LEONI Histral®
High strength alloys

The Quality Connection

LEONI
**Histral® H16**

**Description**
Copper Clad Aluminium
CCA15

**Available**
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Braiding wires
Single end size ≥ 0.10 mm (AWG 38)
Other diameters or special constructions are available

**Specifications**
ASTM B566
ABS 0949
ABS 0957
ABS 1354

**Properties**
✔ High electrical conductivity
✔ Low weight
✔ The material is compliant to RoHS and REACh**

**Applications**
✔ Aerospace industries
✔ Automotive industry
✔ High frequency signal cables
✔ Coaxial cables

**Nominal values**

<table>
<thead>
<tr>
<th>Property</th>
<th>Soft</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0268</td>
<td>0.0268</td>
</tr>
<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Tensile Strength* [N/mm²]</td>
<td>&lt;172</td>
<td>&gt;207</td>
</tr>
<tr>
<td>Elongation* [%]</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00404</td>
<td>0.00404</td>
</tr>
<tr>
<td>Density [g/cm³]</td>
<td>3.63</td>
<td>3.63</td>
</tr>
</tbody>
</table>

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** Further information can be found on our website at www.leoni-special-conductors.com
LEONI Histral®
High strength alloys

Histral® H18

Description
Copper Clad Steel
CCS40

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.05 mm (AWG 44)
Other diameters or special constructions are available

Specifications
ASTM B193
ASTM B452
ASTM B501
ASTM B520
ASTM B559
ASTM B910

Properties
✔ Medium electrical conductivity
✔ Very good mechanical properties
✔ The material is compliant to RoHS and REACh**

Applications
✔ Automotive industry
✔ Heating elements
✔ High frequency signal cables
✔ Coaxial cables
✔ Telecommunications

Nominal values

<table>
<thead>
<tr>
<th>Property</th>
<th>Soft</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0439</td>
<td>0.0439</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>40</td>
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</tr>
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<td>Tensile Strength* [N/mm²]</td>
<td>350</td>
<td>760</td>
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<tr>
<td>Elongation* [%]</td>
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<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00387</td>
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</tr>
<tr>
<td>Density [g/cm³]</td>
<td>8.24</td>
<td>8.24</td>
</tr>
</tbody>
</table>

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Within the tolerances set by RoHS and REACh
**LEONI Histral®
High strength alloys**

**Histral® H26**

**Properties**

- ✔ Medium electrical conductivity
- ✔ Excellent mechanical properties
- ✔ The material is compliant to RoHS and REACh**

**Applications**

- ✔ Signal cables
- ✔ Wire for spark erosion EDM
- ✔ Mesh wire
- ✔ Decoration

<table>
<thead>
<tr>
<th>Nominal values</th>
<th>Soft</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0663</td>
<td>0.0718</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>26</td>
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<tr>
<td>Tensile Strength* [N/mm²]</td>
<td>360</td>
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<td>Elongation* [%]</td>
<td>30</td>
<td>1</td>
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<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00170</td>
<td>0.00170</td>
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<tr>
<td>Density [g/cm³]</td>
<td>8.44</td>
<td>8.44</td>
</tr>
</tbody>
</table>

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Within the tolerances set by RoHS and REACh

**Histral® H26**

**Description**
Copper based alloy
CuZn37
Brass

**Available**
Coating: Bare, Silver, Nickel, Tin
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.05 mm (AWG 44)
Other diameters or special constructions are available

**Specifications**
EN 12166
DIN CEN/TS 13388

E-mail special-conductors@leoni.com
**Histral® H64**

**Description**
Copper based alloy
CuMg0.4

**Available**
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

**Specifications**
DIN 48200 T2
DIN 48203 T2
DIN CEN/TS 13388

**Properties**
- High electrical conductivity
- Good mechanical properties
- Temperature resistance
- The material is compliant to RoHS and REACh**

**Applications**
- Automotive industry
- Railway industry
- Heating elements
- Enamelled wires

**Nominal values**

<table>
<thead>
<tr>
<th></th>
<th>Soft</th>
<th>Hard</th>
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</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0254</td>
<td>0.0269</td>
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<td>Electrical Conductivity* [% IACS]</td>
<td>68</td>
<td>64</td>
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<tr>
<td>Tensile Strength* [N/mm²]</td>
<td>270</td>
<td>510</td>
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<tr>
<td>Elongation* [%]</td>
<td>20</td>
<td>1</td>
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<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00185</td>
<td>0.00185</td>
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<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
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</tbody>
</table>

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Within the tolerances set by RoHS and REACh
LEONI Histral®
High strength alloys

Histral® H65

Description
Copper based alloy
CuAg10

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

Specifications

Properties
✔ High electrical conductivity
✔ Very good mechanical properties
✔ Temperature resistance
✔ The material is compliant to RoHS and REACH**

Applications
✔ High frequency signal cables
✔ Medical applications
✔ Miniaturisation

Nominal values

<table>
<thead>
<tr>
<th></th>
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<th>Hard</th>
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<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0216</td>
<td>0.0246</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>80</td>
<td>70</td>
</tr>
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<td>Tensile Strength* [N/mm²]</td>
<td>300</td>
<td>750</td>
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<tr>
<td>Elongation* [%]</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00255</td>
<td>0.00255</td>
</tr>
<tr>
<td>Density [g/cm³]</td>
<td>9.1</td>
<td>9.1</td>
</tr>
</tbody>
</table>

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Within the tolerances set by RoHS and REACh

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LEONI Histral®
High strength alloys

Histral® H69

Description
Copper based alloy
CuSn0.3

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

Specifications
DIN CEN/TS 13388

Properties
✔ High electrical conductivity
✔ Good mechanical properties
✔ Temperature resistance
✔ The material is compliant to RoHS and REACh**

Applications
✔ Automotive industry
✔ Automation
✔ Medical applications
✔ Industrial applications
✔ Data cables
✔ Signal cables
✔ Resistance wires

Nominal values

<table>
<thead>
<tr>
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<th>Hard</th>
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</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
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<td>Electrical Conductivity* [% IACS]</td>
<td>72</td>
<td>68</td>
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<tr>
<td>Tensile Strength* [N/mm²]</td>
<td>250</td>
<td>530</td>
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<tr>
<td>Elongation* [%]</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00290</td>
<td>0.00290</td>
</tr>
<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
</tr>
</tbody>
</table>

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Within the tolerances set by RoHS and REACh

E-mail special-conductors@leoni.com
# Histral® H72

## Description
Copper based alloy
CuSn0.3

### Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

## Specifications
LV112-4 DRAFT
DIN CEN/TS 13388

## Properties
- ✔ High electrical conductivity
- ✔ Good mechanical properties
- ✔ Temperature resistance
- ✔ The material is compliant to RoHS and REACh**
- ✔ Replacement for copper cadmium alloys

## Applications
- ✔ Automotive industry
- ✔ Automation
- ✔ Medical applications
- ✔ Industrial applications
  - ✔ Data cables
  - ✔ Signal cables
  - ✔ Miniaturisation

### Nominal values

<table>
<thead>
<tr>
<th></th>
<th>Soft</th>
<th>Hard</th>
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<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0216</td>
<td>0.0240</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>80</td>
<td>74</td>
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<tr>
<td>Tensile Strength* [N/mm²]</td>
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<td>600</td>
</tr>
<tr>
<td>Elongation* [%]</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00290</td>
<td>0.00290</td>
</tr>
<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
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Within the tolerances set by RoHS and REACh
LEONI Histral®
High strength alloys

Histral® H77

Description
Copper based alloy
CuMg0.2

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

Specifications
LV112-4 DRAFT
DIN CEN/TS 13388

Properties
✔ Very high electrical conductivity
✔ Good mechanical properties
✔ Temperature resistance
✔ The material is compliant to RoHS and REACh**
✔ Replacement for copper cadmium alloys

Applications
✔ Automotive industry
✔ Automation
✔ Robotics
✔ Medical applications
✔ Industrial applications
✔ Data cables
✔ Signal cables
✔ High frequency signal cables
✔ Coaxial cables

Nominal values

<table>
<thead>
<tr>
<th></th>
<th>Soft</th>
<th>Hard</th>
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</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0203</td>
<td>0.0221</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>85</td>
<td>78</td>
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<td>Tensile Strength* [N/mm²]</td>
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<td>650</td>
</tr>
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<td>Elongation* [%]</td>
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<td>1</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00320</td>
<td>0.00320</td>
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<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
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</tbody>
</table>

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Within the tolerances set by RoHS and REACh
LEONI Histral®
High strength alloys

Histral® H79

Description
Copper based alloy
CuAg0.1

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

Specifications
LV112-4 DRAFT
DIN CEN/TS 13388

Properties
✔ Very high electrical conductivity
✔ Good mechanical properties
✔ Temperature resistance
✔ The material is compliant to RoHS and REACh**

Applications
✔ Automotive industry
✔ Automation
✔ Robotics
✔ Medical applications
✔ Industrial applications
✔ Data cables
✔ Signal cables
✔ Coaxial cables
✔ Enamelled wires

Nominal values

<table>
<thead>
<tr>
<th></th>
<th>Soft</th>
<th>Hard</th>
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</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
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<td>Tensile Strength* [N/mm²]</td>
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<td>520</td>
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<tr>
<td>Elongation* [%]</td>
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</tr>
<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
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<td>0.00381</td>
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<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
</tr>
</tbody>
</table>

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Within the tolerances set by RoHS and REACh
LEONI Histrال®
High strength alloys

Histrال® H85

Description
Copper based alloy
CuMg0.15

Available
Coating: Bare, Silver, Nickel, Tin, Gold
Temper: Soft or hard
Single end conductors
Stranded conductors
Bunched conductors
Concentric lay conductors
Single end size ≥ 0.025 mm (AWG 50)
Other diameters or special constructions are available

Specifications
EN 2083
EN 4454
DIN CEN/TS 13388

Properties
✔ Very high electrical conductivity
✔ Good mechanical properties
✔ Temperature resistance
✔ The material is compliant to RoHS and REACh**
✔ Replacement for copper cadmium alloys

Applications
✔ Automotive industry
✔ Automation
✔ Robotics
✔ Medical applications
✔ Industrial applications
✔ Data cables
✔ Signal cables
✔ High frequency signal cables
✔ Coaxial cables
✔ Aerospace industry

Nominal values
<table>
<thead>
<tr>
<th></th>
<th>Soft</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity* [Ohm mm²/m]</td>
<td>0.0203</td>
<td>0.0216</td>
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<tr>
<td>Electrical Conductivity* [% IACS]</td>
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<td>80</td>
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<tr>
<td>Tensile Strength* [N/mm²]</td>
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<tr>
<td>Elongation* [%]</td>
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<tr>
<td>Temperature Coefficient of Resistance [1/°C]</td>
<td>0.00320</td>
<td>0.00320</td>
</tr>
<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
</tr>
</tbody>
</table>

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*** Tempered

Within the tolerances set by RoHS and REACh
LEONI Histral®
High strength alloys

**Histral® H88**

**Description**
- Copper based alloy
- CuCrFeTiAgSiP

**Available**
- Coating: Bare, Silver, Nickel, Tin, Gold
- Temper: Soft or hard
- Single end conductors
- Stranded conductors
- Bunched conductors
- Concentric lay conductors
- Single end size ≥ 0.025 mm (AWG 50)
- Other diameters or special constructions are available

**Specifications**
- ASTM B624
- ASE 22759
- MIL DTL 29606

**Properties**
- ✔ Very high electrical conductivity
- ✔ Excellent mechanical properties
- ✔ Temperature resistance
- ✔ The material is compliant to RoHS and REACh**
- ✔ Replacement for Alloy 135 (UNS 18135 / CuCrCd Alloy)

**Applications**
- ✔ Automotive industry
- ✔ Automation
- ✔ Aerospace industry
- ✔ Railway industry
- ✔ Robotics
- ✔ Medical applications
- ✔ Industrial applications
- ✔ Data cables
- ✔ Signal cables
- ✔ High frequency signal cables
- ✔ Coaxial cables
- ✔ Heating elements

**Nominal values**

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<tr>
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<td>0.0203</td>
<td>0.0216</td>
</tr>
<tr>
<td>Electrical Conductivity* [% IACS]</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>Tensile Strength* [N/mm²]</td>
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<td>Elongation* [%]</td>
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<tr>
<td>Density [g/cm³]</td>
<td>8.9</td>
<td>8.9</td>
</tr>
</tbody>
</table>

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**Within the tolerances set by RoHS and REACh**

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E-mail special-conductors@leoni.com
### LEONI Histral®

Find the right alloy for your application:
- **LEONI Histral® H** - High strength alloys
- **LEONI Histral® R** - Resistance alloys

### Single wires

Find the right specification for your application:
- Single wires made of copper (Cu-ETP1/Cu-OF1)
- Diameter: ranging from Ø 0.05 mm to Ø 1.83 mm
- AWG44 to AWG13

### Multi-wires/bundles

Find the right specification for your application:
- Single wires made of copper (Cu-ETP1/Cu-OF1)
- Diameter: ranging from Ø 0.050 mm to Ø 0.511 mm
- AWG44 to AWG24

### Concentric strands

Find the right specification for your application:
- Strands made of copper (Cu-ETP1/Cu-OF1)
- Cross-section: ranging from Ø 0.009 mm² to Ø 4.700 mm²
- AWG38 to AWG10

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**www.leoni-special-conductors.com**

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**LEONI Draht GmbH**  
Treuchtlinger Straße 20 · 91781 Weißenburg  
Germany  
Phone +49 9141 918-240  
E-Mail draht@leoni.com

**LEONI Wire Inc.**  
301 Griffith Road · Chicopee, 01022  
USA  
Phone +1 413-593-6618  
E-Mail info@leoniwire.com

**LEONI Temco Ltd.**  
Whimsey Industrial Estate  
Cinderford, Glos. GL14 3HZ  
Great Britain  
Phone +44 1594 820100  
E-Mail sales@leonitemco.com

**LEONI Cable (China) Co., Ltd.**  
No. 209, Chaohu Road  
Xinbei District · Changzhou 213022  
China  
Phone +86 519 8988 7016  
E-Mail wire.cn@leoni.com