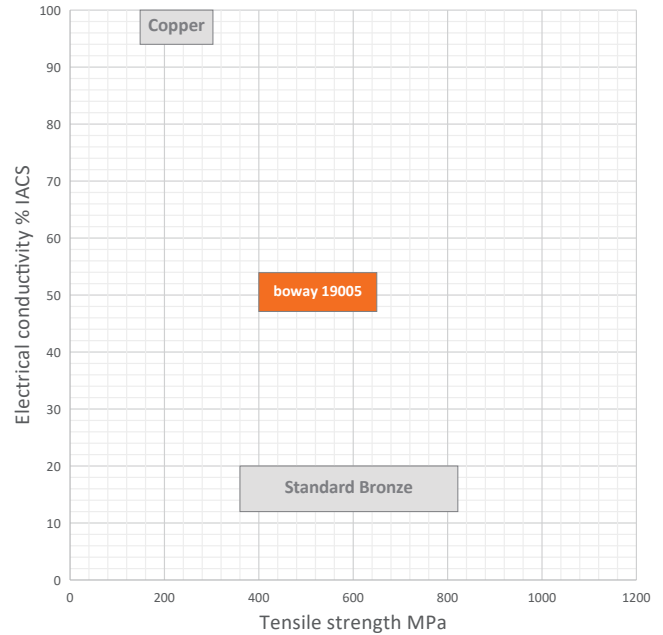
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Improved temperature performance VS. C19010. Medium conductivity and medium strength combined with good stress relaxation resistance and good formability. Good corrosion resistance.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	47	% IACS
	27	MS/m
Thermal conductivity@20°C	250	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	127	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	16.8	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19005

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R400	400–460	58– 67	≥ 360	120–150	≥ 8
R490	490–550	71– 80	≥ 410	140–170	≥ 10
R520	520–590	75– 86	≥ 440	150–180	≥ 9
R580	580–650	84– 94	≥ 540	170–200	≥ 8

*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
R400	0	0.5	0.5	1
R490	0	0.5	1	1.5
R520	0.5	0.5	1.5	2
0 R58	1	1	2	2

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

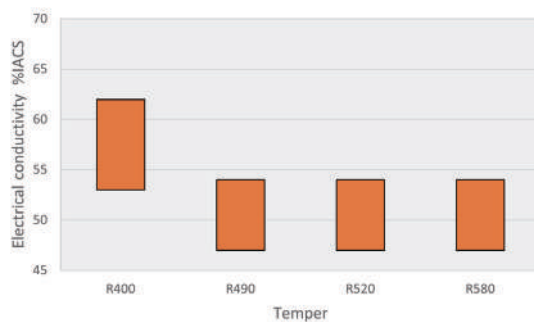
Packaging

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.

boway 19010

Material Designation

Boway Designation	boway 19010
UNS	C19010
EN	CuNiSi
JIS	-
GB(China)	-

Chemical Composition*

Ni	1.5	%
Si	0.25	%
Cu	Rem.	

* Nominal composition

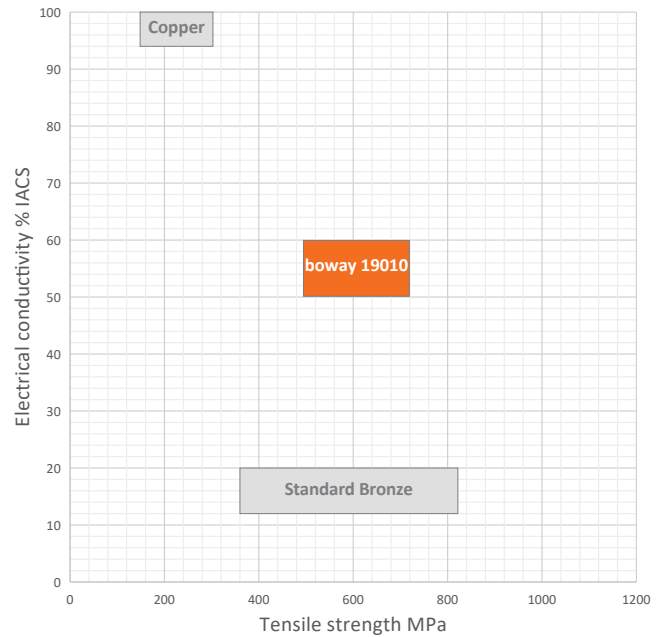
Application Target

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

Ideal for power connectors

Fabrication Properties

Cold forming	Good
Machining	Average
Electroplating	Good
Hot dip tinning	Good
Laser welding	Suitable
Resistance welding	Average
Soft soldering	Good



Characteristics

Medium conductivity and medium strength combined with good stress relaxation resistance and good formability. Used for applications up to 120°C when using tinned surface. Lower end HPA.

Physical Properties*

Density	8.9	g/cm ³
Electrical conductivity@20°C	57	% IACS
Thermal conductivity@20°C	33	MS/m
Specific heat capacity	260	W/(m·K)
Modulus of elasticity	0.377	J/(g·K)
Poisson's ratio	130	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 19010

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R490	490–560	71–81	≥ 410	≥ 10	<u>145–175</u>
R520	520–590	75–86	≥ 460	≥ 8	<u>150–180</u>
R580	580–655	84–95	≥ 520	≥ 6	<u>180–220</u>
TM04*	490–550	71–80	≥ 410	≥ 10	<u>140–170</u>
TM06*	520–590	75–86	≥ 440	≥ 9	<u>150–180</u>
TM08*	580–650	84–94	≥ 540	≥ 8	<u>170–200</u>

*According to ASTM B888

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
R490	0.8	1	1.5	2
R520	1	1.5	1.5	2
R580	1	1.5	2	3

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

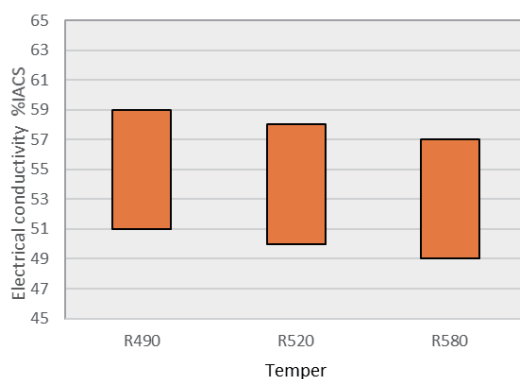
Packaging

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.
Hot-dip tinned and 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.

boway 70260

Material Designation

Boway Designation	boway 70260
UNS	C70260
EN	CuNi2Si
JIS	-
GB(China)	BSi0.6-2.1

Chemical Composition*

Ni	2	%
Si	0.5	%
Cu	Rem.	

* Nominal composition

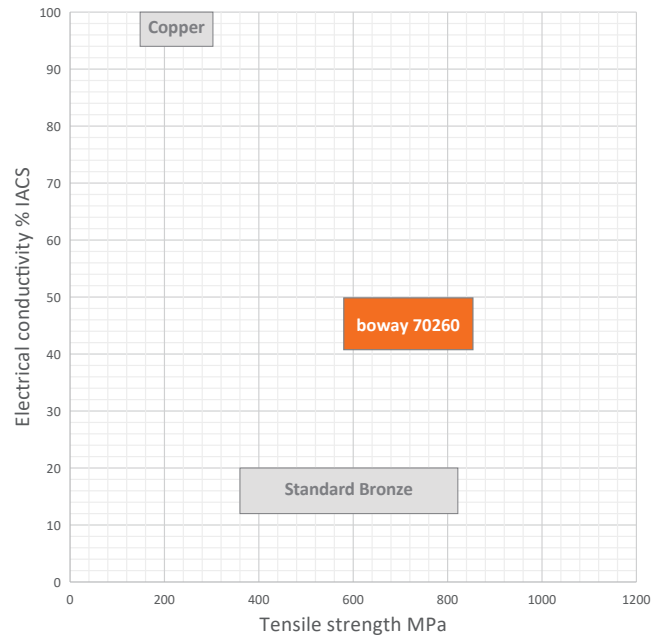
Application Target

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

Ideal for automotive connectors

Fabrication Properties

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



Characteristics

High strength, good electrical conductivity combined with excellent bending performance.

Good corrosion resistance and softening resistance as well as stress relaxation performance.

Physical Properties*

Density	8.85	g/cm ³
Electrical conductivity@20°C	49	% IACS
Thermal conductivity@20°C	28	MS/m
Specific heat capacity	190	W/(m·K)
Modulus of elasticity	0.399	J/(g·K)
Poisson's ratio	132	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 70260

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R585(TM00)	585–655	85–95	≥ 450	160–210	≥ 10
R620(TM0S)	620–725	90–105	≥ 520	180–215	≥ 6
R655(TM02)	655–745	98–108	≥ 620	190–225	≥ 5
R725(TM03)	725–830	105–120	≥ 655	200–240	≥ 2
R760(TM04)	760–860	110–125	≥ 690	220–260	≥ 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
R585(TM00)	0	0	0.5	1
R620(TM0S)	0.5	0.5	1	1.5
R655(TM02)	0.5	1	1	2.5
R725(TM03)	1	1.5	1.5	3.5
R760(TM04)	1.5	3	2	6

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

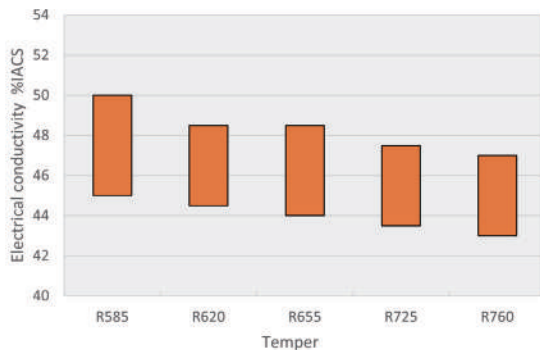
Packaging

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.
 Hot-dip tinned and 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.

boway 70250

Material Designation

Boway Designation	boway 70250
UNS	C70250
EN	CuNi3SiMg
JIS	C7025
GB(China)	BSi3.2-0.7

Chemical Composition*

Ni	3	%
Si	0.65	%
Mg	0.15	%
Cu	Rem.	

* Nominal composition

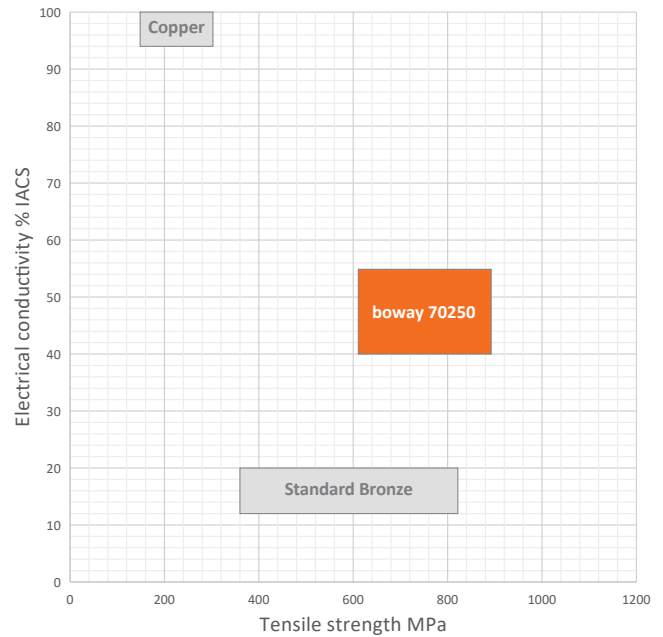
Application Target

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

Ideal for miniaturized connector and lead frame design, special qualities for PRESSFIT, QFP, QFN available

Fabrication Properties

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



Characteristics

High strength combined with medium electrical conductivity. Very good stress relaxation resistance up to 175°C/1000h. Very good formability. Standard HPA for automotive and semiconductor.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	45	% IACS
conductivity@20°C	26	MS/m
Thermal conductivity@20°C	190	W/(m·K)
Specific heat capacity	0.399	J/(g·K)
Modulus of elasticity	130	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 70250

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi			
R620	620–740	90–107	≥ 550	≥ 14	<u>180–220</u>
R655	655–785	95–114	≥ 585	≥ 7	<u>190–240</u>
R690	690–810	100–117	≥ 655	≥ 5	<u>210–250</u>
R760	760–850	110–123	≥ 720	≥ 2	<u>220–270</u>
R800	800–880	116–128	≥ 780	≥ 1	<u>250–290</u>
R607	607–726	88–106	≥ 550	≥ 6	<u>180–220</u>
TM00*	620–760	90–110	≥ 450	≥ 10	
TM02*	655–825	95–120	≥ 585	≥ 7	
TM03*	690–860	100–125	≥ 655	≥ 5	

*According to ASTM B888

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
R620	0	0	0.5	0.5
R655	0.5	0.5	1.5	2
R690	1	1	2	2
R760	1.5	1.5	2.5	2.5
R800	2	3	2	3.5
R607	0.5	3	1	5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 70250

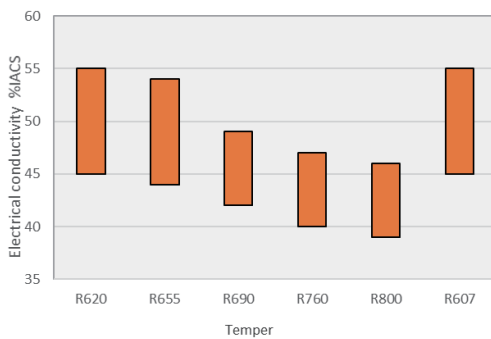
Packaging

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.
 Hot-dip tinned and 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.

boway 70250HS

Material Designation

Boway Designation	boway 70250HS
UNS	C70250
EN	CuNi4SiMg
JIS	C7025
GB(China)	-

Chemical Composition*

Ni	4	%
Si	0.75	%
Mg	0.15	%
Cu	Rem.	

* Nominal composition

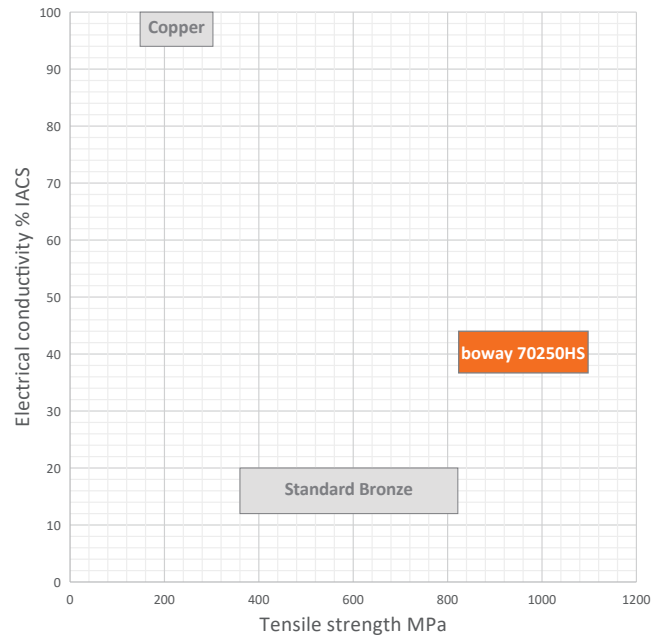
Application Target

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

Ideal for miniaturized connector ,especially CPU socket ,relay and SIM card connector etc.

Fabrication Properties

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



Characteristics

Ultra high strength combined with good electrical conductivity.
Very good stress relaxation resistance.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	42	% IACS
Thermal conductivity@20°C	24	MS/m
Specific heat capacity	190	W/(m·K)
Modulus of elasticity	0.399	J/(g·K)
Poisson's ratio	130	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 70250HS

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R840(TM08)	840–920	122–134	≥ 810	260–300	≥ 1
R900(TM10)	900–1000	131–146	≥ 880	270–330	≥ 1
R1000(TM12)	> 1000	> 145	≥ 950	300–350	-

*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
R840(TM08)	2.0	2.5	-	-
R900(TM10)	3.5	4.0	-	-
R1000(TM12)	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

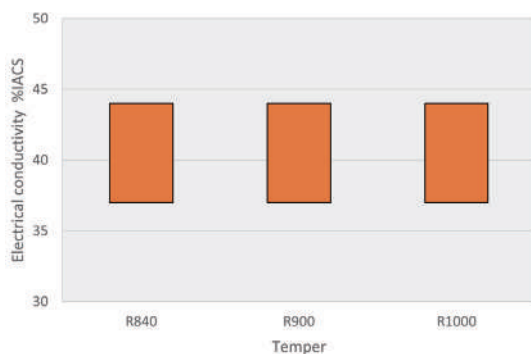
Packaging

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 0.07–0.25 mm, other gauges on request.
 Strip width from 8.5 mm.
 Hot-dip tinned and 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.

boway 70318

Material Designation

Boway Designation	boway 70318
UNS	C70318
EN	CuNi3CoSi
JIS	-
GB(China)	-

Chemical Composition*

Ni	3	%
Co	0.9	%
Si	0.9	%
Cu	Rem.	
Other	≤ 0.5	%

* Nominal composition

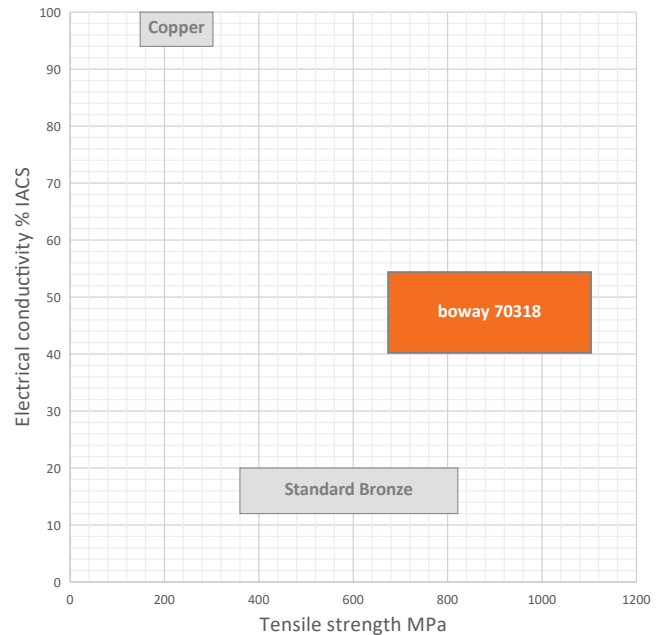
Application Target

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

Well suited for BTB connectors, particularly for USB type-c, relay springs, high speed connectors and others

Fabrication Properties

Cold forming	Good
Machining	Not suitable
Electroplating	Good
Hot dip tinning	Good
Laser welding	Good
Resistance welding	Good
Soft soldering	Suitable



Characteristics

Very high strength combined with superb forming properties, medium to high conductivity.
Very good stress relaxation resistance. Not sensitive to stress corrosion cracking.

Physical Properties*

Density	8.82	g/cm ³
Electrical conductivity@20°C	50	% IACS
	29	MS/m
Thermal conductivity@20°C	190	W/(m·K)
Specific heat capacity	0.38	J/(g·K)
Modulus of elasticity	130	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 70318

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R690(TM02)	690–830	100–120	≥ 680	≥ 200	≥ 6
R770(TM04)	770–900	110–130	≥ 750	≥ 220	≥ 4
R840(TM06)	840–970	122–140	≥ 810	≥ 240	≥ 1
R920(TM08)	920–1060	133–154	≥ 880	≥ 260	≥ 1
R980(TM10)	980–1120	142–163	≥ 940	≥ 280	≥ 1

*For reference only

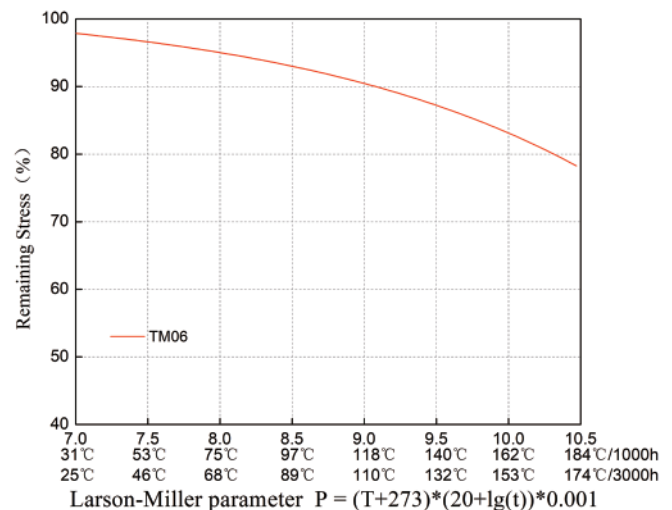
Bendability Bending thickness: 0.03–0.30 mm; R690-R840 bending width: 10mm; R920-R980 bending width: 1.0mm.

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R690(TM02)	0	0	-	-
R770(TM04)	0.5	0.5	-	-
R840(TM06)	1.0	1.0	-	-
R920(TM08)	1.0	1.0	-	-
R980(TM10)	3.0	3.0	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

Thermal Stress Relaxation

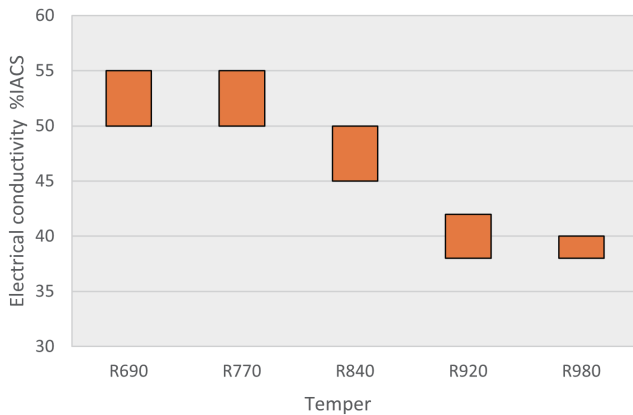
The stress relaxation rate of boway 70318 alloy at 150 °C/1000h is close to 85%, which ensures the contact reliability of the connectors in long-term & high-temperature service.



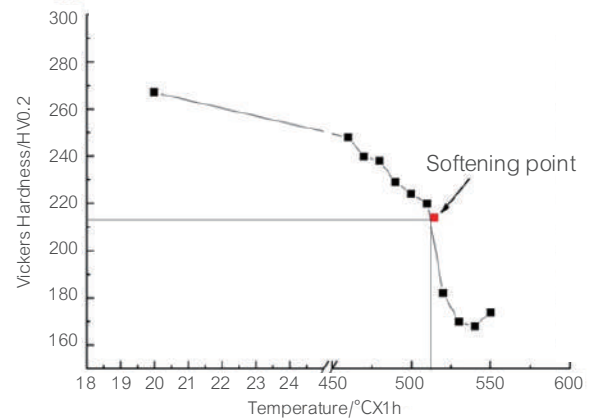
P= Larson Miller index; T= Celsius temperature; t= time

boway 70318

Electrical Conductivity



Softening Resistance



The values were measured according to the standard GB/T 33370-2016.

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.

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: 0.03-0.3 mm, provided according to customer requirements. Other thickness specifications can be discussed.
 Strip width from 8.5 mm.
 Electroplated and hot-dip tinned strip available.

boway 42300

Material Designation

Boway Designation	boway 42300
UNS	C42300
EN	CuZn10Sn1Ni1Si
JIS	-
GB(China)	-

Chemical Composition*

Cu	89	%
Sn	1	%
Ni	1	%
Si	0.2	%
Zn	Rem.	

* Nominal composition

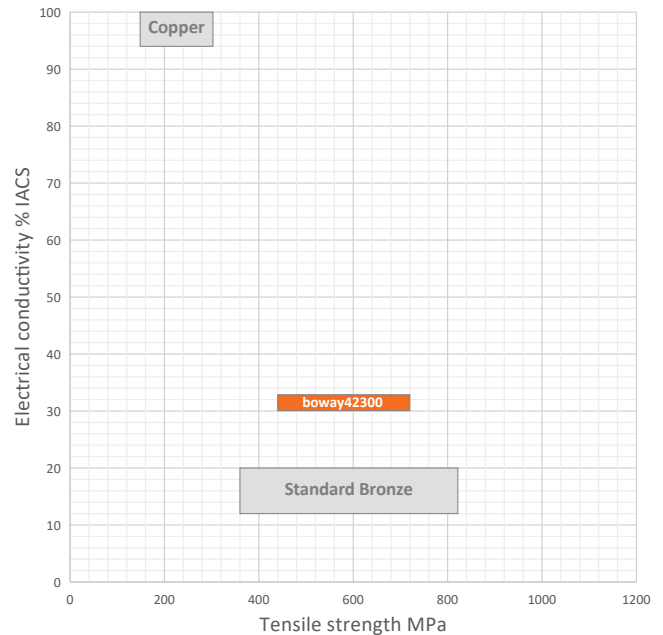
Application Target

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

Superior performance alternative for phosphor bronze.

Fabrication Properties

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



Characteristics

Low metal cost alternative to CuSn4 and CuSn6. Excellent formability and high strength combined with higher electrical conductivity and improved stress relaxation performance VS. Bronze. Not sensitive to stress corrosion cracking. Recycling friendly for tinned scraps.

Physical Properties*

Density	8.88	g/cm ³
Electrical conductivity@20°C	32	% IACS
conductivity@20°C	18	MS/m
Thermal conductivity@20°C	125	W/(m·K)
Specific heat capacity	0.43	J/(g·K)
Modulus of elasticity	120	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

boway 42300

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R440(1/2H)	440–540	64–79	≥ 420	140–170	≥ 8
R520(3/4H)	520–620	76–90	≥ 500	150–190	≥ 6
R560(H)	560–660	82–96	≥ 550	170–210	≥ 3
R620(EH)	620–720	90–105	≥ 590	190–220	≥ 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
R440(1/2H)	0	0	0	1
R520(3/4H)	0	0.5	0.5	1.5
R560(H)	0.5	1.5	1.5	2.5
R620(EH)	1	2	2	5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

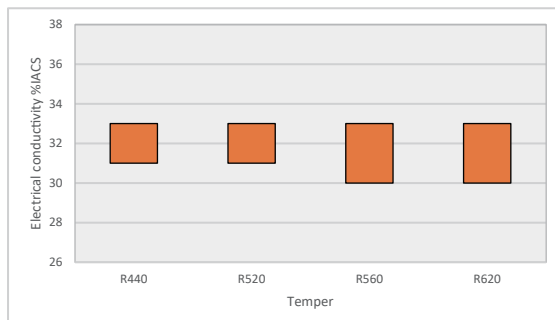
Packaging

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 0.1–2.0 mm, other gauges on request.
 Strip width from 8.5 mm.
 Hot-dip tinned and 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.

boway 42500

Material Designation

Boway Designation	boway 42500
UNS	C42500
EN	CuSn3Zn9
JIS	-
GB(China)	HSn88-2

Chemical Composition*

Cu	88	%
Sn	3	%
Zn	Rem.	

* Nominal composition

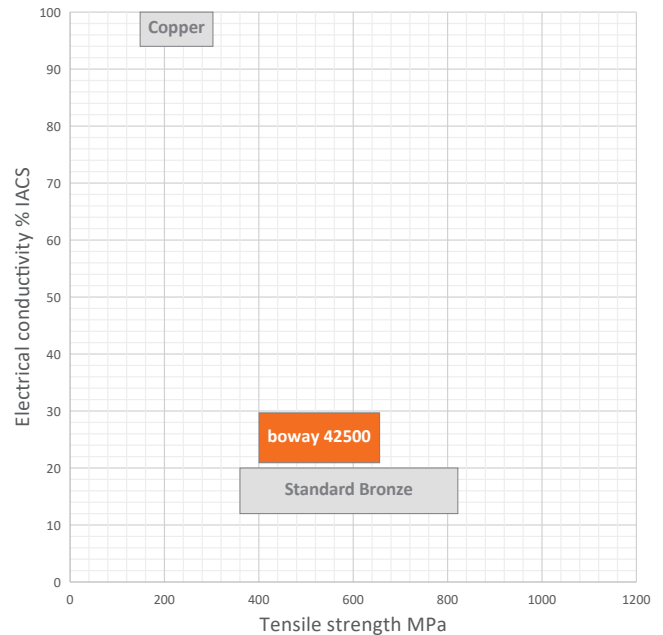
Application Target

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

Ideal for automotive, industrial connectors, spring

Fabrication Properties

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



Characteristics

Medium conductivity, comparable strength with bronze, excellent fatigue performance and good wear resistance. Resistant to atmospheric and seawater corrosion, insensitive to stress corrosion cracking.

Physical Properties*

Density	8.75	g/cm ³
Electrical conductivity@20°C	28	% IACS
	16	MS/m
Thermal conductivity@20°C	120	W/(m·K)
Specific heat capacity	0.38	J/(g·K)
Modulus of elasticity	115	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	18.4	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 42500

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength		Elongation	Hardness
	MPa	ksi	MPa		A50 %	HV
R395 (1/2H)	395–485	57–70	355–465		≥ 18	<u>110–150</u>
R430 (3/4H)	430–510	62–73	400–490		≥ 12	<u>130–170</u>
R485 (H)	485–565	70–81	455–545		≥ 9	<u>160–180</u>
R525 (EH)	525–605	76–87	495–585		≥ 7	<u>170–190</u>
R580 (SH)	580–650	84–94	550–630		≥ 3	<u>180–200</u>
R635 (ESH)	≥ 635	≥ 92	≥ 600		-	<u>≥ 200</u>
Annealed*	285–325	41–47	≥ 90		≥ 47	
H01*	340–405	49–59	≥ 140		≥ 24	
H02*	395–460	57–67	≥ 290		≥ 13	
H03*	425–510	62–74	≥ 375		≥ 10	
H04*	485–565	70–82	≥ 430		≥ 6	
H06*	525–605	76–88	≥ 480		≥ 5	
H08*	580–650	84–94	≥ 545		≥ 3	
H10*	≥ 635	≥ 92	≥ 585		-	

*According to ASTM B888

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
R395	0	0	0	0
R430	0	0	0	0
R485	0	0.5	0.5	1
R525	0.5	1	1	1.5
R580	1.5	2.5	2	3
R635	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 42500

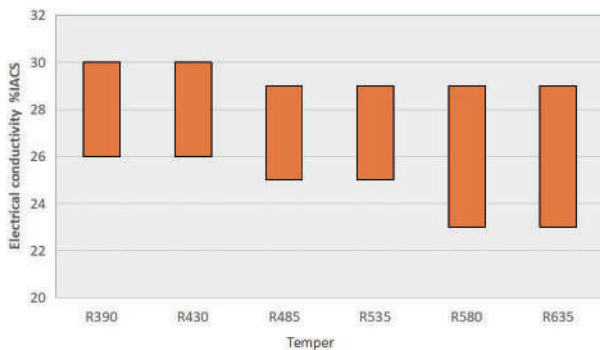
Packaging

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 0.1–2mm, 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.

boway 26000

Material Designation

Boway Designation	boway 26000
UNS	C26000
EN	CuZn30
JIS	C2600
GB(China)	H70

Chemical Composition*

Cu	70	%
Zn	Rem.	%

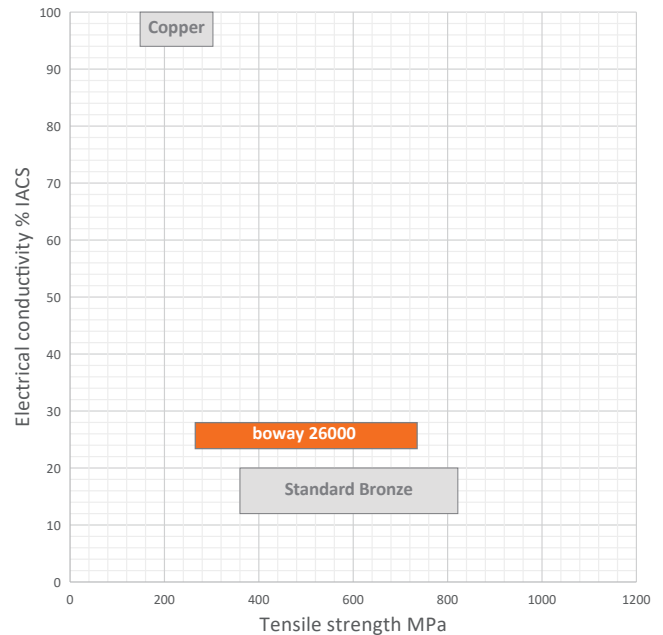
Application Target

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 good cold working properties and good cold drawing and forming properties. It has medium strength and electrical conductivity, and lower material value. The alloy has good brazing performance. Brass strip materials have a wide range of applications, such as connectors, structural parts, decorative hardware, etc.

Physical Properties*

Density	8.82	g/cm ³
Electrical conductivity@20°C	24	% IACS
	15	MS/m
Thermal conductivity@20°C	126	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	110	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	19.7	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 26000

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV0.2
R270 (O)	270–350	39–51	≤ 160	≥ 40	<u>55–90</u>
R350 (1/4H)	350–430	51–62	≥ 170	≥ 21	<u>95–125</u>
R410 (1/2H)	410–490	59–71	≥ 260	≥ 9	<u>120–150</u>
R480 (H)	480–560	69–81	≥ 430	≥ 4	<u>150–180</u>
R550 (EH)	550–640	79–93	≥ 550	-	<u>170–200</u>
R630 (SH)	≥ 630	≥ 91	-	-	<u>≥ 190</u>
Annealed*	310–420	45–61	≥ 70	≥ 40	
H01*	340–405	49–59	≥ 145	≥ 34	
H02*	395–460	57–67	≥ 290	≥ 19	
H03*	440–510	64–74	≥ 300	≥ 8	
H04*	490–560	71–81	≥ 440	≥ 6	
H06*	570–635	83–92	≥ 525	≥ 2	
H08*	625–690	91–100	≥ 550	≥ 1	
H10*	655–715	95–104	≥ 570	≥ 1	

*According to ASTM B888

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
R270	0	0	0	0
R350	0	0	0	0
R410	0	0	0	0
R480	0	0	0	0
R550	0	1	1	2
R630	0.5	1.5	1.5	3.5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 26000

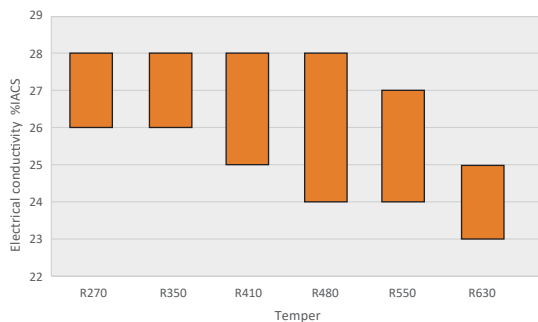
Packaging

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.

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

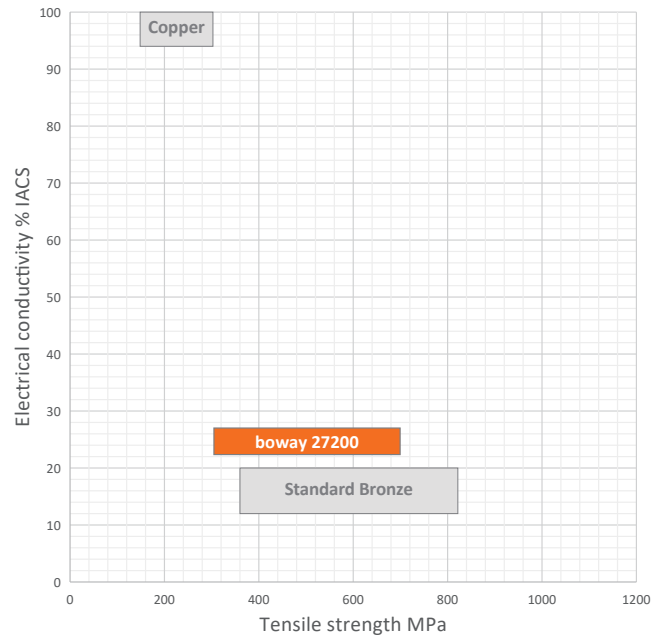
Application Target

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 springs and connectors, electrical engineering parts, deep-drawn parts and metal products.

Physical Properties*

Density	8.44	g/cm ³
Electrical conductivity@20°C	23	% IACS
	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

boway 27200

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.

boway 27200

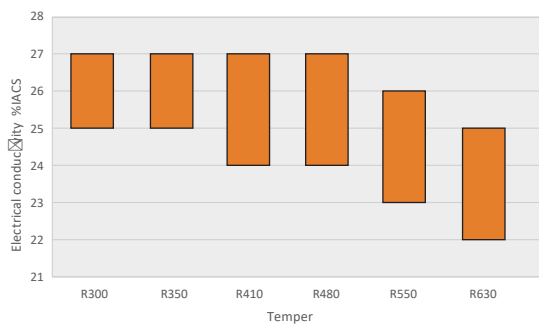
Packaging

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.

boway 14415

Material Designation

Boway Designation	boway 14415
UNS	C14415
EN	CuSn0.15
JIS	-
GB(China)	TSn0.12

Chemical Composition*

Sn	0.15	%
Cu	Rem.	

* Nominal composition

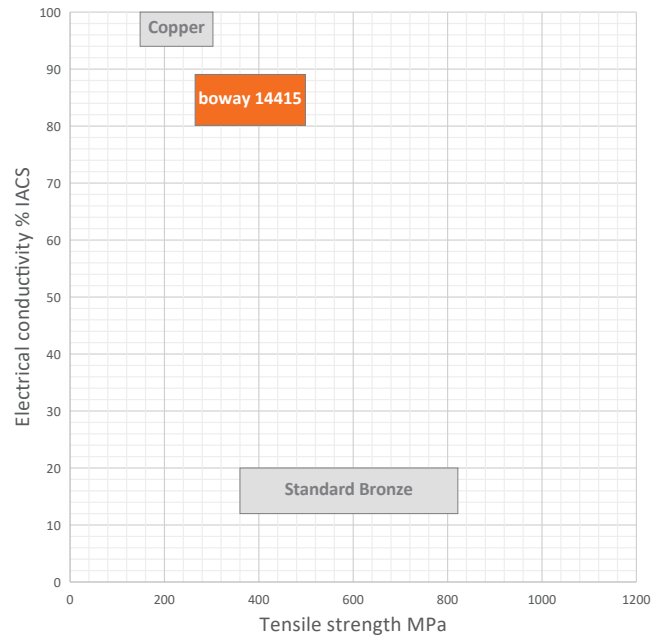
Application Target

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

Ideal for power connectors

Fabrication Properties

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



Characteristics

High conductivity and medium strength, excellent bending performance, formability and good corrosion resistance. Standard alloy for tabs and pins.

Physical Properties*

Density	8.93	g/cm ³
Electrical conductivity@20°C	83	% IACS
	48	MS/m
Thermal conductivity@20°C	330	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.3	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 14415

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV	A50 %
R300	300–370	44–54	≥ 250	85–110	≥ 4
R360	360–430	52–62	≥ 300	110–130	≥ 3
R420	420–490	61–71	≥ 350	120–150	≥ 2
R460	≥ 460	≥ 67	≥ 410	≥ 130	-

*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
R300	0	0	0.5	0.5
R360	0	0	1	1
R420	1	1	2	2.5
R460	1.5	2	2.5	4

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

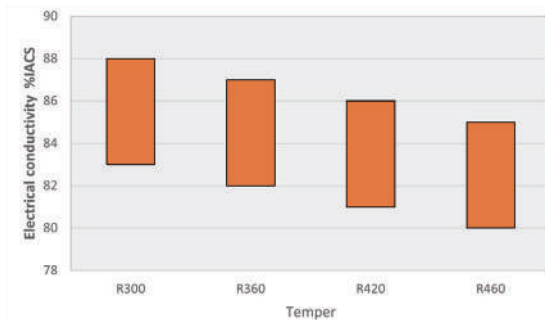
Packaging

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.

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Rev.2024,06

boway 51000

Material Designation

Boway Designation	boway 51000
UNS	C51000
EN	CuSn5
JIS	C5102
GB(China)	QSn5-0.2

Chemical Composition*

Sn	5	%
Cu	Rem.	

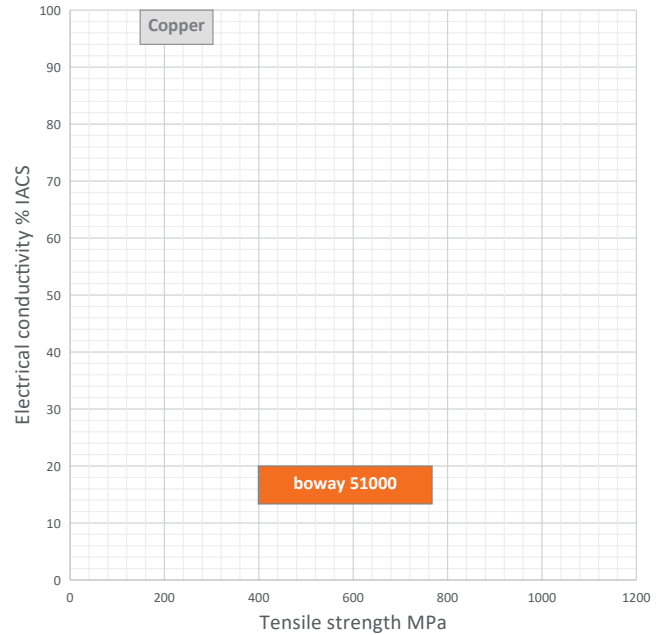
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Excellent formability and high strength combined with low sensitivity to stress corrosion cracking.

Very good corrosion resistance as well as excellent solderability.

Physical Properties*

Density	8.85	g/cm ³
Electrical conductivity@20°C	17	% IACS
Thermal conductivity@20°C	10	MS/m
Specific heat capacity	96	W/(m·K)
Modulus of elasticity	0.38	J/(g·K)
Poisson's ratio	120	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 51000

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength		Elongation	Hardness
	MPa	ksi	MPa		A50 %	HV
R400 (1/2H)	400–505	58–73	≥ 325		≥ 10	<u>125–170</u>
R470 (3/4H)	470–545	68–79	≥ 420		≥ 10	<u>145–185</u>
R525 (H)	525–625	76–91	≥ 510		≥ 9	<u>170–210</u>
R605 (EH)	605–710	88–103	≥ 585		≥ 2	<u>200–240</u>
R655 (SH)	655–760	95–110	≥ 635		≥ 1	<u>210–250</u>
R690 (ESH)	690–785	100–114	≥ 675		≥ 1	<u>220–270</u>
Annealed*	315–385	46–56	≥ 130		≥ 48	
H01*	340–420	49–61	≥ 150		≥ 32	
H02*	400–505	58–73	≥ 325		≥ 10	
H03*	470–545	68–79	≥ 420		≥ 10	
H04*	525–625	76–91	≥ 510		≥ 9	
H06*	605–710	88–103	≥ 585		≥ 2	
H08*	655–760	95–110	≥ 635		≥ 1	
H10*	690–785	100–114	≥ 675		≥ 1	

*According to ASTM B888

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
R400	0	0.5	0	1.5
R470	0	1	0.5	1
R525	0	1.5	1	2
R605	1	2	1.5	3
R655	1	2.5	2	4
R690	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 51000

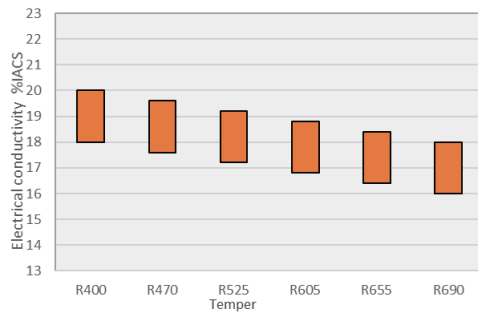
Packaging

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 HDT 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.

boway 51100

Material Designation

Boway Designation	boway 51100
UNS	C51100
EN	CuSn4
JIS	C5111
GB(China)	QSn4-0.3

Chemical Composition*

Sn	4	%
Cu	Rem.	

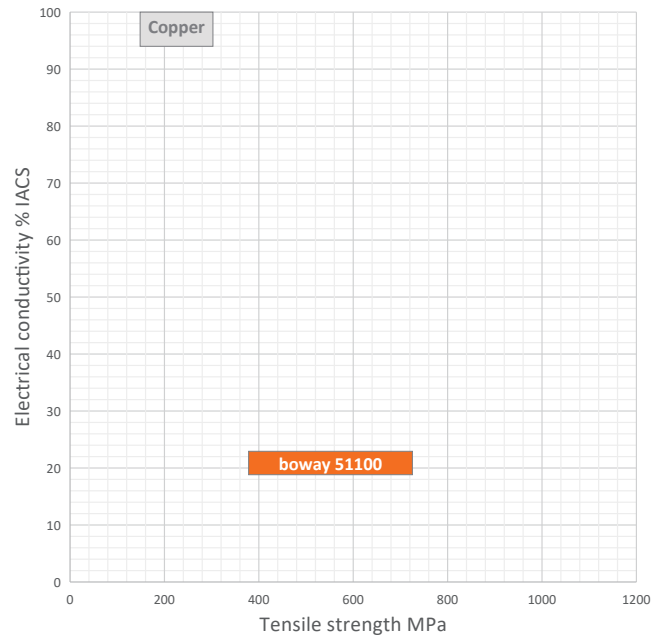
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Excellent formability and medium/high strength combined with low sensitivity to stress corrosion cracking.
Very good corrosion resistance as well as excellent solderability.

Physical Properties*

Density	8.8	g/cm ³
Electrical	19	% IACS
conductivity@20°C	11	MS/m
Thermal conductivity@20°C	100	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.8	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 51100

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi	MPa	A50 %	HV
R380(1/2H)	380–485	55–70	≥ 290	≥ 12	<u>110–160</u>
R460(3/4H)	460–565	67–82	≥ 440	≥ 6	<u>150–190</u>
R495(H)	495–600	72–87	≥ 485	≥ 2	<u>160–200</u>
R580(EH)	580–685	84–99	≥ 560	≥ 1	<u>190–230</u>
R625(SH)	625–725	91–105	≥ 605	≥ 1	<u>200–240</u>
Annealed*	315–370	46–54	≥ 110	≥ 45	
H01*	315–400	46–58	≥ 140	≥ 25	
H02*	380–485	55–70	≥ 290	≥ 12	
H03*	460–565	67–82	≥ 440	≥ 6	
H04*	495–600	72–87	≥ 485	≥ 2	
H06*	580–685	84–99	≥ 560	≥ 1	
H08*	625–725	91–105	≥ 605	≥ 1	
H10*	660–750	96–109	≥ 635	≥ 1	

*According to ASTM B888

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
R380	0	0	0	0
R460	0	0	0	1
R495	0	0.5	0	1.5
R580	0.5	1.5	1	2
R625	1.5	2.5	2	3.5

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 51100

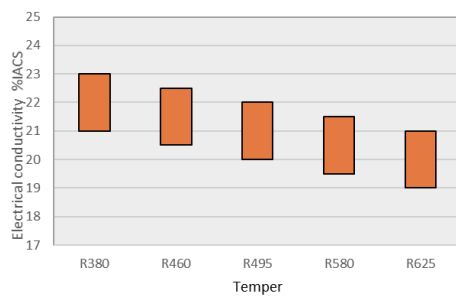
Packaging

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.

boway 51100 SG

Material Designation

Boway Designation	boway 51100 SG
UNS	C51100
EN	CuSn4
JIS	C5111
GB(China)	QSn4-0.3

Chemical Composition*

Sn	4	%
Cu	Rem.	

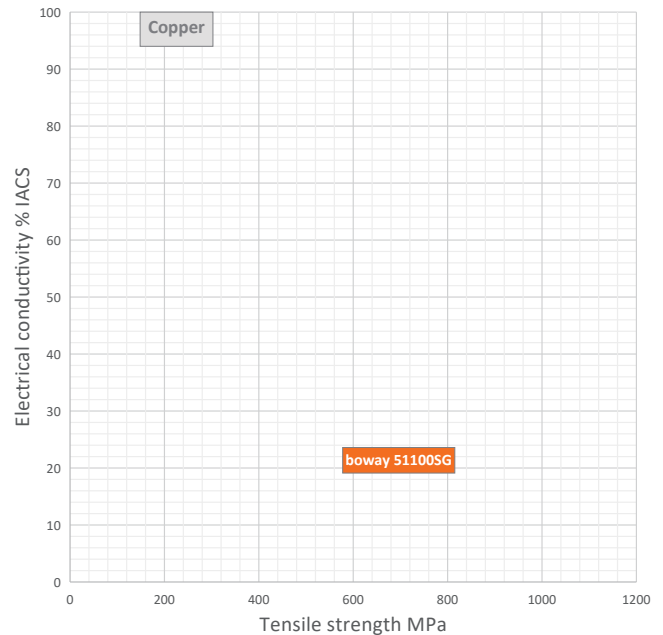
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Very fine microstructure provides excellent bendability and fatigue performance combined with high strength. Replacement for CuSn6. Good corrosion resistance and low sensitive to stress corrosion cracking as well as excellent solderability.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	19	% IACS
conductivity@20°C	11	MS/m
Thermal conductivity@20°C	100	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.8	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20–300°C

boway 51100 SG

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R580	580–680	84–98	≥ 530	170–230	≥ 13
R660	660–760	95–110	≥ 630	180–240	≥ 7
R700	700–800	101–116	≥ 690	190–250	≥ 3

*For reference only

Bendability Bending thickness ≤ 0.4 mm; Bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R580	0	0	0	1
R660	0.5	2.5	1.5	3
R700	1	4	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

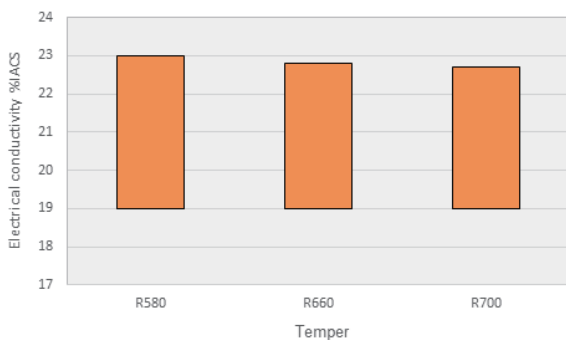
Packaging

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 0.08–0.4 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 1/2 of tensile strength.

boway 51900

Material Designation

Boway Designation	boway 51900
UNS	C51900
EN	CuSn6
JIS	C5191
GB(China)	QSn6-0.2

Chemical Composition*

Sn	6	%
Cu	Rem.	

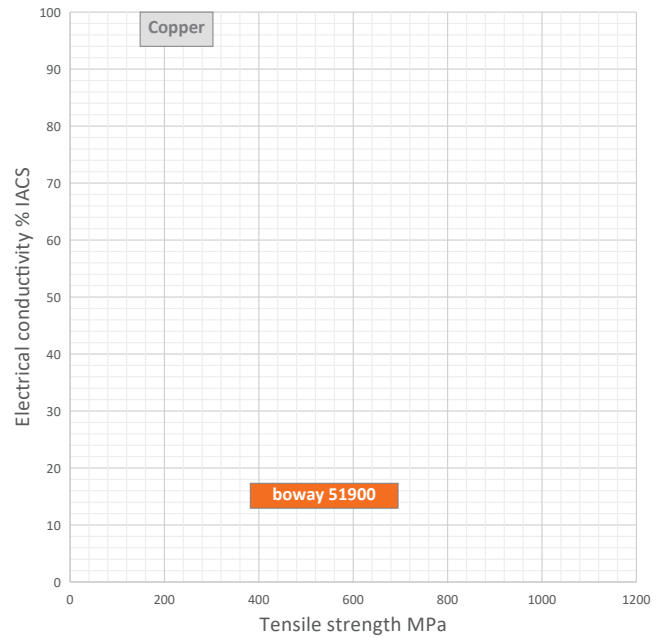
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Standard Bronze. Excellent formability and high strength combined with low sensitive to stress corrosion cracking. Very good corrosion resistance as well as excellent solderability. Low hot cracking tendency with resistance welding.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	15	% IACS
conductivity@20°C	9	MS/m
Thermal conductivity@20°C	75	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	18.5	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 51900

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi			
R390 (1/4H)	390–510	57–74	≥ 320	≥ 35	<u>100–160</u>
R490 (1/2H)	490–620	72–90	≥ 420	≥ 20	<u>150–205</u>
R560	560–650	81–94	≥ 500	≥ 8	<u>180–210</u>
R590 (H)	590–685	86–100	≥ 510	≥ 8	<u>180–230</u>
R635 (EH)	635–720	93–105	≥ 570	≥ 5	<u>200–240</u>
R690 (SH)	≥ 690	≥ 100	≥ 620	-	<u>≥ 210</u>
Annealed*	330–435	48–63			
H02*	440–545	64–79			
H04*	550–660	80–96			

*According to ASTM B103

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
R390	0	0.5	0.5	1.5
R490	0.5	1	1	2
R590	1	1.5	2	3
R635	2	4	3	8
R690	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 51900

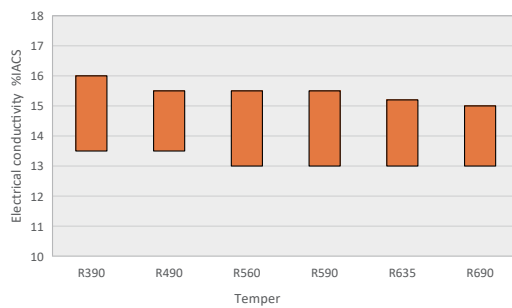
Packaging

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.

boway 51900 SG

Material Designation

Boway Designation	boway 51900 SG
UNS	C51900
EN	CuSn6
JIS	C5191
GB(China)	QSn6-0.2

Chemical Composition*

Sn	6	%
Cu	Rem.	

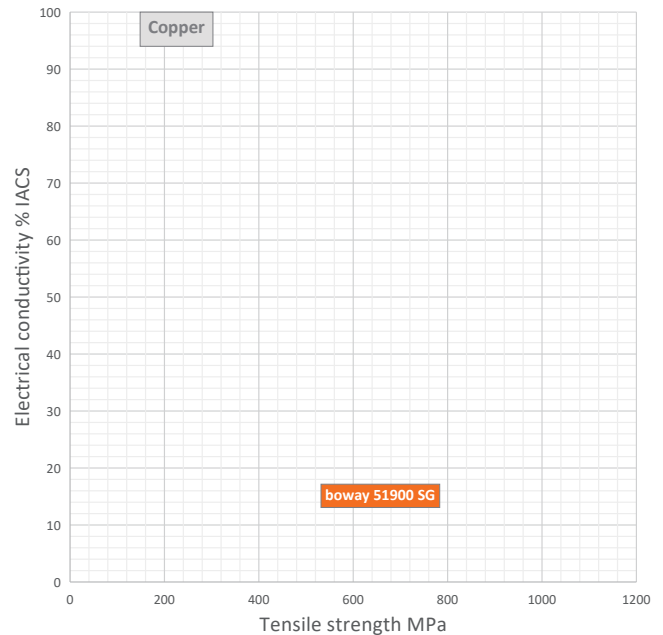
* Nominal composition

Application Target

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

Fabrication Properties

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



Characteristics

Very fine microstructure provides excellent bendability and fatigue performance combined with high strength. Good corrosion resistance and low sensitivity against stress corrosion cracking. Excellent solderability. Low hot cracking tendency with resistance welding.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	16	% IACS
conductivity@20°C	9	MS/m
Thermal conductivity@20°C	75	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.34	
Coefficient of thermal expansion**	18.5	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 51900 SG

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R550	550–650	79–94	≥ 500	170–230	≥ 16
R670	670–780	97–113	≥ 660	200–260	≥ 7

*For reference only

Bendability Bending thickness ≤ 0.4 mm; Bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R550	0	0	0	1
R670	1	2	1.5	3

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

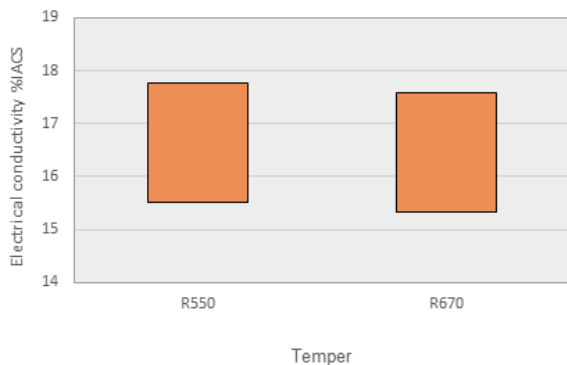
Packaging

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 0.06–0.4 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 1/2 of tensile strength.

boway 52100

Material Designation

Boway Designation	boway 52100
UNS	C52100
EN	CuSn8
JIS	C5210
GB(China)	QSn8-0.3

Chemical Composition*

Sn	8	%
Cu	Rem.	

* Nominal composition

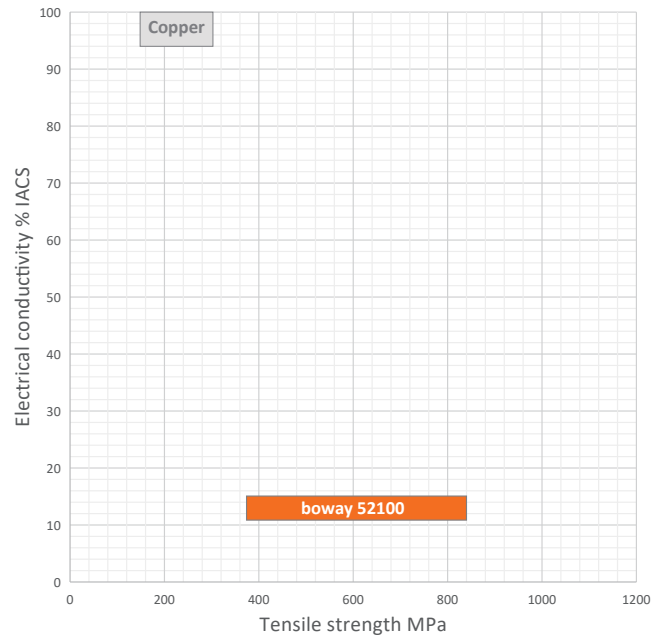
Application Target

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

Ideal for BTB connector, audio jack and other miniaturized connectors

Fabrication Properties

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



Characteristics

Excellent formability and high strength combined with low sensitive to stress corrosion cracking.
Very good corrosion resistance as well as excellent solderability.
Low hot cracking tendency with resistance welding.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	12	% IACS
conductivity@20°C	7	MS/m
Thermal conductivity@20°C	67	W/(m·K)
Specific heat capacity	0.377	J/(g·K)
Modulus of elasticity	115	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	18.2	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 52100

Mechanical Properties (Values Underlined Are For Reference Only)

Temper	Tensile strength		Yield strength	Elongation	Hardness
	MPa	ksi			
R475 (1/2H)	475–580	69–84	≥ 350	≥ 25	<u>150–205</u>
R550 (3/4H)	550–635	80–92	≥ 485	≥ 18	<u>170–210</u>
R585 (H)	585–690	85–100	≥ 540	≥ 12	<u>185–235</u>
R670 (EH)	670–770	97–112	≥ 635	≥ 10	<u>210–260</u>
R725 (SH)	725–820	105–119	≥ 690	≥ 3	<u>230–270</u>
R760 (ESH)	760–840	110–122	≥ 725	≥ 2	<u>245–285</u>
Annealed*	385–450	56–65	≥ 160	≥ 60	
H01*	435–515	63–75	≥ 240	≥ 40	
H02*	475–580	69–84	≥ 350	≥ 25	
H03*	550–635	80–92	≥ 485	≥ 18	
H04*	585–690	85–100	≥ 540	≥ 12	
H06*	670–770	97–112	≥ 635	≥ 10	
H08*	725–820	105–119	≥ 690	≥ 3	
H10*	760–840	110–122	≥ 725	≥ 2	

*According to ASTM B888

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
R475	0	0	0	0
R550	0	0.5	0.5	1
R585	0	1	1	2
R670	1.5	2	2	4
R725	2.5	4	5	7
R760	4	6	6	8

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

boway 52100

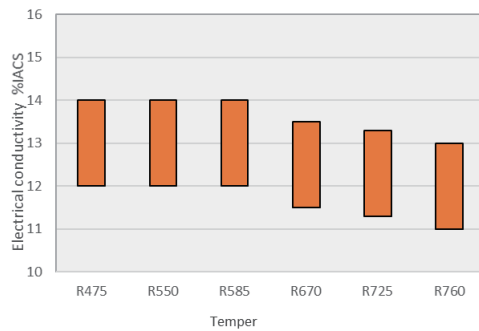
Packaging

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.

boway 52100 SG

Material Designation

Boway Designation	boway 52100 SG
UNS	C52100
EN	CuSn8
JIS	C5210
GB(China)	QSn8-0.3

Chemical Composition*

Sn	8	%
Cu	Rem.	

* Nominal composition

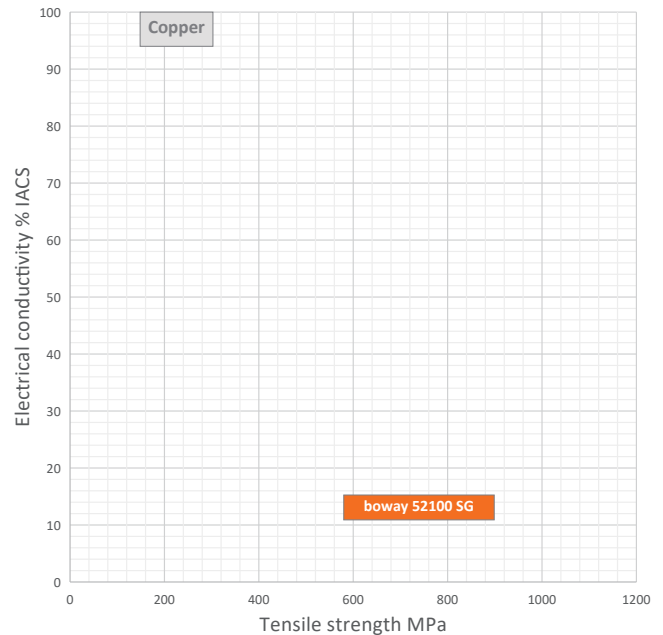
Application Target

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

Ideal for BTB connector, audio jack and other miniaturized connectors

Fabrication Properties

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



Characteristics

Higher Strength Bronze. Very fine microstructure provides excellent bendability and fatigue performance combined with high strength. Good corrosion resistance and low sensitive to stress corrosion cracking. Excellent solderability.

Physical Properties*

Density	8.8	g/cm ³
Electrical conductivity@20°C	13	% IACS
Thermal conductivity@20°C	7.5	MS/m
Specific heat capacity	67	W/(m·K)
Modulus of elasticity	0.377	J/(g·K)
Poisson's ratio	115	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 52100 SG

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	MPa	HV0.2	A50 %
R590	590–705	85–102	≥ 540	185–235	≥ 20
R685	685–785	99–113	≥ 650	210–260	≥ 15
R735	735–835	106–121	≥ 700	230–270	≥ 9
R800	800–900	116–130	≥ 775	250–290	≥ 5

*For reference only

Bendability Bending thickness ≤ 0.4 mm; Bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R590	0	0	0	1
R685	0	0.5	0.5	2
R735	0	2	1	3.5
R800	1	4	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

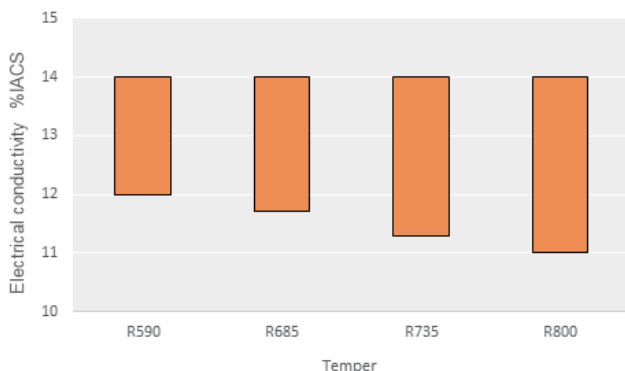
Packaging

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 0.06–0.4 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 1/2 of tensile strength.

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Rev.2024,06

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

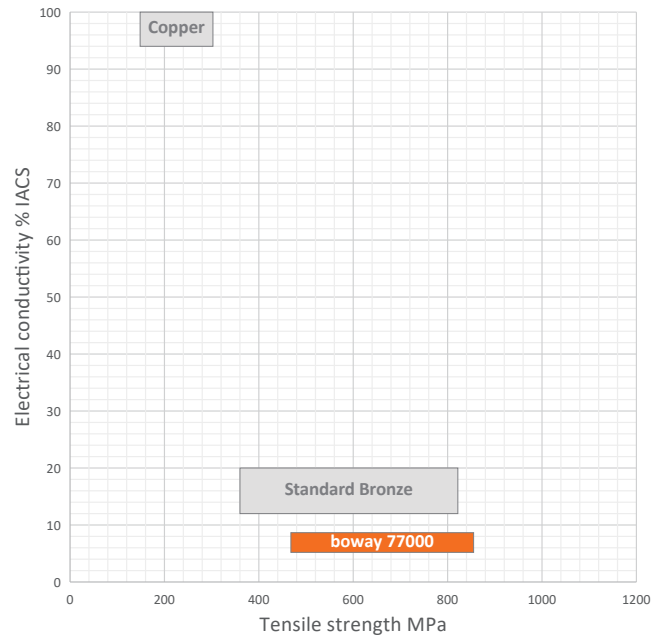
Application Target

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	7	% IACS
Thermal conductivity@20°C	4	MS/m
Specific heat capacity	32	W/(m·K)
Modulus of elasticity	0.34	J/(g·K)
Poisson's ratio	135	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 77000

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		≥ 20	<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.

boway 77000

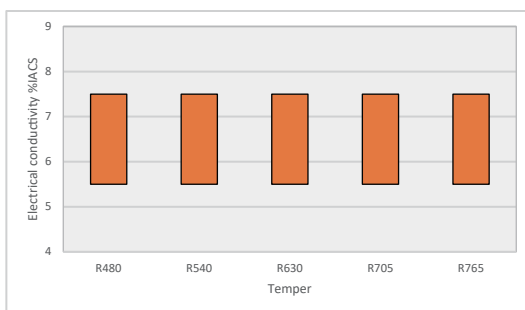
Packaging

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.

boway 75200

Material Designation

Boway Designation	boway 75200
UNS	C75200
EN	CuNi18Zn18
JIS	C7521
GB(China)	BZn18-18

Chemical Composition*

Ni	18	%
Cu	64	%
Zn	Rem.	

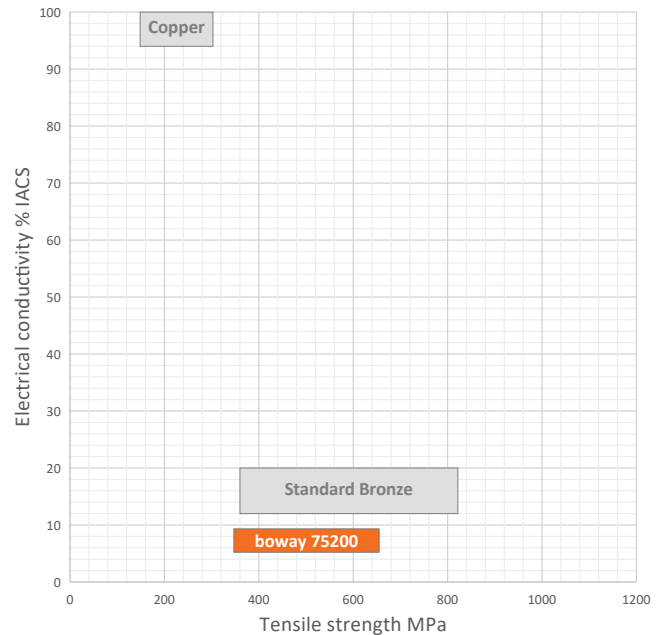
Application Target

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

Ideal for EMI shielding, gasket 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 combined with very good corrosion resistance 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	7	% IACS
Thermal conductivity@20°C	4	MS/m
Specific heat capacity	32	W/(m·K)
Modulus of elasticity	0.34	J/(g·K)
Poisson's ratio	135	GPa
Coefficient of thermal expansion**	0.33	10 ⁻⁶ /K

* Typical values at room temperature for reference

** Average value between 20-300°C

boway 75200

Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R375(O)	≥ 375	≥ 55	≥ 180	90–120	≥ 20
R440(H/2)	440–570	64–83	≥ 250	120–180	-
R540(H)	540–640	79–93	≥ 420	150–210	-
R610(EH)	≥ 610	≥ 89	≥ 520	≥ 185	-

*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
R375(O)	0	0	0	0
R440(H/2)	0	1	0	2
R540(H)	1	3	2	4
R610(EH)	-	-	-	-

90° bend test according to EN ISO7438, 180° bend test according to ASTM B820, shown values might show orange-peel, however no crack.

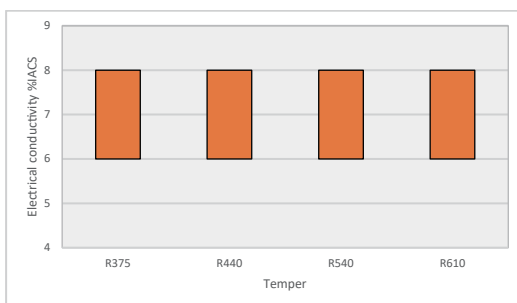
Packaging

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.

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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