

LEONI Histral[®]

High strength alloys



The Quality Connection

LEONI

LEONI Histral®

High strength alloys



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	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0268	0.0268
Electrical Conductivity* [% IACS]	64	64
Tensile Strength* [N/mm ²]	<172	>207
Elongation* [%]	5	1
Temperature Coefficient of Resistance [1/°C]	0.00404	0.00404
Density [g/cm ³]	3.63	3.63

*Data depend on coating conditions, degree of cold working and thermal treatments during manufacturing process
** Further information can be found on our website at www.leoni-special-conductors.com

Within the tolerances set by
RoHS and REACH

LEONI

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	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0439	0.0439
Electrical Conductivity* [% IACS]	40	40
Tensile Strength* [N/mm ²]	350	760
Elongation* [%]	10	1
Temperature Coefficient of Resistance [1/°C]	0.00387	0.00387
Density [g/cm ³]	8.24	8.24

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LEONI Histral®

High strength alloys



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

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

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0663	0.0718
Electrical Conductivity* [% IACS]	26	24
Tensile Strength* [N/mm ²]	360	800
Elongation* [%]	30	1
Temperature Coefficient of Resistance [1/°C]	0.00170	0.00170
Density [g/cm ³]	8.44	8.44

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Within the tolerances set by
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LEONI Histral®

High strength alloys



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	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0254	0.0269
Electrical Conductivity* [% IACS]	68	64
Tensile Strength* [N/mm ²]	270	510
Elongation* [%]	20	1
Temperature Coefficient of Resistance [1/°C]	0.00185	0.00185
Density [g/cm ³]	8.9	8.9

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Within the tolerances set by
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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	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0216	0.0246
Electrical Conductivity* [% IACS]	80	70
Tensile Strength* [N/mm ²]	300	750
Elongation* [%]	30	1
Temperature Coefficient of Resistance [1/°C]	0.00255	0.00255
Density [g/cm ³]	9.1	9.1

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Within the tolerances set by
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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 | ✓ Data cables |
| ✓ Automation | ✓ Signal cables |
| ✓ Medical applications | ✓ Resistance wires |
| ✓ Industrial applications | |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0239	0.0253
Electrical Conductivity* [% IACS]	72	68
Tensile Strength* [N/mm ²]	250	530
Elongation* [%]	20	1
Temperature Coefficient of Resistance [1/°C]	0.00290	0.00290
Density [g/cm ³]	8.9	8.9

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Within the tolerances set by
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LEONI

LEONI Histral®

High strength alloys



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 | ✓ Data cables |
| ✓ Automation | ✓ Signal cables |
| ✓ Medical applications | ✓ Miniaturisation |
| ✓ Industrial applications | |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0216	0.0240
Electrical Conductivity* [% IACS]	80	74
Tensile Strength* [N/mm ²]	250	600
Elongation* [%]	20	1
Temperature Coefficient of Resistance [1/°C]	0.00290	0.00290
Density [g/cm ³]	8.9	8.9

* Data depend on coating conditions, degree of cold working and thermal treatments during manufacturing process

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Within the tolerances set by
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LEONI

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 | ✓ Data cables |
| ✓ Automation | ✓ Signal cables |
| ✓ Robotics | ✓ High frequency signal cables |
| ✓ Medical applications | ✓ Coaxial cables |
| ✓ Industrial applications | |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0203	0.0221
Electrical Conductivity* [% IACS]	85	78
Tensile Strength* [N/mm ²]	230	650
Elongation* [%]	20	1
Temperature Coefficient of Resistance [1/°C]	0.00320	0.00320
Density [g/cm ³]	8.9	8.9

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Within the tolerances set by
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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 | ✓ Data cables |
| ✓ Automation | ✓ Signal cables |
| ✓ Robotics | ✓ Coaxial cables |
| ✓ Medical applications | ✓ Enamelled wires |
| ✓ Industrial applications | |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0171	0.0178
Electrical Conductivity* [% IACS]	99	95
Tensile Strength* [N/mm ²]	220	520
Elongation* [%]	20	1
Temperature Coefficient of Resistance [1/°C]	0.00381	0.00381
Density [g/cm ³]	8.9	8.9

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Within the tolerances set by
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LEONI Histral®

High strength alloys



Histral® 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 | ✓ Data cables |
| ✓ Automation | ✓ Signal cables |
| ✓ Robotics | ✓ High frequency signal cables |
| ✓ Medical applications | ✓ Coaxial cables |
| ✓ Industrial applications | ✓ Aerospace industry |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0203	0.0216
Electrical Conductivity* [% IACS]	85	80
Tensile Strength* [N/mm ²]	350***	650
Elongation* [%]	6***	1
Temperature Coefficient of Resistance [1/°C]	0.00320	0.00320
Density [g/cm ³]	8.9	8.9

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*** Tempered

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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 | ✓ Industrial applications |
| ✓ Automation | ✓ Data cables |
| ✓ Aerospace industry | ✓ Signal cables |
| ✓ Railway industry | ✓ High frequency signal cables |
| ✓ Robotics | ✓ Coaxial cables |
| ✓ Medical applications | ✓ Heating elements |

Nominal values	Soft	Hard
Resistivity* [Ohm mm ² /m]	0.0203	0.0216
Electrical Conductivity* [% IACS]	85	80
Tensile Strength* [N/mm ²]	414***	600
Elongation* [%]	8***	1
Temperature Coefficient of Resistance [1/°C]	0.00300	0.00300
Density [g/cm ³]	8.9	8.9

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*** Tempered

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Product finder



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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Learn more



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