

## 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

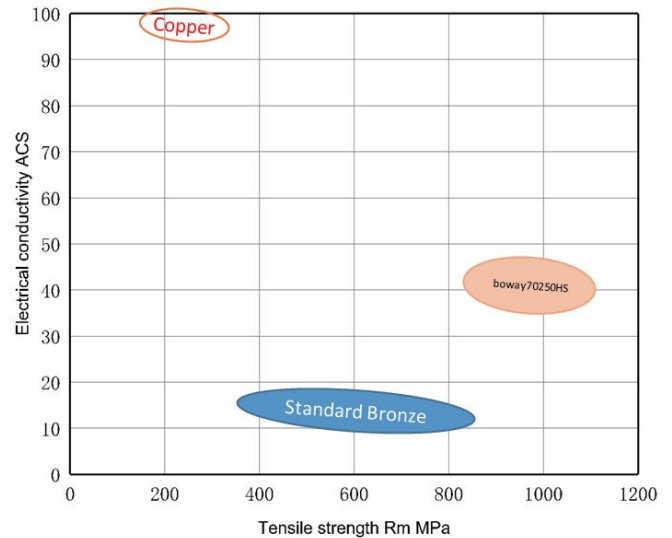
### Application Target

|                        |               |
|------------------------|---------------|
| 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

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### 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 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)  | 3.5      | 4.0     | --       | --      |
| 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.

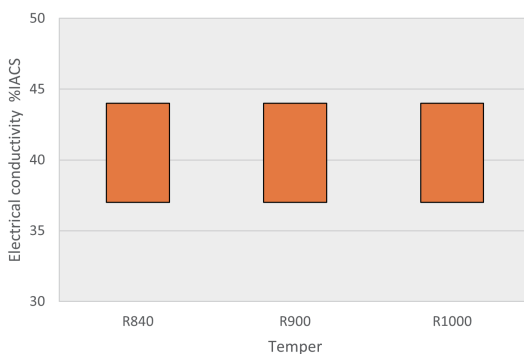
### Packaging

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