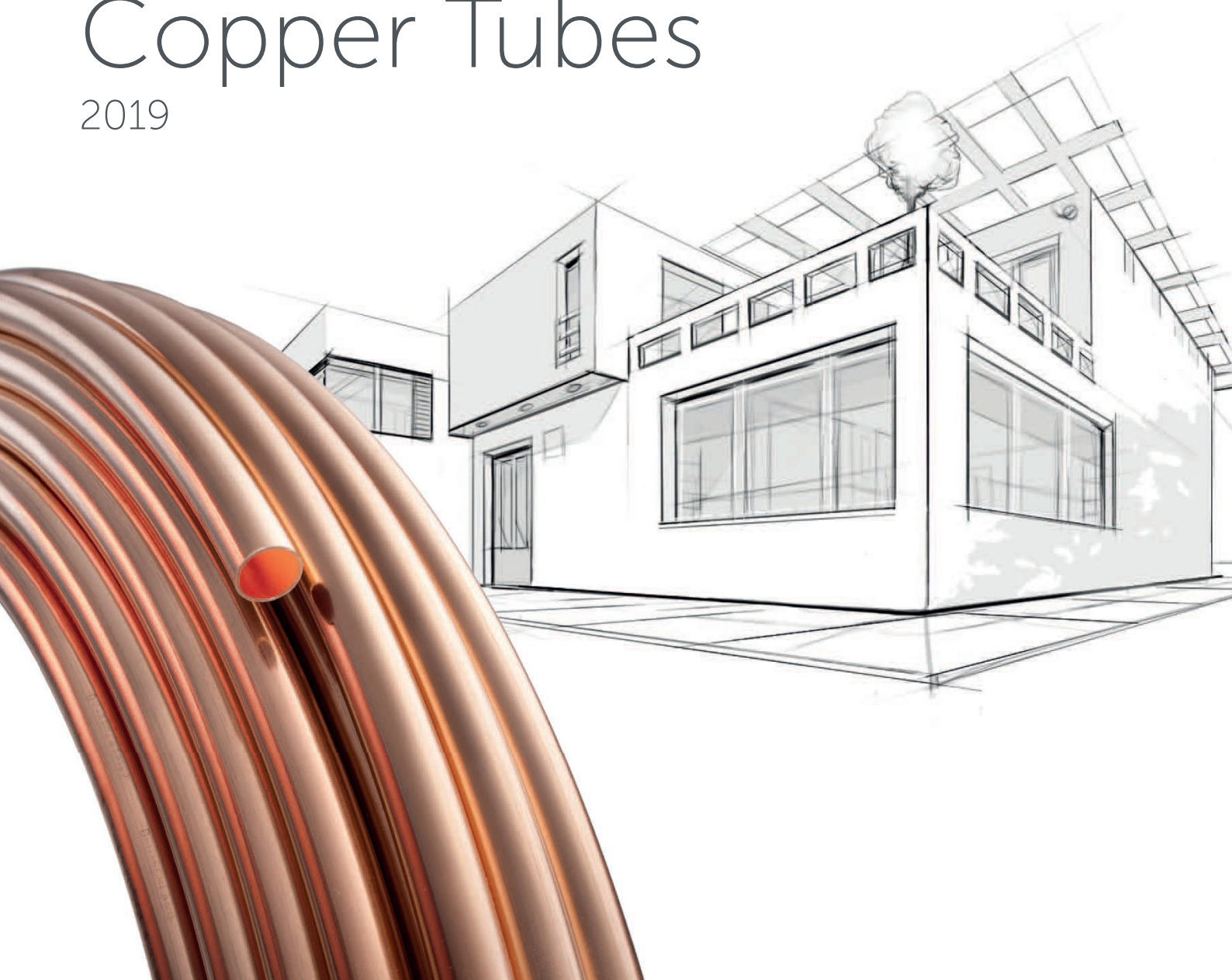


# Plumbing, Heating, ACR and Medical Copper Tubes

2019



## Copper

Copper is the shining reddish metal known by the Romans as aes cyprium (ore from Cyprus). However, copper has been known long before the Romans gave it this name. As a natural resource it is valuable in every form, be it as a vital trace element in the human body or a mineral found in the Earth's crust.

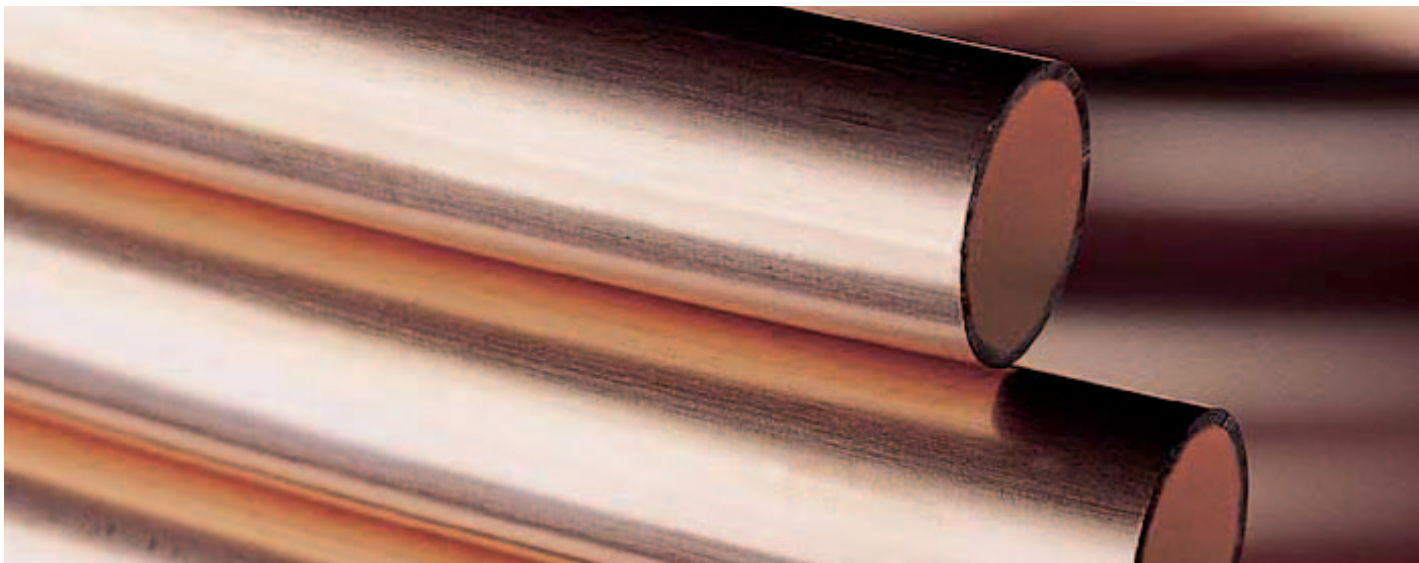
Over the centuries, man has discovered the many advantages of copper and its alloys, notably its excellent forming properties, strength, thermal and electrical conductivity. Copper has proved itself to be one of the most important worked metals in modern times.

Copper is a unique material for ecologically sustainable developments and is 100 percent recyclable. More than half of today's raw copper is already produced by reusing returned material.

## Copper tubes

- | are resistant to ageing and retain their properties
- | e.g. pressure resistance and elasticity
- | are gas- and diffusion-tight
- | are subject to minimal thermal expansion
- | exhibit good mechanical resistance
- | are easy to install
- | can be connected by a variety of techniques, which have
- | proven over generations
- | are not affected by temperature fluctuations
- | are suitable for all domestic plumbing applications
- | are readily available in all common sizes

The requirements to be satisfied by copper tubes for domestic plumbing systems are clearly specified in a single standard: EN 1057.



## The Wieland Group

The Wieland Group, with headquarters in Ulm, is one of the world's leading manufacturers of semi-finished and special products in copper and copper alloys, such as strip, sheet, tubes, rods, wires and sections. Special products include slide bearings, finned tubes and heat exchangers.

As an international company, Wieland has manufacturing companies, slitting centres and trading companies in many European countries as well as in the USA, in South Africa, Singapore, China and India. The global workforce of the Wieland Group is approx. 6,700 strong of which 4,300 are employed in Germany. The domestic plants (Wieland-Werke AG) are located in Ulm, Velbert-Langenberg, Villingen-Schwenningen and Vöhringen/Iller.

Wieland supplies customers in numerous markets with over 100 different copper alloys which are primarily used in the electrical and electronic industry. Other important sectors are the construction, automotive as well as the air conditioning and refrigeration industries. Wieland materials are used in a variety of everyday products such as contacts in electrical sockets, drinking water and heating pipes, door locks, slide bearings for engines, refrigeration units for cold stores and air conditioning units. Our materials also prove to be indispensable for high-tech applications in computer and telecommunications technologies.



*Vöhringen plant – production location for copper plumbing tubes*

## Copper tube for air conditioning and refrigeration

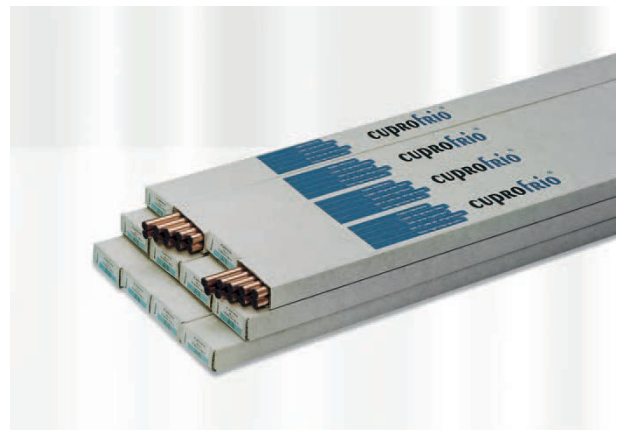
cuprofrío, the seamless drawn Wieland refrigeration tube is mainly used to transport technical gases and liquids in chillers, air-conditioning and refrigeration units as well as heat exchangers. An outstanding characteristic of cuprofrío is its clean and dry inner surface.

The tube ends are closed to maintain the defined condition of the inner surface also during storage and transportation.

cuprofrío tube meets the requirements of EN 12735-1 for copper tube used in air-conditioning and refrigeration. cuprofrío also meets the requirements of the Pressure Equipment Directive 2014/68/EU.

Wieland-Werke AG has concluded a separate warranty agreement with VDKF (Verband Deutscher Kälte-Klima-Fachbetriebe e.V. – Association of Refrigeration and Air Conditioning Contractors) covering property damage and bodily injury.

- | Material: Cu-DHP, Wieland-K20
- | Design: EN 12735-1
- | Pressure Equipment Directive: compliant
- | Environmental declaration: according to ISO 14025




\* other dimensions are available on request

\*\* calculated with 3.5 times safety coefficient on the basis of soft copper tubes with Rm 200 N/mm<sup>2</sup> at an operating temperature of von 100 °C

\*\*\*packing unit

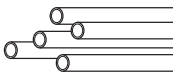
## cuprofrio - Coils

| cuprofrio standard dimensions from stock\*

Copper tube	Dimension	Weight nominal	Operating pressure**	Coils
	mm	kg/m	bar	m/coil
	6 x 1	0.140	194	2 x 35
	8 x 1	0.196	139	2 x 35
	10 x 1	0.252	109	25
	12 x 1	0.308	89	25
	15 x 1	0.391	70	25
	16 x 1	0.419	66	25
	18 x 1	0.475	57	25

## cuprofrio - Straight lengths

| cuprofrio standard dimensions from stock\*

Copper tube	Dimension	Weight nominal	Operating pressure**	Straight lengths
	mm	kg/m	bar	m/cardboard box***
	4 x 1	0.084	318	2 x 35
	6 x 1	0.140	194	2 x 35
	6 x 1	0.140	194	25
	8 x 1	0.196	139	2 x 35
	8 x 1	0.196	139	25
	10 x 1	0.252	109	25
	10 x 1	0.252	109	35
	12 x 1	0.308	89	25
	14 x 1	0.363	76	35
	15 x 1	0.391	70	25
	16 x 1	0.419	66	25
	18 x 1	0.475	57	25
	22 x 1	0.587	46	25

\* other dimensions are available on request

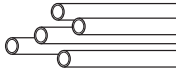
\*\* calculated with 3.5 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of von 100 °C

\*\*\*packing unit

## cuprofrio - Straight lengths

| cuprofrio standard dimensions from stock\* in straight lengths

| Temper: **hard as drawn**

Copper tube	Dimension	Weight nominal	Operating pressure**	Straight lengths
	mm	kg/m	bar	m/cardboard box***
	6 x 1	0.140	194	200
	8 x 1	0.196	139	100
	10 x 1	0.252	109	75
	12 x 1	0.308	89	50
	14 x 1	0.363	76	50
	15 x 1	0.391	70	50
	16 x 1	0.419	66	50
	18 x 1	0.475	57	50
	22 x 1	0.587	46	50
	28 x 1	0.755	36	50
	28 x 1.5	1.110	55	25
	35 x 1	0.951	28	25
	35 x 1.5	1.410	43	25
	42 x 1	1.146	24	25
	42 x 1.5	1.700	36	25
	54 x 1.5	2.202	28	20
	54 x 2	2.910	37	20
	64 x 2	3.467	31	5 m w/o cardboard
	76.1 x 2	4.144	26	5 m w/o cardboard
	88.9 x 2	4.859	22	5 m w/o cardboard
108 x 2.5	7.374	23	5 m w/o cardboard	

\* other dimensions are available on request

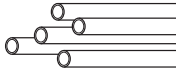
\*\* calculated with 3.5 times safety coefficient on the basis of soft copper tubes with Rm 200 N/mm<sup>2</sup> at an operating temperature of von 100 °C

\*\*\*packing unit

## cuprofrio - Straight lengths

| cuprofrio standard dimensions from stock\* in straight lengths

| Temper: **half hard**

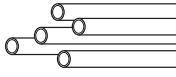
Copper tube	Dimension	Weight nominal	Operating pressure**	Straight lengths
	mm	kg/m	bar	m/cardboard box***
	10 x 1	0.252	109	75
	12 x 1	0.308	89	50
	16 x 1	0.419	66	50
	18 x 1	0.475	57	50
	22 x 1	0.587	46	50
	28 x 1	0.755	36	50

## cuprofrio - Straight lengths

| cuprofrio standard dimensions from stock\* in straight lengths

| Temper: **soft**

| packed in wooden box

Copper tube	Dimension	Weight nominal	Operating pressure**	Straight lengths
	mm	kg/m	bar	m/cardboard box***
	28 x 1.5	1.110	55	600
	35 x 1.5	1.410	43	500
	42 x 1.5	1.700	36	350
	54 x 2	2.910	37	200

\* other dimensions are available on request

\*\* calculated with 3.5 times safety coefficient on the basis of soft copper tubes with Rm 200 N/mm<sup>2</sup> at an operating temperature of von 100 °C

\*\*\*packing unit

**wieland**

Wieland-Werke AG | Graf-Arco-Straße 36 | 89079 Ulm | Germany  
plumbingtubes@wieland.com | [wieland.com/plumbingtubes](https://wieland.com/plumbingtubes)

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