



# PRODUCT LIST

Alloy System	Boway designation	Former designation	UNS	EN	JIS	GB
CuCr/Zr	boway18150	C18150	C18150	CuCr1Zr	—	TCr1-0.15
	boway18160	C18160	C18160	CuCrZr	—	—
CuNiP	boway19000	PW49700	C19000	CuNi1P	—	—
CuFe	boway19210	C19210	C19210	CuFe0.1P	C1921	TFe0.1
	boway19400	C19400	C19400	CuFe2P	C1940	TFe2.5
CuNiSi	boway19005	C19005	C19005	—	—	—
	boway19010	C19010	C19010	CuNiSi	—	—
	boway70260	C70260	C70260	CuNi2Si	C7026	QSi0.6-2.1
	boway70250	C7025	C70250	CuNi3SiMg	C7025	QSi1-3
	boway70250HS	C7025	C70250	CuNi4SiMg	C7025	QSi1-3
CuNiCoSi	boway70318	PW47100	C70318	CuNi3CoSi	—	—
CuZnSnNiSi	boway42300	PW33520	C42300	CuZn10Sn1NiSi	—	—
Bronze CuSn /	boway14415	C14415	C14415	CuSn0.15	—	—
	boway51000	C51000	C51000	CuSn5	C5102	QSn5-0.2
	boway51100	C51100	C51100	CuSn4	C5111	QSn4-0.3
	boway51900	C5191	C51900	CuSn6	C5191	QSn6.5-0.1
	boway52100	C5210	C52100	CuSn8	C5210	QSn8-0.3
	boway52400	C5240	C52400	CuSn10	C5241	—
	boway 51100 SG	C51100	C51100	CuSn4	C5111	QSn4-0.3
	boway 51900 SG	C51900	C51900	CuSn6	C5191	QSn6.5-0.1
	boway 52100 SG	C52100	C52100	CuSn8	C5210	QSn8-0.3
CuNiZn	boway77000	C7701	C77000	CuNi18Zn27	C7701	BZn18-26
	boway75200	C7521	C75200	CuNi18Zn18	C7521	BZn18-18
	boway 76400	C76400	C76400	CuNi18Zn20	—	BZn18-20

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## boway 18150

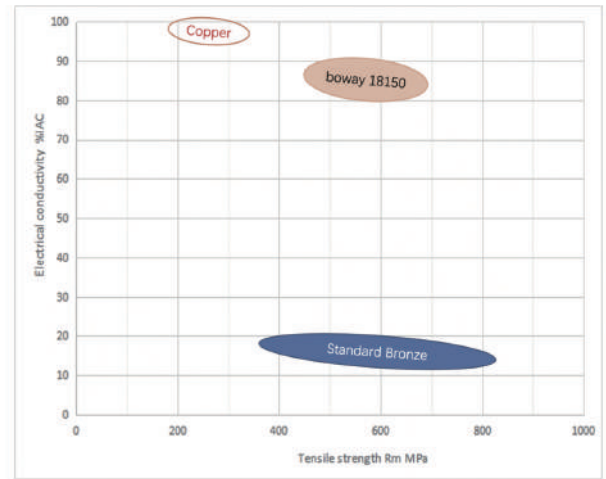
### Material Designation

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

### Characteristics

High electrical conductivity and thermal conductivity combined with medium strength.

Excellent stress relaxation and softening resistance.

### Fabrication Properties

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

### Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity @ 20° C	85	% IACS
conductivity @ 20° C	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 <sup>-6</sup> /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			
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 mm)	0.5	0.5	1	1
R540 (≤ 0.5 mm)	1	1	2	2.5
R600 (≤ 0.5 mm)	1.5	2.5	--	--

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

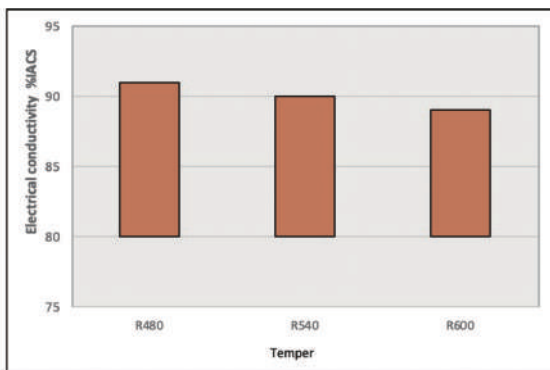
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights up to 500 kg.  
Multiple-coil up to 3 tons.

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
Strip width from 8.5 mm.  
Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.



## boway 18160

### Material Designation

Boway designation	boway 18160
UNS	C18160
EN	CuCr1Zr
JIS	--
GB(China)	--

### Chemical Composition\*

Cr	0.7	%
Zr	0.1	%
Cu	Rem.	

\* Nominal composition

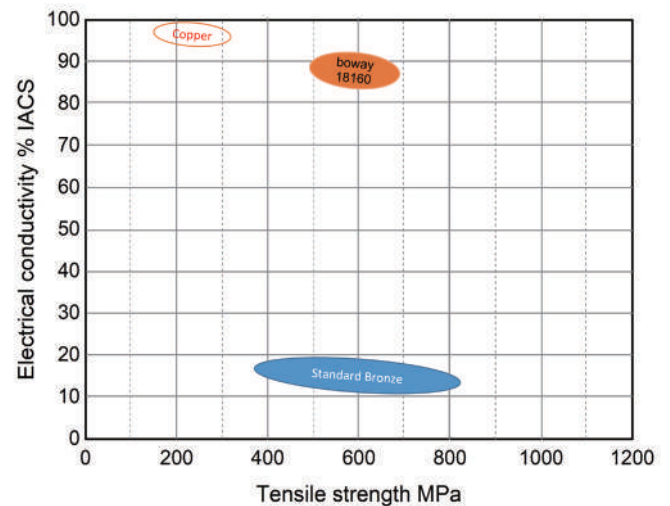
### Application Target

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

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

### Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	88	% IACS
	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 <sup>-6</sup> /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			
R480	480 - 570	70 - 83	≥ 450	150 - 190	≥ 8
R540	540 - 630	79 - 82	≥ 500	160 - 200	≥ 4
R600	600 - 690	87 - 101	≥ 500	170 - 200	≥ 2

\*For reference only

### Bendability Thickness range: ≤ 0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R480 (≤0.5mm)	0.5	0.5	1	1
R540 (≤0.5mm)	1	1	2	2.5
R600 (≤0.5mm)	1.5	2.5	--	--

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

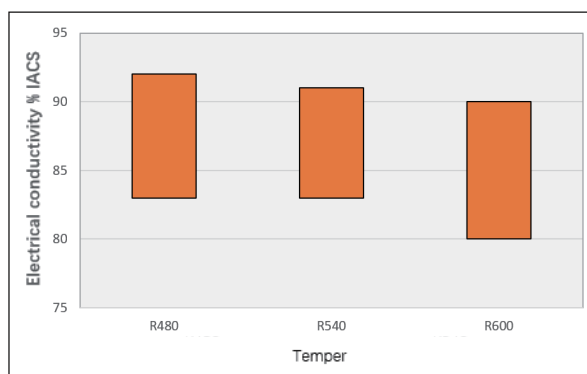
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights up to 500 kg.  
Multiple-coil up to 3 tons.

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
Strip width from 8.5 mm.  
Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.



## boway 19000

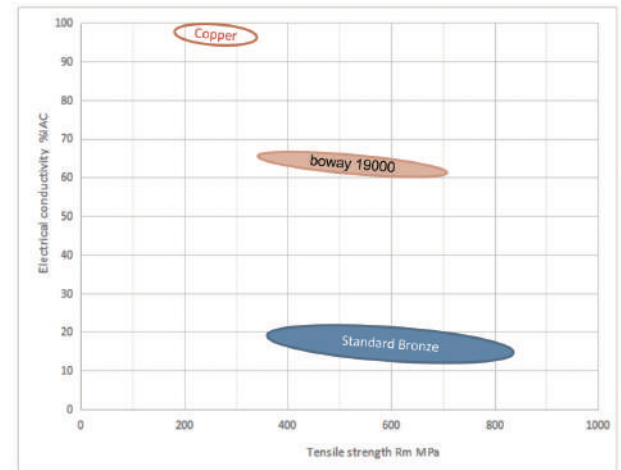
### Material Designation

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	Not qualified
Semiconductor	Not qualified

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

### Characteristics

High conductivity combined with medium strength and good corrosion resistance;  
Excellent stress relaxation resistance and bending performance.

### Fabrication Properties

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

### Physical Properties\*

Density	8.88	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	64	% IACS
	37	MS/m
Thermal conductivity @20°C	253	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	130	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.6	10 <sup>-6</sup> /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			
R350(TB00)	≤ 350	≤ 51	≤ 200	≤ 100	≥ 20
R530(TM00)	530 - 620	77 - 90	500 - 600	165 - 200	≥ 8
R580(TM02)	580 - 650	85 - 95	560 - 640	175 - 210	≥ 4
R620(TM04)	620 - 720	95 - 105	600 - 710	180 - 220	≥ 2

\*For reference only

### Bendability Thickness range: ≤ 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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange- peel, however no crack.

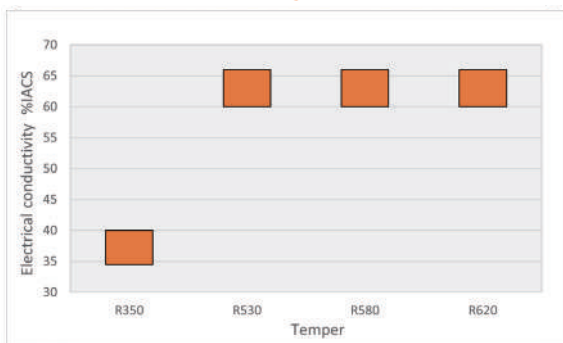
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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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

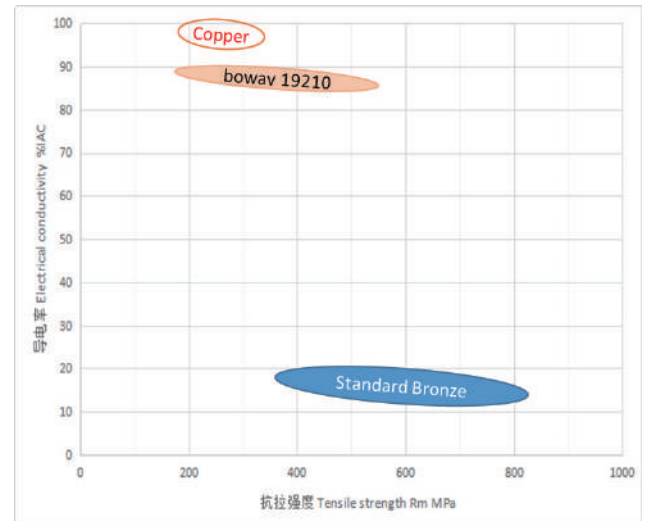
### Application Target

Signal Connector	Suitable
Power Connector	Suitable
Miniaturized Connector	Not recommended
Switch / Relay	Suitable
Semiconductor	Good

Ideal for semiconductor

### Fabrication Properties

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



### Characteristics

Excellent electrical conductivity and thermal conductivity combined with good softening resistance. It has medium strength and excellent bending formability as well as good corrosion resistance and good plating property. No sensitivity to stress corrosion cracking.

### Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	89	% IACS
	51	MS/m
Thermal conductivity @20°C	350	W/(m·K)
Specific heat capacity	0.385	J/(g·K)
Modulus of elasticity	125	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 19210

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R360(3/4H)	360 - 425	53 - 62	≥ 345	115 - 135	≥ 4
R385(H)	385 - 455	56 - 66	≥ 355	120 - 140	≥ 3
R415(EH)	415 - 480	60 - 70	≥ 400	125 - 145	≥ 2
R440(SH)	440 - 510	64 - 74	≥ 425	130 - 150	≥ 1

\*For reference only

### Bendability Thickness range: ≤ 0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R360(3/4H)	0.5	1	1	1.5
R385(H)	1	1	1.5	1.5
R415(EH)	1.5	1.5	1.5	2
R440(SH)	1.5	2	2	2

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

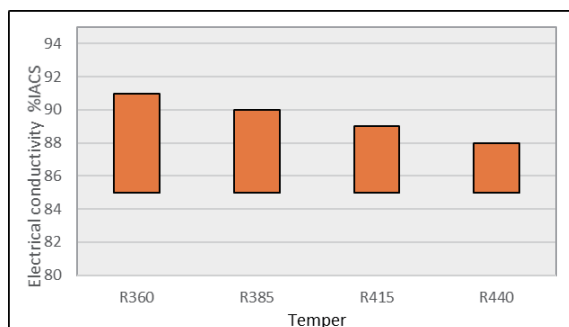
### Packaging

Standard coils with outside 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 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## 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

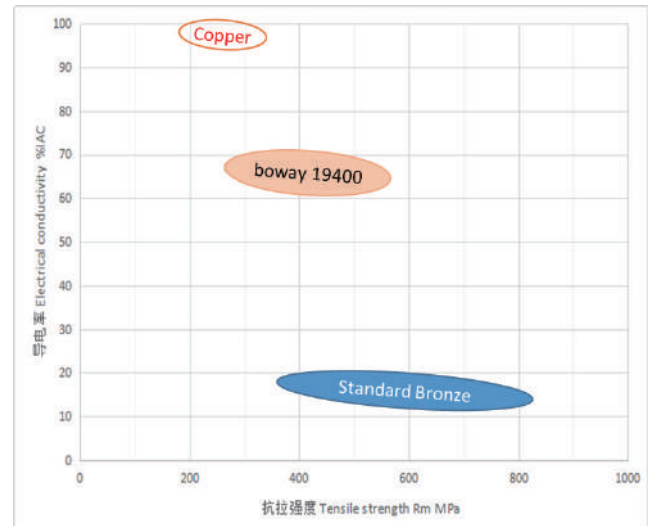
### Application Target

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



### 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 <sup>3</sup>
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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300° C



## boway 19400

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R365(1/2H)	365 - 435	53 - 63	≥ 250	110 - 140	≥ 6
R415(H)	415 - 485	60 - 70	≥ 365	125 - 145	≥ 3
R460(EH)	460 - 505	67 - 73	≥ 440	130 - 150	≥ 2
R480(SH)	485 - 525	70 - 36	≥ 460	135 - 155	≥ 2
R530(XSH)	≥ 530	≥ 77	≥ 500	≥ 150	≥ 1
R550(SSH)	≥ 550	≥ 80	≥ 520	≥ 155	≥ 1

\*For reference only

### Bendability Thickness range: <0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R365(1/2H)	0	0	1	1
R415(H)	0.5	0.5	1.5	1.5
R460(EH)	0.5	1	1.5	1.5
R480(SH)	0.8	1.2	2.0	2.0
R530(XSH)	1.5	2	-	-
R550(SSH)	-	-	-	-

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

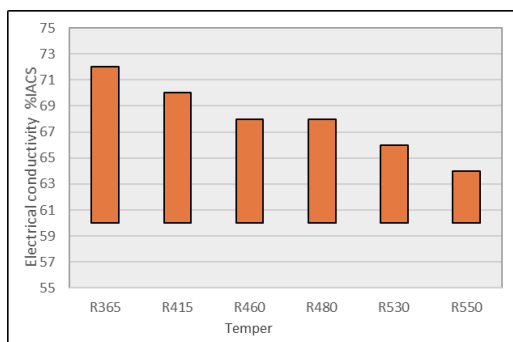
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## 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	

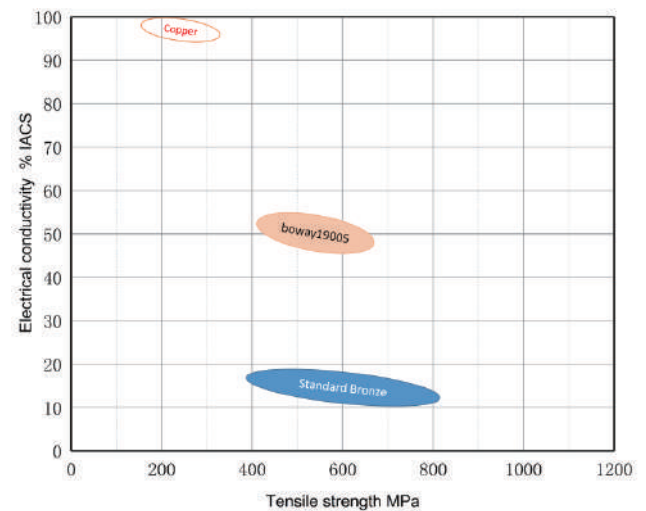
\* Nominal composition

### 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

Medium electrical conductivity and medium strength combined with good stress-relaxation resistance, good corrosion resistance softening resistance and bending performances.

### Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity @ 20° C	47	% IACS
conductivity @ 20° C	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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* Average value between 20-300° C

## boway 19005

### Mechanical Properties

Temper	Tensile strength		Yield strength		Elongation
	MPa	ksi	MPa	HV	
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
R580	1	1	2	2

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

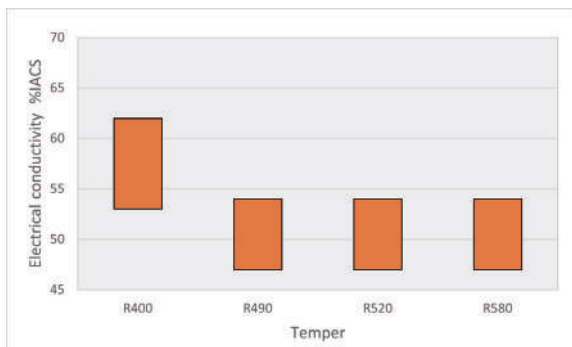
### Packaging

Standard coils with outside diameters up to 1200 mm  
 Traverse-wound coils with drum weights up to 500 kg  
 Multiple-coil up to 3 tons

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request  
 Strip width from 8.5 mm  
 Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

## boway 19010

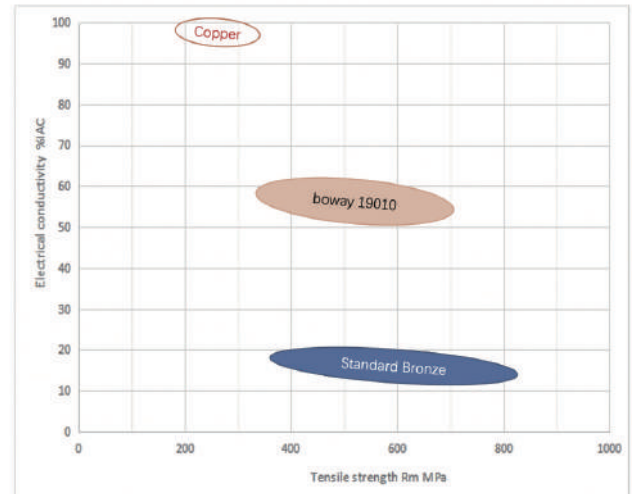
### Material Designation

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

### Characteristics

Medium electrical conductivity and medium strength combined with good stress-relaxation resistance, good corrosion resistance softening resistance and bending performances. For Tin plated strip used 120 °C maximum.

### Fabrication Properties

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

### Physical Properties\*

Density	8.9	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	57	% IACS
	33	MS/m
Thermal conductivity @20°C	260	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**	16.8	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300 °C



## boway 19010

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R490(TM04)	490 - 560	71 - 81	≥ 410	145 - 175	≥ 10
R520(TM06)	520 - 590	75 - 86	≥ 460	150 - 180	≥ 8
R580(TM08)	580 - 655	84 - 95	≥ 520	180 - 220	≥ 6

\*For reference only

### Bendability Thickness range: ≤ 0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R490(TM04)	0.8	1	1.5	2
R520(TM06)	1	2	1.5	2
R580(TM08)	1	1	2	3

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

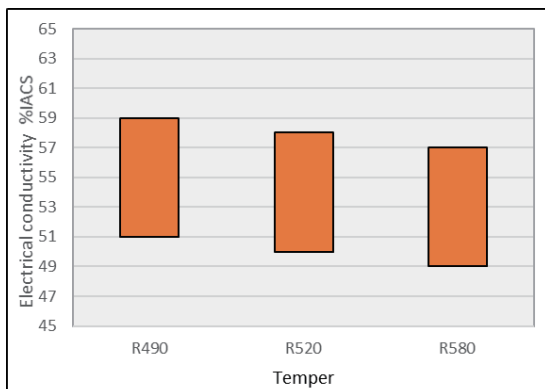
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 70260

### Material Designation

Boway designation	boway 70260
UNS	C70260
EN	CuNi2Si
JIS	--
GB(China)	QSi0.6-2

### Chemical Composition\*

Ni	2	%
Si	0.5	%
Cu	Rem.	

\* Nominal composition

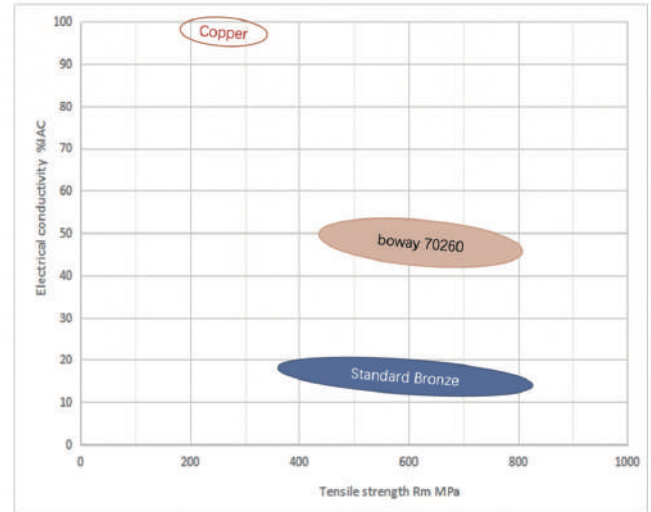
### Application Target

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 <sup>3</sup>
Electrical conductivity @ 20°C	49	% IACS
	28	MS/m
Thermal conductivity @20°C	190	W/(m·K)
Specific heat capacity	0.399	J/(g·K)
Modulus of elasticity	132	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17	10 <sup>-6</sup> /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			
R585(TM00)	585 – 655	85 – 95	≥ 450	160 – 210	10
R620(TM0S)	620 – 725	90 – 105	≥ 520	180 – 215	6
R655(TM02)	675 – 745	98 – 108	620 – 725	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 Thickness range: ≤ 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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange- peel, however no crack.

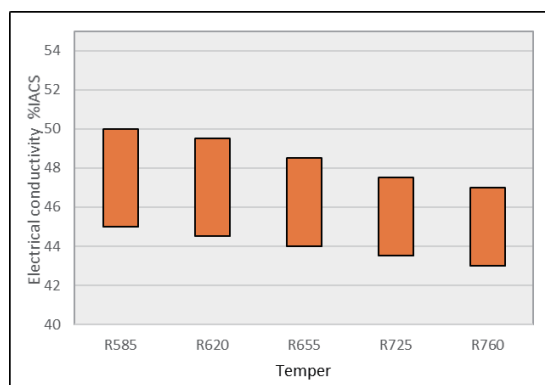
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 70250

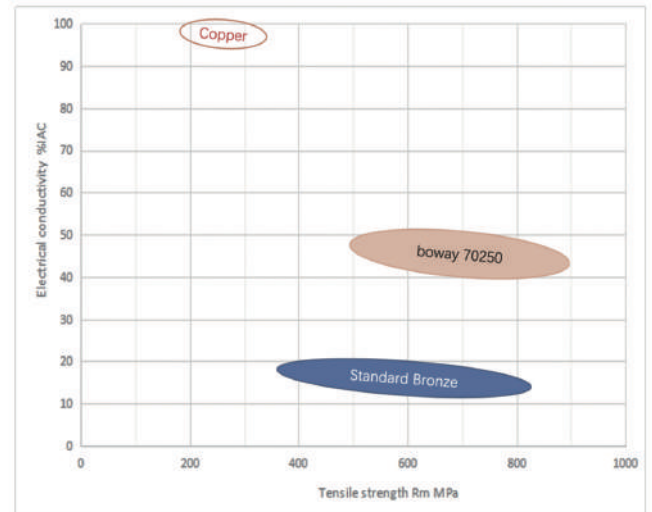
### Material Designation

Boway designation	boway 70250
UNS	C70250
EN	CuNi3SiMg
JIS	C7025
GB(China)	--

### 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.

### Characteristics

High strength combined with good electrical conductivity.  
Very good stress relaxation resistance, good softening resistance as well as good bending formability.  
Standard HPA for Automotive and Semiconductor.

### Fabrication Properties

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

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	45	% IACS
	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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 70250

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R620(TM00)	620 – 760	90 - 110	≥ 550	180 - 220	≥ 14
R655(TM02)	655 – 825	95 – 120	≥ 585	190 - 240	≥ 7
R690(TM03)	690 – 860	100 – 125	≥ 655	210 - 250	≥ 5
R760(TM04)	760 - 850	110 - 123	≥ 720	220 - 270	≥ 2
R800(TM06)	800 - 880	116 - 128	≥ 780	250 - 290	≥ 1
R607(TR02)	607 - 726	88 - 106	≥ 550	180 - 220	≥ 6

\*For reference only

### Bendability Thickness range: ≤ 0.5 mm , bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R620(TM00)	0	0	0.5	0.5
R655(TM02)	0.5	0.5	1.5	2
R690(TM03)	1	1	2	2
R760(TM04)	1.5	1.5	2.5	2.5
R800(TM06)	2	3	2	3.5

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

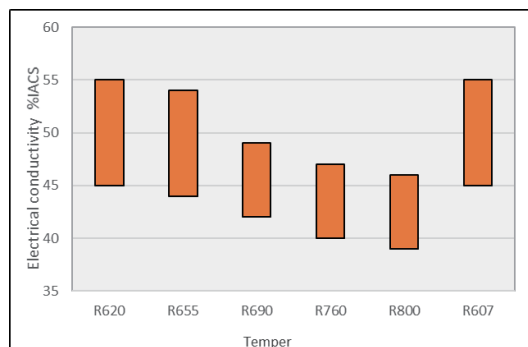
### Packaging

Standard coils with outside diameters up to 1200 mm,  
 Traverse-wound coils with drum weights 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## 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

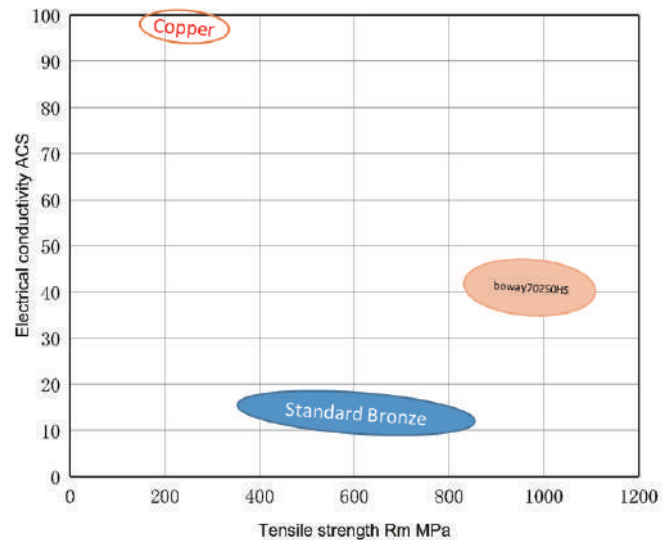
### Application Target

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 <sup>3</sup>
Electrical conductivity @ 20°C	42	% IACS
	24	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 <sup>-6</sup> /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			
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 Thickness range: ≤ 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)	--	--	--	--
R1000(TM12)	--	--	--	--

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

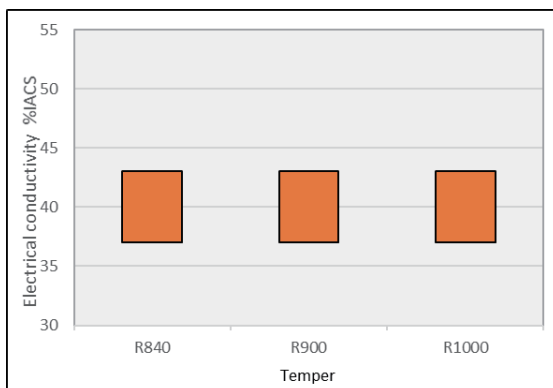
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.



## boway 70318

### Material Designation

Boway designation	boway 70318
UNS	C70138
EN	CuNi3CoSi
JIS	--
GB(China)	--

### Chemical Composition\*

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

\*Nominal composition

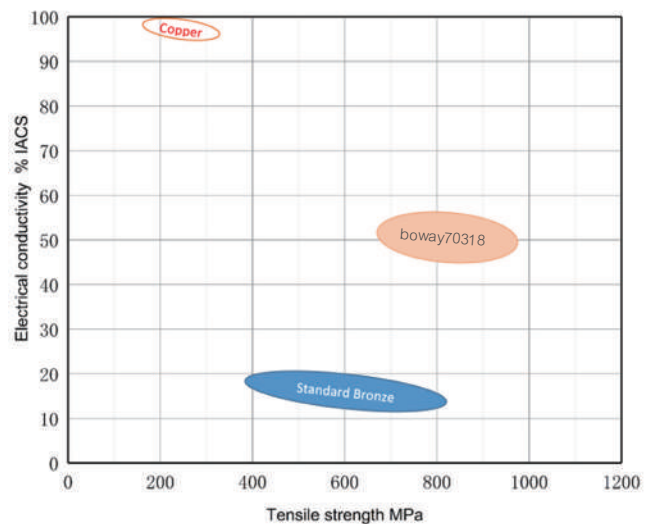
### Application Target

Signal Connector	Well suitable
Power Connector	Suitable
Miniaturized Connector	Suitable
Switch / Relay	Well 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	Less suitable
Electroplating	Good
Hot dip tinning	Good
Laser welding	Good
Resistance welding	Good
Soft soldering	Suitable



### Characteristics

Very high strength combined with excellent electrical and thermal conductivity. Very good stress relaxation resistance, good solderability as well as good bending formability for this strength level. Not sensitive against stress corrosion cracking.

### Physical Properties\*

Density	8.82	g/cm <sup>3</sup>
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 <sup>-6</sup> /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

\*For reference only

### Bendability Bending thickness: 0.08 – 0.20 mm, bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R690 (TM02)	0.8	1.0	—	—
R770 (TM04)	1.5	1.5	—	—
R840 (TM06)	2.0	2.0	—	—

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

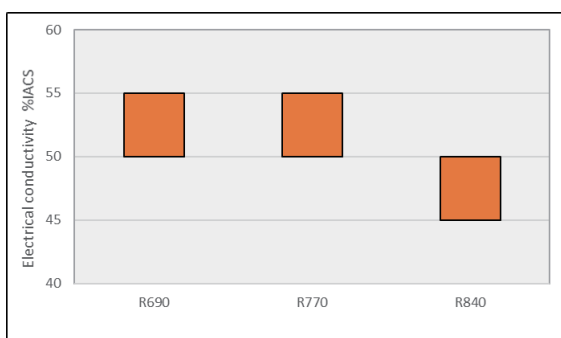
### Packaging

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

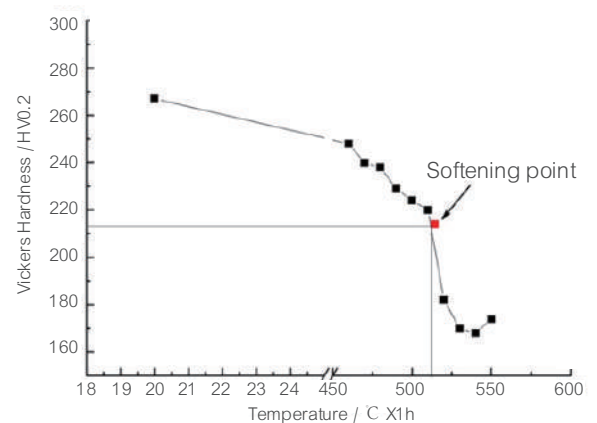
### Dimensions available

Strip thickness 0.08 - 0.20 mm, other gauges on request  
 Strip width from 9 mm  
 Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Softening Resistance

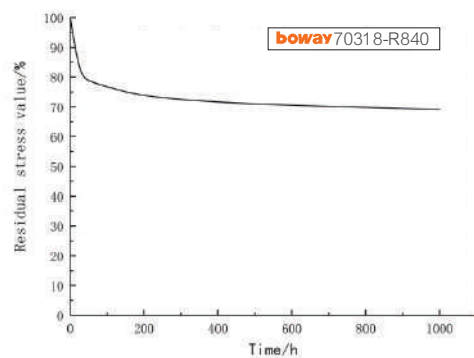
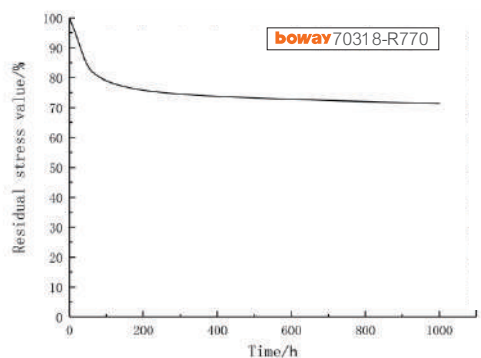


The values were measured according to the standard GB/T 33370-2016.



## boway 70318

### Thermal Stress Relaxation



Testing conditions :

Sample : parallel to rolling direction

Temperature : 150 °C

Initial stress : 80% × Rp0.2

Standard : JCBA T309-2004

Stress Relaxation is measured on stress relief annealed specimens parallel to rolling direction.

Total stress relaxation depends on the applied stress level and may consist of initial plastic set, whereas thermal stress relaxation reflects the true material properties independent on stress level.

Please note that any cold deformation might change material properties and will increase stress relaxation

### 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.

#### NINGBO BOWAY ALLOY MATERIAL CO., LTD



Address: Binhai Industry Zone, Yinzhou District, Ningbo City, Zhejiang Province, China  
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## boway 42300

### Material Designation

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

### Chemical Composition\*

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

\* Nominal composition

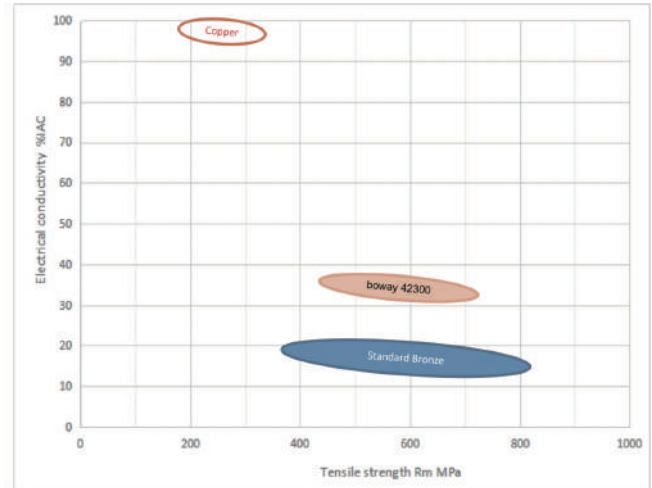
### Application Target

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

Excellent formability and high strength combined with medium electrical conductivity. Improved stress relaxation Vs Bronze.  
Not sensitive to stress corrosion cracking.  
Recyclable friendly for tinned scraps.

### Physical Properties\*

Density	8.88	g/cm <sup>3</sup>
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 <sup>-6</sup> /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			
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 Thickness range: ≤ 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	0.5	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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange-peel, however no crack.

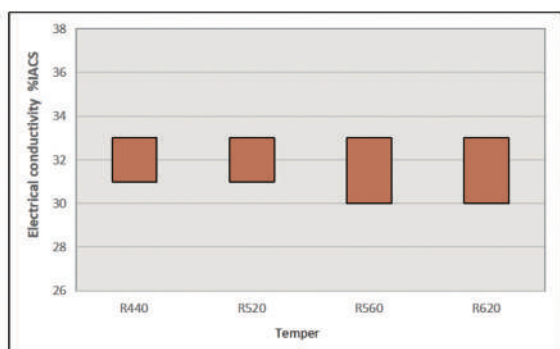
### Packaging

Standard coils with outside diameters up to 1200 mm,  
Traverse-wound coils with drum weights 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 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 14415

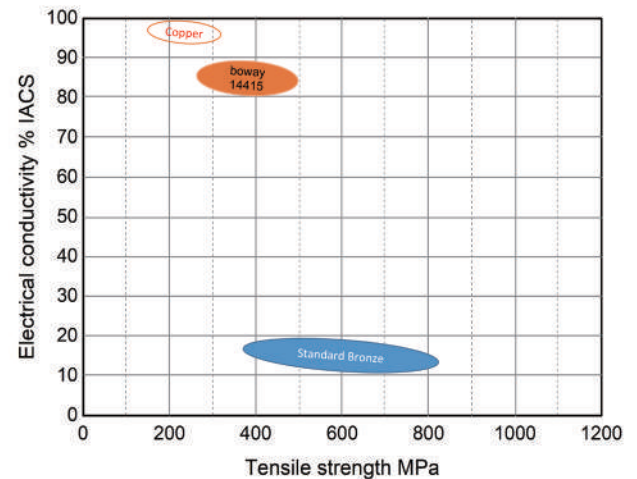
### Material Designation

Boway designation	boway 14415
UNS	C14415
EN	CuSn0.15
JIS	--
GB(China)	--

### 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

### Characteristics

High conductivity and medium strength,  
Excellent bending performance, formability and good  
corrosion resistance.

### Fabrication Properties

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

### Physical Properties\*

Density	8.93	g/cm <sup>3</sup>
Electrical	83	% IACS
conductivity @ 20° C	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 <sup>-6</sup> /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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange- peel, however no crack.

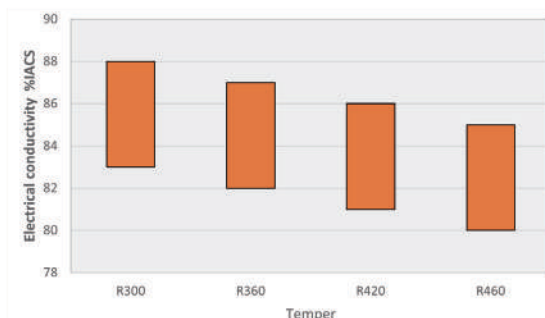
## Packaging

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

## Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request  
 Strip width from 8.5 mm  
 Electroplated and Hot-dip tinned strip available

## Electrical Conductivity



## Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 51000

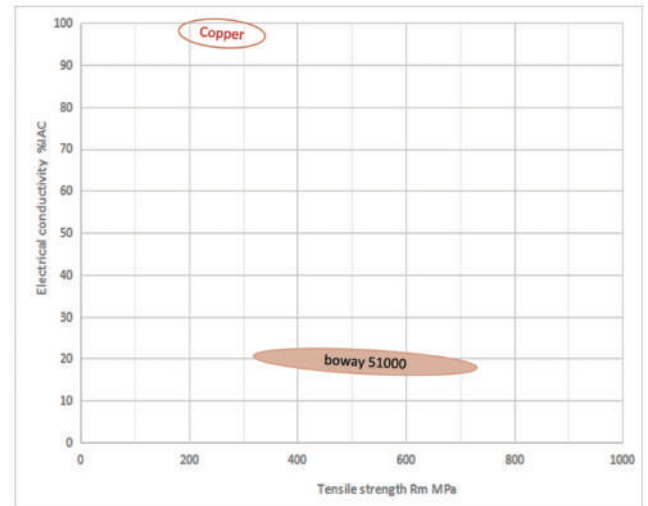
### Material Designation

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 Suitable
Miniaturized Connector	Suitable
Switch / Relay	Suitable
Semiconductor	Not recommended

### Characteristics

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

### Fabrication Properties

Cold forming	Very good
Machining	Not suitable
Electroplating	Very good
Hot dip tinning	Very good
Welding	Good

### Physical Properties\*

Density	8.85	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	18	% IACS
	10	MS/m
Thermal conductivity @20°C	96	W/(m·K)
Specific heat capacity	0.38	J/(g·K)
Modulus of elasticity	120	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	17.8	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 51000

### Mechanical Properties

Temper	Tensile strength		Yield strength		Elongation
	MPa	ksi	MPa	HV	
R400(1/2H)	400 - 505	58 - 73	≥ 325	125 - 170	≥ 10
R470(3/4H)	470 - 545	68 - 79	≥ 420	145 - 185	≥ 10
R525(H)	525 - 625	76 - 91	≥ 510	170 - 210	≥ 9
R605(EH)	605 - 710	88 - 103	≥ 585	180 - 220	≥ 2
R655(SH)	655 - 760	95 - 110	≥ 635	210 - 250	≥ 1
R690(ESH)	690 - 785	100 - 114	≥ 675	220 - 270	≥ 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
R400(1/2H)	0	0.5	0	1.5
R470(3/4H)	0	1	0.5	1
R525(H)	0	1.5	1	2
R605(EH)	1	2	1.5	3
R655(SH)	1	2.5	2	4
R690(ESH)	—	—	—	—

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

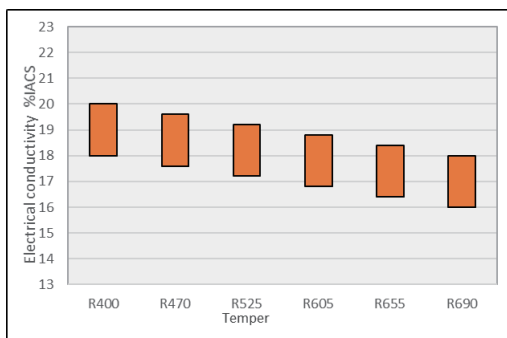
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 51100

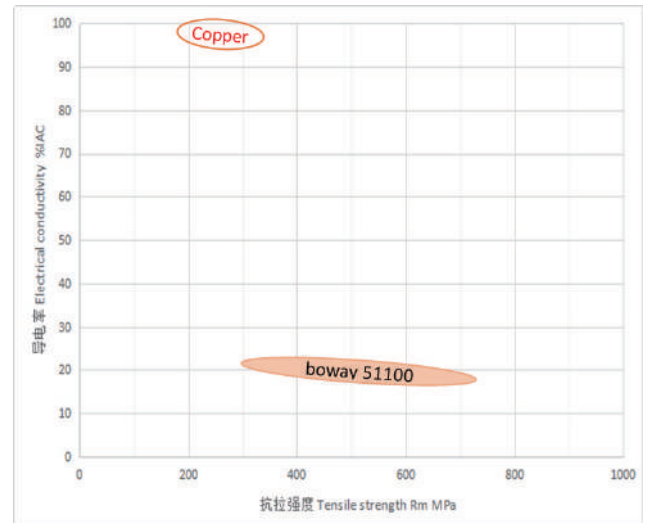
### Material Designation

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

### Characteristics

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

### Fabrication Properties

Cold forming	Very good
Machining	Not suitable
Electroplating	Very good
Hot dip tinning	Very good
Welding	Good

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	21	% IACS
	12	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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C





## boway 51100

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R380(1/2H)	380 - 485	55 - 70	≥ 290	110 - 160	≥ 12
R460(3/4H)	460 - 565	67 - 82	≥ 440	150 - 190	≥ 6
R495(H)	495 - 600	72 - 87	≥ 485	160 - 200	≥ 2
R580(EH)	580 - 685	84 - 99	≥ 560	180 - 220	≥ 1
R625(SH)	625 - 725	91 - 105	≥ 605	200 - 240	≥ 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
R380(1/2H)	0	0	0	0
R460(3/4H)	0	0	0	1
R495(H)	0	0.5	0	1.5
R580(EH)	0.5	1.5	1	2
R625(SH)	0.5	2	1	3

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

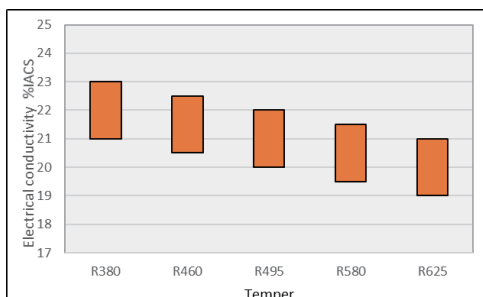
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
 Strip width from 8.5 mm.  
 Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 51900

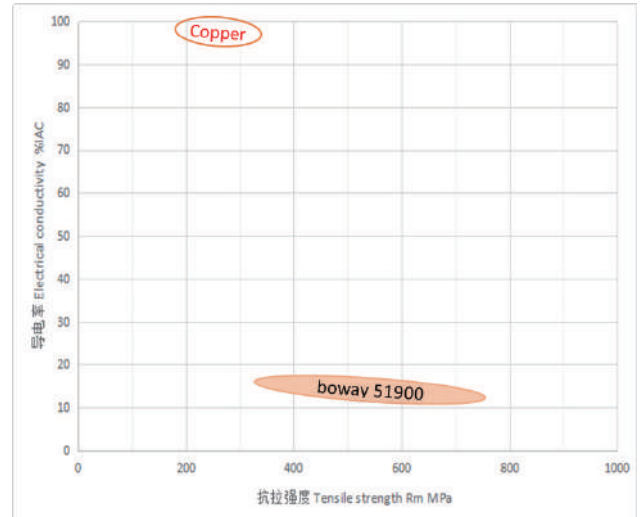
### Material Designation

Boway designation	boway 51900
UNS	C51900
EN	CuSn6
JIS	C5191
GB(China)	QSn6.5-0.1

### Chemical Composition\*

Sn	6	%
Cu	Rem.	

\* Nominal composition



### Application Target

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

### Characteristics

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

### Fabrication Properties

Cold forming	Very good
Machining	Not suitable
Electroplating	Very good
Hot dip tinning	Very good
Welding	Good

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	15	% IACS
	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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 51900

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R390(1/4H)	390 - 510	57 - 74	≥ 360	100 - 160	≥ 35
R490(1/2H)	490 - 620	72 - 90	≥ 420	150 - 205	≥ 20
R590(H)	590 - 685	86 - 100	≥ 510	180 - 230	≥ 8
R635(EH)	635 - 720	93 - 105	≥ 570	200 - 240	≥ 5
R690(SH)	≥ 690	≥ 100	≥ 620	≥ 210	—

\*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
R390(1/4H)	0	0.5	0.5	1.5
R490(1/2H)	0.5	1	1	2
R590(H)	1	1.5	2	3
R635(EH)	2	4	3	8
R690(SH)	—	—	—	—

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

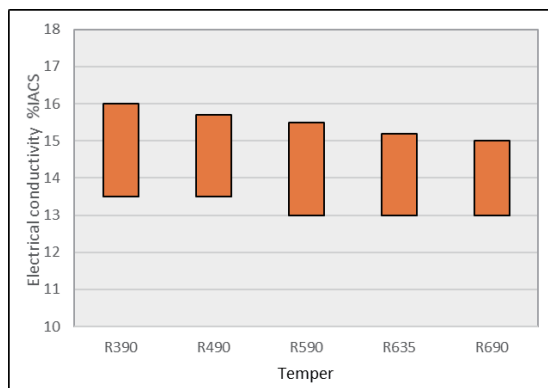
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
Strip width from 8.5 mm.  
Electroplated and Hot-dip tinned strip available.

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 52100

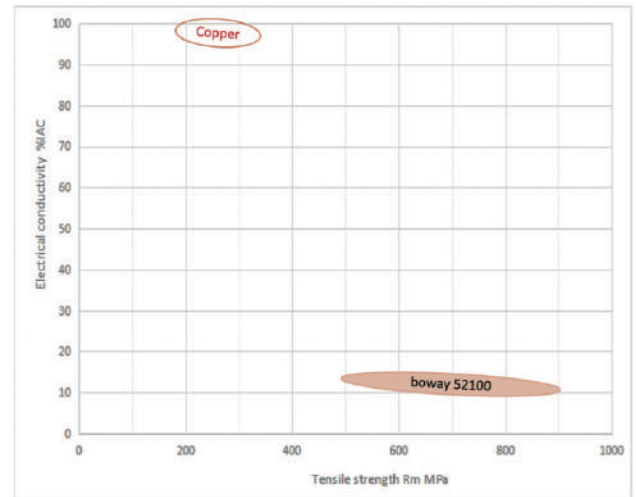
### Material Designation

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 suitable
Miniaturized Connector	Very suitable
Switch / Relay	Suitable
Semiconductor	Not recommended

Ideal for BTB connector, audio jack and other miniaturized connectors

### Characteristics

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

### 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

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	12	% IACS
	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 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 52100

### Mechanical Properties

Temper	Tensile strength		Yield strength		Hardness*	Elongation
	MPa	ksi	MPa			
R475(1/2H)	475 - 580	69 - 84	≥ 350		150 - 205	≥ 25
R550(3/4H)	550 - 635	80 - 92	≥ 485		170 - 210	≥ 18
R585(H)	585 - 690	85 - 100	≥ 540		185 - 235	≥ 12
R670(EH)	670 - 770	97 - 112	≥ 635		210 - 260	≥ 10
R725(SH)	725 - 820	105 - 119	≥ 690		230 - 270	≥ 3
R760(ESH)	760 - 840	110 - 122	≥ 725		245 - 285	≥ 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
R475(1/2H)	0	0	0	0
R550(3/4H)	0	0.5	0.5	1
R585(H)	0	1	1	2
R670(EH)	1.5	2	2	4
R725(SH)	2.5	4	5	7
R760(ESH)	4	6	6	8

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

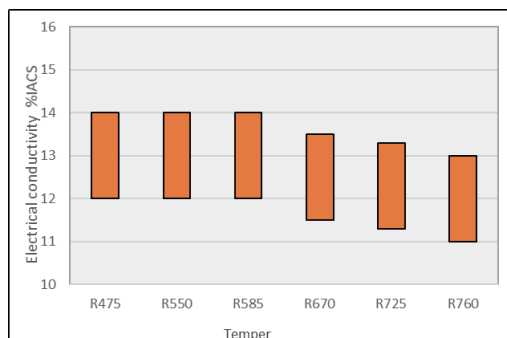
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
 Strip width from 8.5 mm.  
 Electroplated and Hot-dip tinned strip available.

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 52400

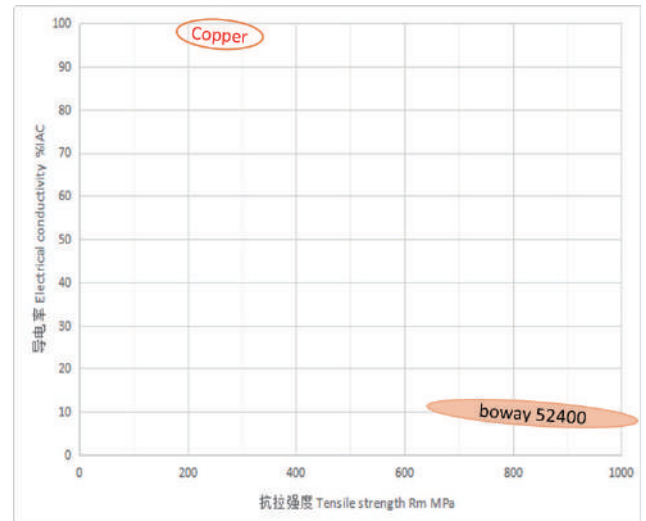
### Material Designation

Boway designation	boway 52400
UNS	C52400
EN	--
JIS	--
GB(China)	--

### Chemical Composition\*

Sn	10	%
Cu	Rem.	

\* Nominal composition



### Application Target

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

Ideal for BTB connector, audio jack and other miniaturized connectors

### Characteristics

Extremely high strength, fatigue resistance and low young's modulus combined with good formability.

Very good corrosion resistance as well as solderability and not sensitive against stress corrosion cracking.

### Fabrication Properties

Cold forming	Very good
Machining	Not suitable
Electroplating	Very good
Hot dip tinning	Very good
Welding	Good

### Physical Properties\*

Density	8.78	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	10	% IACS
	6	MS/m
Thermal conductivity @20°C	50	W/(m·K)
Specific heat capacity	0.375	J/(g·K)
Modulus of elasticity	110	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	18.4	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C



## boway 52400

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi			
R650(H)	650 - 750	95 - 109	≥ 550	200 - 240	≥ 11
R750(EH)	750 - 850	109 - 124	≥ 650	230 - 270	≥ 9
R850(SH)	850 - 950	124 - 138	≥ 750	250 - 300	≥ 5
R950(ESH)	≥ 950	≥ 138	≥ 870	> 270	≥ 1
R1000(XSH)	≥ 1000	≥ 145	≥ 930	> 290	—

\*For reference only

### Bendability bending thickness: 0.06-0.5 mm, bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R650(H)	1	1	1.5	1.5
R750(EH)	1.5	2	2	2.5
R850(SH)	2	2.5	3	4
R950(ESH)	—	—	—	—
R1000(XSH)	—	—	—	—

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

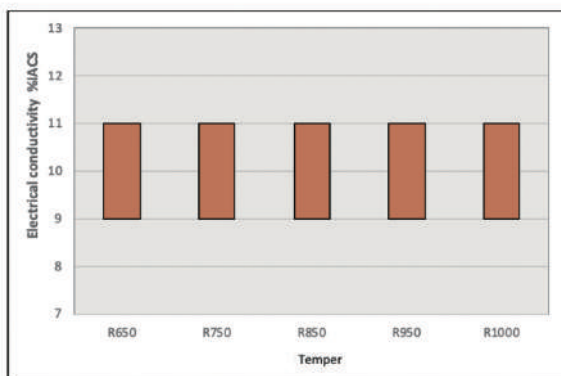
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
 Strip width from 8.5 mm.  
 Electroplated and Hot-dip tinned strip available.

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 77000

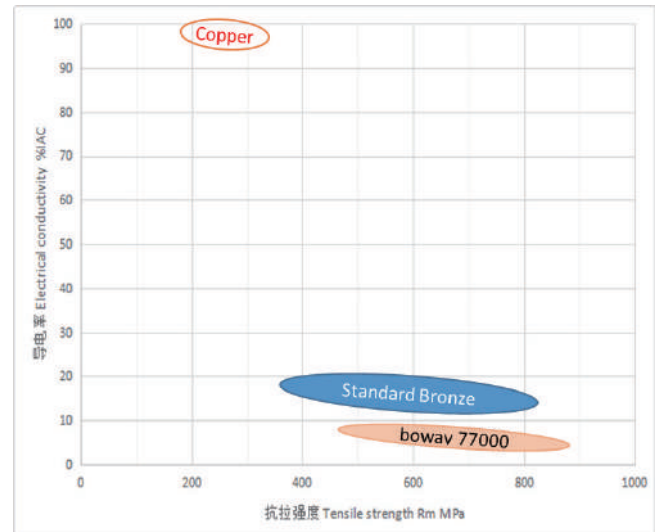
### Material Designation

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 suitable
Miniaturized Connector	Suitable
Switch / Relay	Suitable
Shielding	Very suitable

Ideal for EMI shielding ,gaskets etc.

### 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 of stress corrosion cracking.

### Fabrication Properties

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

### Physical Properties\*

Density	8.7	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	7	% IACS
	4	MS/m
Thermal conductivity @20°C	32	W/(m·K)
Specific heat capacity	0.34	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	16.7	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300°C





## boway 77000

### Mechanical Properties

Temper	Tensile strength		Yield strength		Hardness*	Elongation
	MPa	ksi	MPa			
R480(H/4)	480 - 660	70 - 96	≥ 230		120 - 150	≥ 25
R540(H/2)	540 - 655	79 - 95	≥ 390		150 - 210	≥ 20
R630(H)	630 - 735	92 - 107	≥ 500		180 - 240	—
R705(EH)	705 - 805	103 - 117	≥ 550		210 - 260	—
R765(SH)	765 - 865	111 - 126	≥ 650		230 - 270	—

\*For reference only

### Bendability bending thickness: 0.1-0.5 mm, bending width: 10 mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R480(H/4)	0	0	0	1.5
R540(H/2)	0	1.5	1.5	3
R630(H)	1.5	2	2	4
R705(EH)	2	4	3	6
R765(SH)	—	—	—	—

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

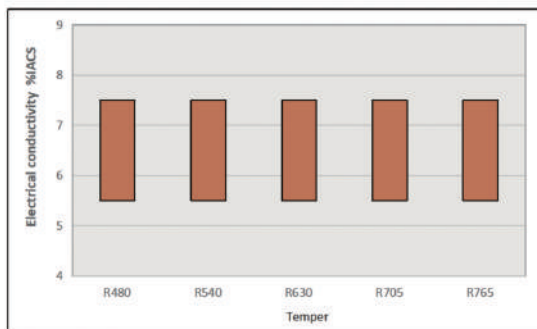
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 75200

### Material Designation

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

### Chemical Composition\*

Ni	18	%
Cu	64	%
Zn	Rem.	

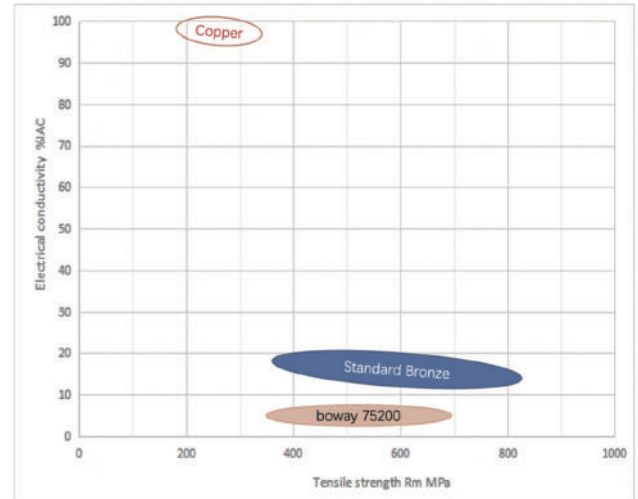
### Application Target

Signal Connector	Suitable
Power Connector	Not suitable
Miniaturized Connector	Suitable
Switch / Relay	Suitable
Shielding	Very suitable

Ideal for EMI shielding, gasket etc.

### Fabrication Properties

Cold forming	Very good
Machining	Less 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 <sup>3</sup>
Electrical conductivity @ 20°C	7	% IACS
	4	MS/m
Thermal conductivity @20°C	32	W/(m·K)
Specific heat capacity	0.34	J/(g·K)
Modulus of elasticity	135	GPa
Poisson's ratio	0.33	
Coefficient of thermal expansion**	16.8	10 <sup>-6</sup> /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: 0.08-0.2 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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange-peel, however no crack.

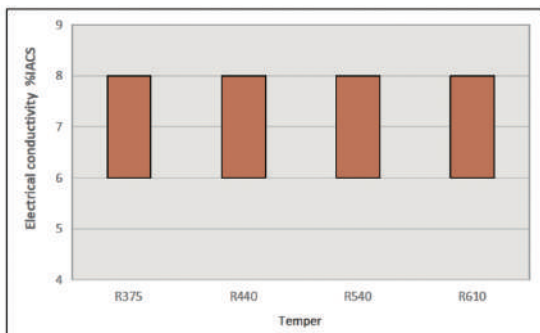
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 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. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 76400

### Material Designation

Boway designation	boway 76400
UNS	C76400
EN	CuNi18Zn20
JIS	-
GB (China)	BZn18-20

### Chemical Composition\*

Cu	62	%
Ni	18	%
Zn	Rem.	

\* Nominal composition

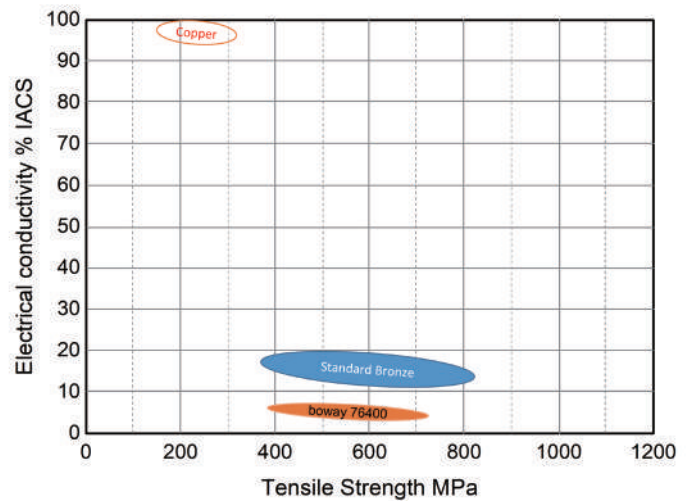
### Application Target

Signal Connector	Suitable
Power Connector	Not suitable
Switch /Relay	Suitable
Shielding	Very suitable
Ideal for Shielding	

Ideal for power connectors

### Fabrication Properties

Cold forming	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 <sup>3</sup>
Electrical	6	% IACS
conductivity @ 20° C	3.5	MS/m
Thermal conductivity @20° C	32	W/(m·K)
Specific heat capacity	0.38	J/(g·k)
Modulus of elasticity	135	GPa
Poisson's ratio	0,34	
Coefficient of thermal expansion**	17.7	10 <sup>-6</sup> /K

\* Typical values at room temperature for reference.

\*\* average value between 20-300° C



## boway 76400

### Mechanical Properties

Temper	Tensile strength		Yield strength	Hardness*	Elongation
	MPa	ksi	HV0.2	HV	A50 %
R380	380 - 470	55 – 68	≤ 250	90 - 130	≥ 20
R450	450 - 520	65 – 75	≥ 250	115 - 160	≥ 9
R500	500 - 590	72 – 85	≥ 410	150 - 190	≥ 5
R580	580 - 670	84 – 97	≥ 510	180 - 210	≥ 3
R640	640 - 730	92 – 105	≥ 600	200 - 230	—

\*For reference only

**Bendability** Thickness range: ≤0.5 mm , bending width: 10mm

Temper	90° R/T		180° R/T	
	Good Way	Bad Way	Good Way	Bad Way
R380	0	0		
R450	0	0		
R500	0	0		
R580	0	0.5		
R640	2	3.5		

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

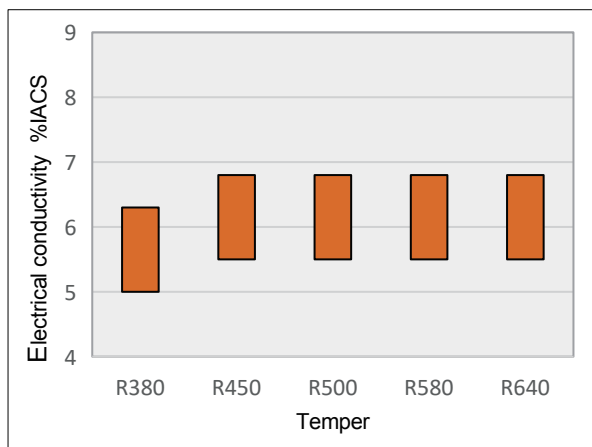
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request  
 Strip width from 8.5 mm  
 Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of Tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of Tensile strength.

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## boway 51100 SG

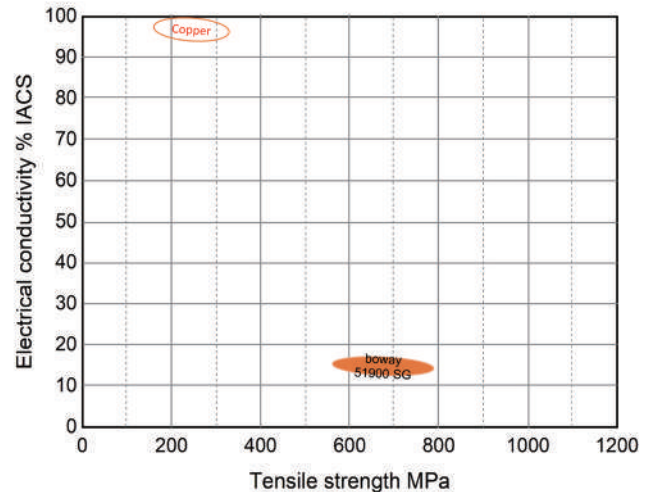
### Material Designation

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

### Characteristics

Excellent bendability and fatigue performance combined with medium/high strength. Good corrosion resistance and low sensitivity against stress corrosion cracking as well as excellent solderability.

### 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

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	21	% IACS
	12	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 <sup>-6</sup> /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			
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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange-peel, however no crack.

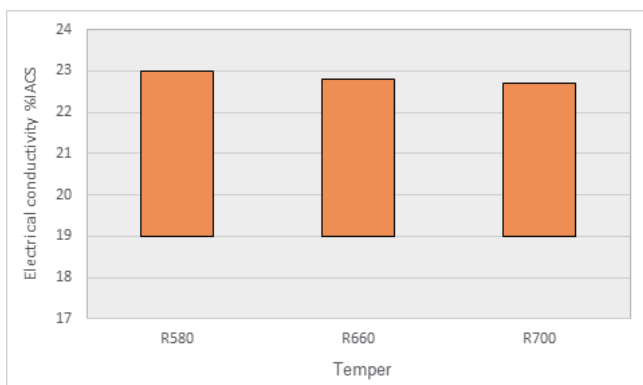
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
 Strip width from 8.5 mm.  
 Electroplated and Hot-dip tinned strip available

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 51900 SG

### Material Designation

Boway designation	boway 51900
UNS	C51900
EN	CuSn6
JIS	C5191
GB(China)	QSn6.5-0.1

### Chemical Composition\*

Sn	6	%
Cu	Rem.	

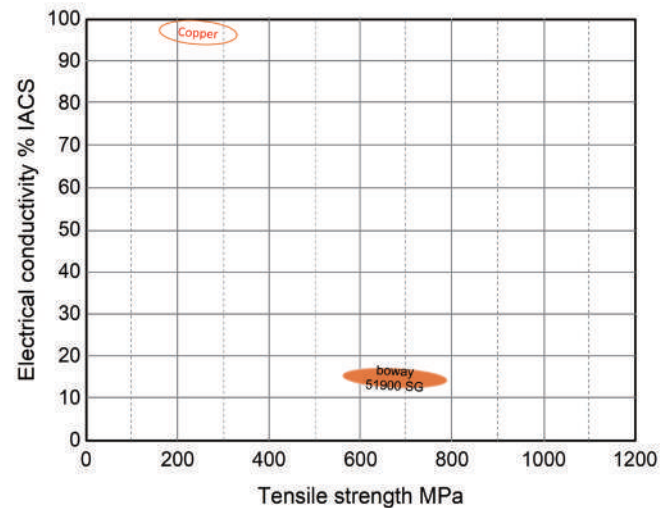
\* Nominal composition

### 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 bendability and fatigue performance combined with high strength. Good corrosion resistance and low sensitivity against stress corrosion cracking as well as excellent solderability. Low hot cracking tendency with resistance welding.

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	16	% IACS
	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 <sup>-6</sup> /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			
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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange- peel, however no crack.

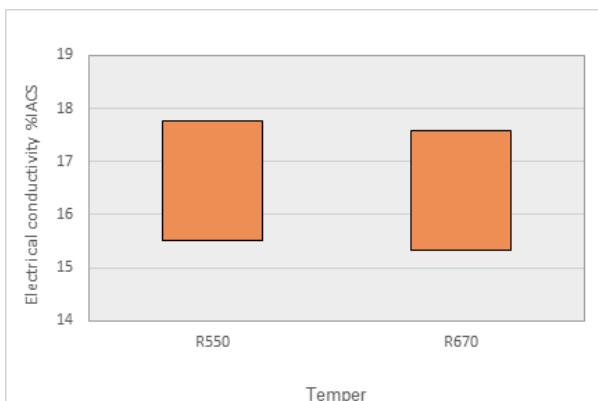
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
Strip width from 8.5 mm.  
Electroplated and Hot-dip tinned strip available.

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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## boway 52100 SG

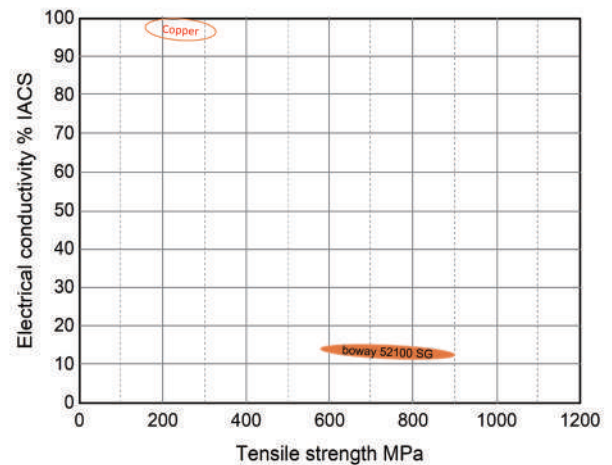
### Material Designation

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	Suitable
Miniaturized Connector	Very suitable
Switch / Relay	Suitable
Semiconductor	Not recommended

Ideal for BTB connector, audio jack and other miniaturized connectors

### Characteristics

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

### 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

### Physical Properties\*

Density	8.8	g/cm <sup>3</sup>
Electrical conductivity @ 20°C	13	% IACS
	7.5	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 <sup>-6</sup> /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			
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: ≤0.5 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 ISO 7438, 180° bend test acc. to ASTM B820, shown values might show orange- peel, however no crack

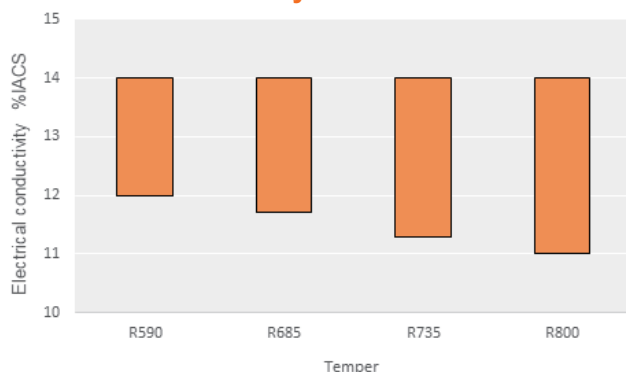
### Packaging

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

### Dimensions available

Strip thickness 0.08 - 3.0 mm, other gauges on request.  
 Strip width from 8.5 mm.  
 Electroplated and Hot-dip tinned strip available.

### Electrical Conductivity



### Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10.000.000 load cycles under symmetrical alternate load without breaking. It depends on the temper selected and can be estimated typically by 1/3 of tensile strength. For solid solution fine grain materials fatigue strength might increase up to 0,5 \* of tensile strength.

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