

## boway 52400

### Material Designation

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

### Chemical Composition\*

|    |      |   |
|----|------|---|
| Sn | 10   | % |
| Cu | Rem. |   |

\* Nominal composition

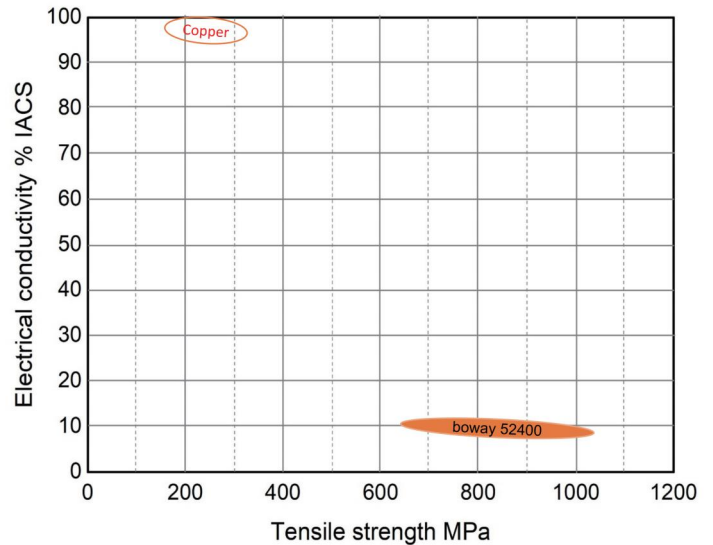
### Application Target

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

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

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.

### 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

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### 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.

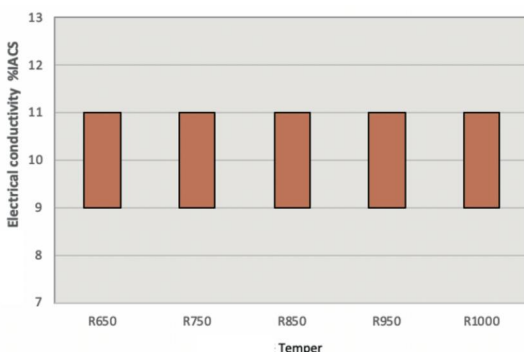
### Packaging

Standard coils with outside 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 - 2.0 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.