



## cuproclean®

### Seamless industrial copper tubes with ultraclean inner surface

Seamless drawn copper tubes are an integral part of heating, plant and apparatus engineering due to their superior thermal conductivity, their excellent processing properties and their high mechanical strength.

Conventional processes for the manufacture of copper tubes do not rule out the possibility of film-like residual drawing oils remaining in the tubes. As a result of a heat treatment (annealing, soldering, welding, etc.) these oil residues can, as carbon film in combination with oxygen-containing water, hinder the formation of a natural protective layer on the copper surface. This may reduce the otherwise high corrosion resistance of the material and adversely affect the life of the end product. The basis for a uniform protective layer is the absence of residual carbon on the inner tube surface.

A special Wieland process to clean the inner surface of industrial tubes in level-wound coils makes it possible to achieve a super clean surface which is free from carbon film.

Additionally:

- a carbon-free inner tube surface is tested and certified in the inspection certificate,

seamless **cuproclean** industrial copper tubes offer all the advantages of copper, including:

- exceptional forming properties (expanding, bending)
- easy processing (soft or hard soldering)
- safe joining, high mechanical resistance
- gas- and diffusion tightness
- optimum corrosion resistance
- constant mechanical strength while in service

**cuproclean** copper tubes are also available in combination with other qualities such as **cuproform** (copper tubes with exceptional forming properties).

Technical information at a glance	
Seamless drawn copper tube	for industrial applications
Material	Cu-DHP according to DIN EN 12449
Quality of the inner surface of the tube	Test for residual carbon according to DIN EN 723 (< 0.2 mg/dm <sup>2</sup> ) according to DIN EN 1057
	Carbon film test according to DIN EN 1057 ("HNO <sub>3</sub> carbon film test")
Inspection certificate	DIN EN 10204:2004
Operating temperature range of copper	up to 250 °C operating temperature

Type of delivery	
Level-wound coils (LWC)	Light annealed: EN 12735-2 or company standard R 1000
	Diameter range 6 mm to 28 mm*
	Coil weights 100, 150, 300 kg

\*Wall thicknesses on request

General limits of the use of copper with regard to corrosion resistance have to be taken into consideration. It is recommended to carry out a water analysis.

Note: Industrial tubes of the type described above must not be used as plumbing tubes for domestic applications because plumbing tubes according to DIN EN 1057 have to meet additional requirements.

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