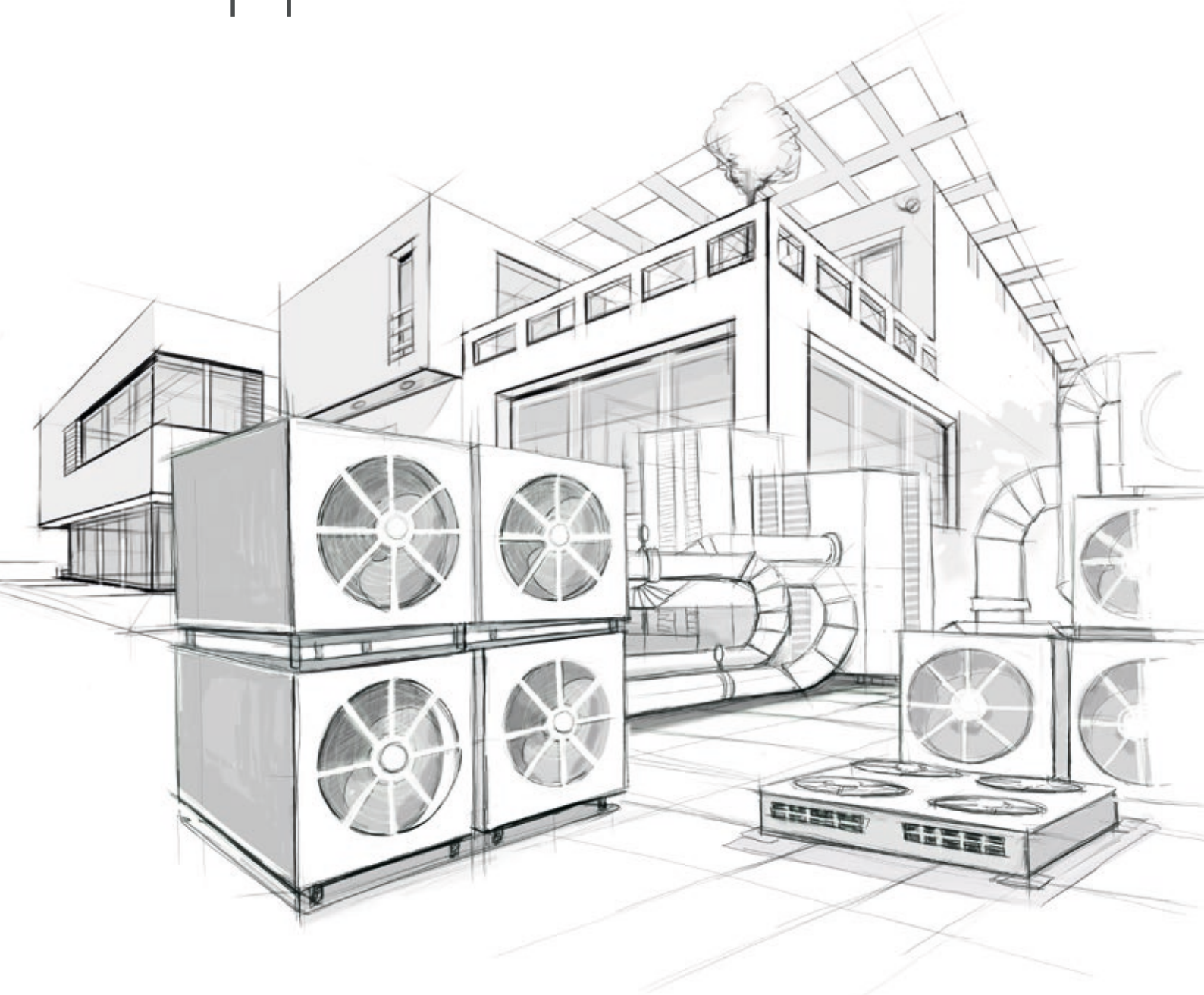
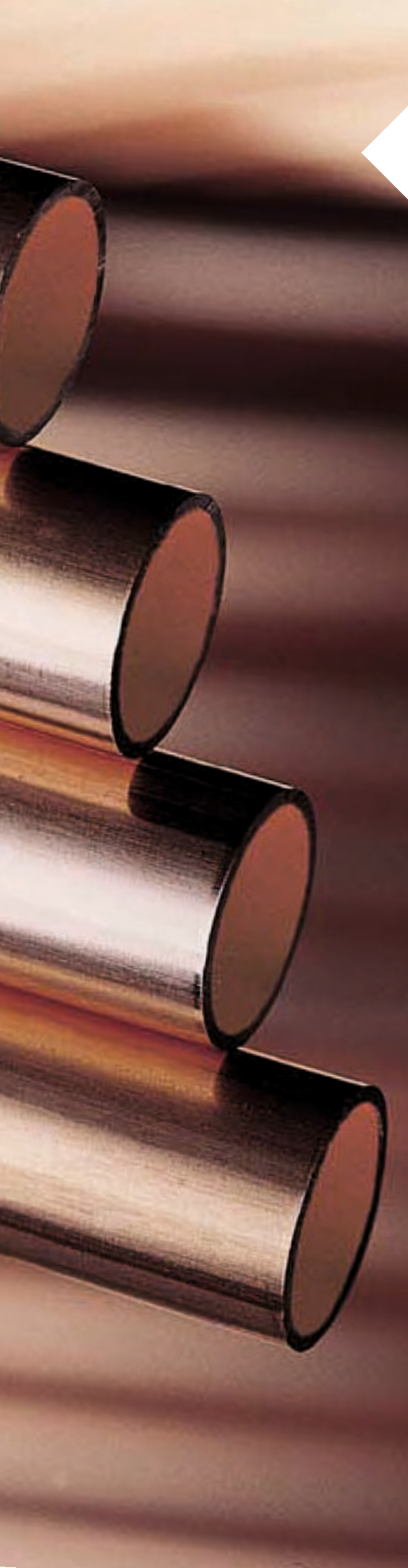


wieland

# Plumbing, Heating, ACR and Medical Copper Tubes





## Contents

---

The Wieland Group	3
Copper and Copper tubes	4
Recycling	5
cuprolife	7
SANO	8
WICU	10
WICU Flex	12
cuprotherm	13
cupromed/cuprofrio	23
cuprofrio.plus	26
cuprogeo	29
Wieland K65	30
Application of different tub	34
Marking of copper tubes	35

# Wieland – the company

## The Wieland Group

Wieland is a leading global supplier of semi-finished products made of copper and copper alloys. With a global network of production facilities, service and trading houses, the company offers a wide range of products, technologies and services. From prototype to series production, Wieland develops solutions for automotive, electronics, refrigeration and air conditioning technology and other industries. With high-performance copper materials, Wieland drives the success of its B2B customers in future fields such as electromobility, connectivity and urbanization. High technical competence, customer-oriented thinking and sustainability determine the actions and have been the basis for the company's success since 1820.

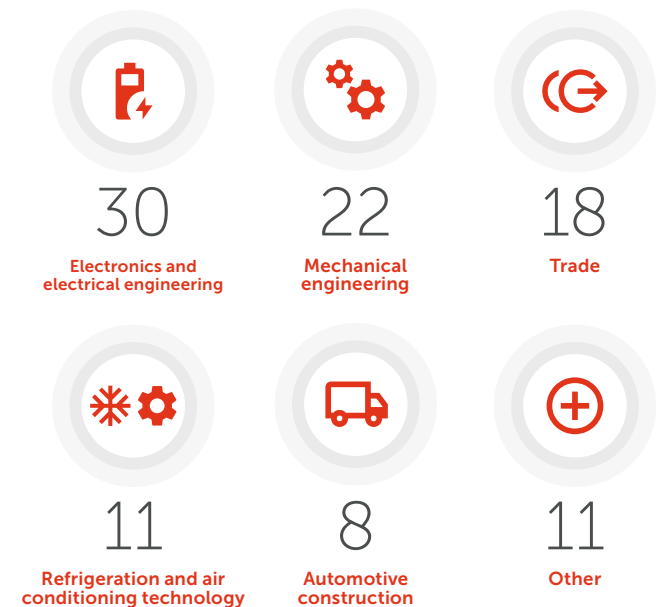
Our copper plumbing tubes meet the highest demands, in some cases better than the regulations and standards. Our action is based on the needs of our customers. We are also clearly committed to the three-tier approach distribution channel. With regard to the skilled crafts, we appreciate the long-standing partnership with trade associations and the ZVSHK, which is expressed, for example, in the new version of the warranty. Experienced application engineers support you in all questions.

GRI 2-1



### Total turnover by sector

based on NACE (classification of economic activities), in %



\* Reporting date as of September 30, 2023, including 50% of the employees of Schwermetall Halbzeugwerk GmbH & Co. KG, see the section [About this report](#).

# Keeping things natural – for today and tomorrow

## Copper and copper tubes

Copper is a reddish shiny metal that was known by the Romans as „aes cyprium“ (ores from Cyprus). However, copper was known long before the Romans gave it that name. As a natural resource, it is valuable in every form, whether as a vital trace element in the human body or as a mineral in the earth’s crust.

Over the centuries, man discovered the many advantages of copper and its alloys, especially the excellent forming properties, strength, and thermal and electrical conductivity. This makes copper one of the most important materials in a wide range of applications - today and tomorrow.

Copper is a unique material for ecologically-sustainable developments and is infinitely and 100 percent recyclable. More than half of today’s copper demand is already covered by recycling.

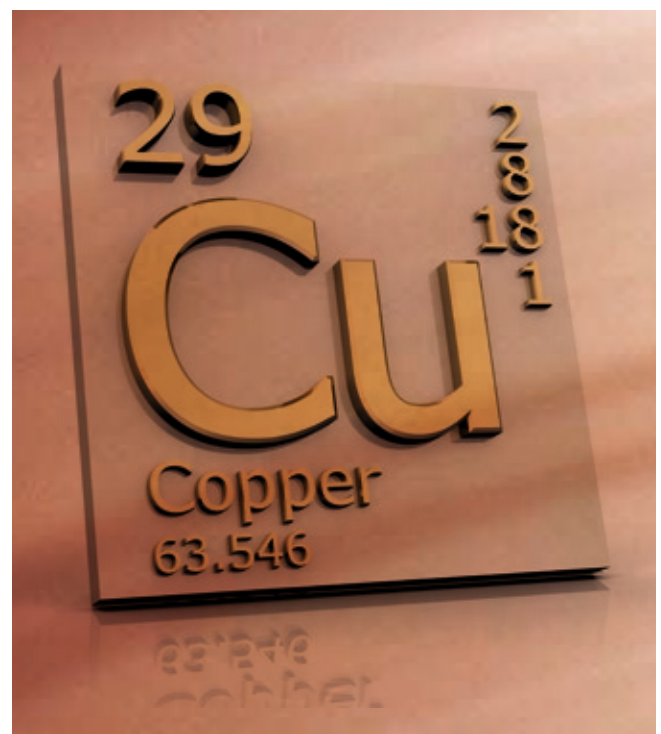
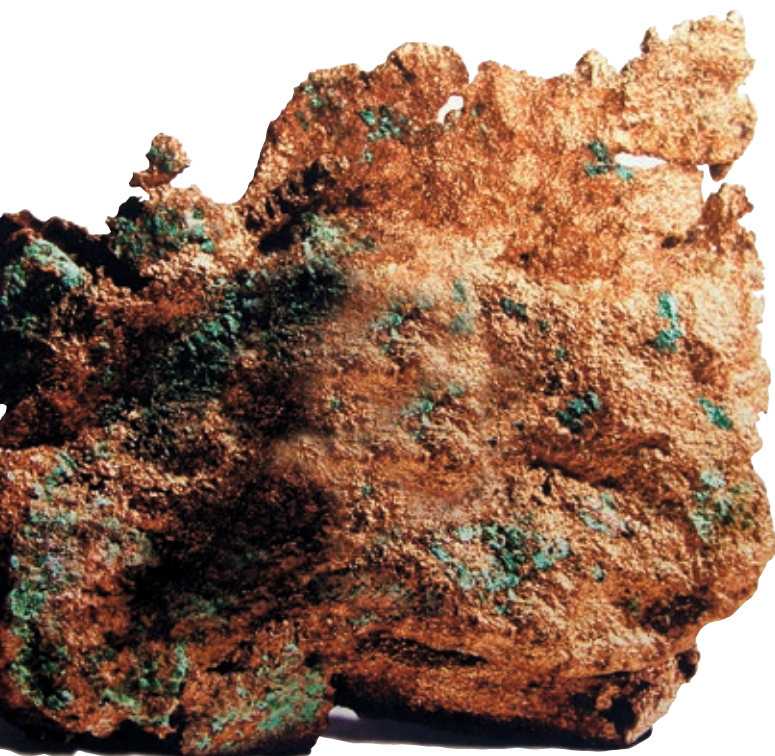
### Copper tubes

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

The requirements for copper tubes are clearly defined in European standards.

For example:

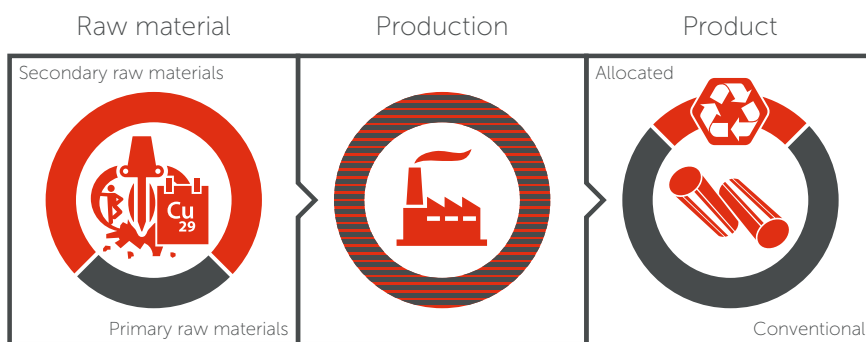
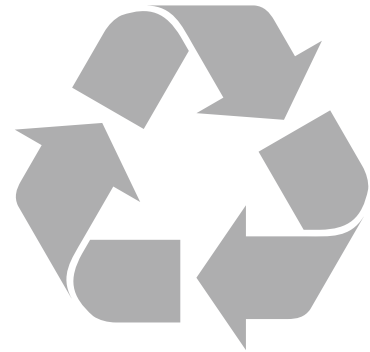
- EN 1057 for plumbing tubes
- EN 12735 for refrigeration tubes
- EN 13348 for medical gas tubes



# Ecological and sustainable

## Recycling

Copper is available in virtually unlimited quantities, as well as being 100 % recyclable, which makes it a unique material for ecologically sustainable developments. The key here is that the quality of copper remains fully intact when recycled. So it should come as no surprise that almost half of Europe's current copper demand is already being covered by recycling. Sustainability, and the full recycling of materials directly associated with this, is part of the Wieland Group's core business. Indeed, the recycled material content in many of Wieland's semi-finished products is already above 90 %. In some areas, 100% of the materials come from recycling.



Every cuprolife tube from Wieland is produced in a process that uses 100 % recycled copper as per the mass-balance approach. TÜV SÜD used this approach as the basis for verification of cuprolife when determining the 100 % recycled material content\*.

By using raw materials that were already part of the cycle, this approach leads to less ore being mined. In terms of production, this means that various amounts of raw materials from different origins are then included in the end product.

By purchasing a verified product like cuprolife, you are therefore helping to reduce the proportion of primary materials used in the long term, while also increasing the use of secondary materials like scrap.



\* Mass-balance approach, based on ISO 14021, verified by TÜV SÜD

## cuprolife – For a sustainable future.

With a proportion of 100% recycled material, the cuprolife copper tube makes a sustainable difference and overall contribution to advancing the fields of both construction and building services. Unnecessary resource consumption is then avoided in future and buildings can continue to be used for many generations. This facilitates more sustainable and increasingly circular construction with regard to installation tubes. And remember: The 100% recycled content has not only been verified by TÜV SÜD\*, but is also continuously secured in Wieland's production operations.

### 100% recycled content.\*

cuprolife is produced from 100% recycled copper\*.

### 100% quality.

cuprolife ensures the highest quality, as copper can be infinitely recycled without any loss of quality.

### 100% purity for drinking water.

cuprolife guarantees particularly high purity and the highest drinking water quality.



### Areas of application:

- Sanitary, Heating, Gas, Liquid gas
- Fuel oil/bio fuel oil B10
- Solar power systems
- Rainwater
- Compressed air for industry
- Sprinkler systems
- Extinguishing water lines

### Technical properties:


- 100% recycled copper\*
- Tube design as per EN 1057, quality assured
- Produced from Cu-DHP pure copper
- With quality mark and DVGW certification:
  - DV-7204AU2106 (12 to 159 mm external diameter)
  - Universal use with finely graduated range of dimensions
  - Optimum availability and compatibility with various fittings
  - Maximum operating temperature at 10 bar operating pressure: 250 °C (applies to dimensions up to DN 150)
- Fire behaviour: EN 13501-1 – A1 (non-combustible)
- Dimensions as per DVGW GW 392 (12 to 159 mm) with sealed tube ends
- For excellent drinking water hygiene

## cuprolife – Coils

– Temper: **soft annealed**

– Delivery forms available ex stock. Further dimensions available e.g. ASTM 1/4" to 7/8"



Tube	Dimension mm	Item number 25 m coil	Item number 50 m coil	Operating pressure* bar	Nominal weight kg/m	Water content l/m	Packaging unit palette
	6 x 1.0		435106100	224	0.140	0.013	35 Coils = 1750 m
	8 x 1.0		435108100	162	0.196	0.028	35 Coils = 1750 m
	10 x 1.0		435110100	126	0.252	0.050	35 Coils = 1750 m
	12 x 1.0		435112100	104	0.308	0.079	30 Coils = 1500 m
	15 x 1.0		435115100	82	0.391	0.133	25 Coils = 1250 m
	18 x 1.0	435118100		66	0.475	0.201	30 Coils = 750 m
	22 x 1.0	435122100		53	0.587	0.314	20 Coils = 500 m

\* Mass-balance approach, based on ISO 14021, verified by TÜV SÜD



## The new standard for copper tubes: cuprolife.

Thanks to use of the latest production methods, cuprolife tubes exceed even the strictest requirements. This guarantees both optimum operational reliability and an excellent service life. cuprolife tubes can be used universally. A stock of cuprolife is always maintained in tube dimensions from 6 x 1 mm to 159 x 3 mm. A warranty agreement is also in place with the German Sanitation, Heating and Air Conditioning Association (ZVSHK) for Wieland-brand copper tubes.

## cuprolife – Straight lengths

- Temper: **hard or half-hard**
- in lengths of 5 m
- Dimensions ex stock, many further sizes available e.g. UK table X/Y, ASTM ¼" to 11"



Tube	Dimension mm	Temper		Operating pressure* bar	Nominal weight kg/m	Water content l/m	Packaging unit small m	Packaging unit big m
		half-hard R250	hard R290					
	6 x 1.0		435206100	224	0.140	0.013	50	1000
	8 x 1.0		435208100	162	0.196	0.028	50	1000
	10 x 1.0	435310100	435210100	126	0.252	0.050	100	2000
	12 x 1.0	435312101	435212101	104	0.308	0.079	50	2000
	15 x 0.7		435215071**	48	0.280	0.145	20	400
	15 x 1.0	435315101	435215101	82	0.391	0.133	50	2000
	15 x 1.5		435215151	127	0.566	0.113	50	2000
	18 x 0.7		435218071**	39	0.339	0.216	10	200
	18 x 1.0	435318101	435218101	66	0.475	0.201	50	1000
	18 x 1.5		435218151	101	0.692	0.177	50	1000
	22 x 0.8		435222081**	36	0.475	0.327	10	200
	22 x 1.0	435322101	435222101	53	0.587	0.314	50	1000
	22 x 1.5		435222151	82	0.860	0.284	50	1000
	28 x 0.8		435228081**	28	0.609	0.547	5	100
	28 x 1.0	435328101	435228101	42	0.755	0.531	25	500
	28 x 1.2		435328121	50	0.899	0.515	25	500
	28 x 1.5		435228151	63	1.111	0.491	25	500
	35 x 1.0		435235101	33	0.951	0.855	25	500
	35 x 1.2		435235121	40	1.134	0.835	25	500
	35 x 1.5		435235151	50	1.405	0.804	25	500
42 x 1.0		435242101	28	1.146	1.257	25	500	
42 x 1.2		435242121	33	1.369	1.232	25	500	
42 x 1.5		435242151	42	1.699	1.195	25	500	
54 x 1.5		435254151	32	2.202	2.043	15	150	
54 x 2.0		435254201	43	2.908	1.963	15	150	
64 x 2.0		435264201	36	3.467	2.827	5		
76,1 x 2.0		435276121	30	4.144	4.083	5		
88,9 x 2.0		435288921	26	4.859	5.661	5		
108 x 2.5		435210825	27	7.374	8.332	5		
133 x 3.0		435213331	26	10.904	12.668	5		
159 x 3.0		435215931	22	13.085	18.385	5		

\* Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

\*\* Please note: delivery length 3 m

## SANCO – Plumbing tubes

Thanks to the patented production process, SANCO copper tubes are superior to the requirements defined in applicable standards and regulations. The universal plumbing tube is subjected to continuous quality control and is constantly available in the full range of dimensions from 6 to 159 mm. SANCO tubes are seamless drawn plumbing tubes consisting of pure deoxidised copper (Cu-DHP) of a quality standard that comfortably satisfies all contemporary requirements.



### Applications:

- Domestic hot and cold water supply
- Heating systems
- Gas and oil services for heating/cooking
- Industrial compressed air
- Sprinkler and Fire-fighting systems

### Product range:

- EN 1057 from stock Ø 6 to 159
- ASTM B88 on demand ¼" to 11"
- Soft, half-hard and hard temper
- Straight length and soft coils
- Tube bundled and marked
- Wide range of certifications available, such as Kitemark, Afnor, KIWA, DVGW and many others


### Technical properties:

- The patented production process means that the specifications of SANCO tubes are far superior to the requirements defined in applicable standards and regulations.
- Universal use in a range of finely differentiated dimensions.
- Optimal availability and compatibility with a wide range of fittings.
- Maximum operating temperature: 250 °C (check maximum operating pressure if temperature exceeds 100 °C)
- Fire resistance: EN 13501-1 - A1 (non-flammable)

## SANCO – Coils

- Temper: **soft annealed**
- Delivery forms available ex stock. Further dimensions available e.g. ASTM ¼" to 7/8"



Tube	Dimension mm	Item number 25 m coil	Item number 50 m coil	Operating pressure* bar	Nominal weight kg/m	Water content l/m	Packaging unit palette
	6 x 1.0		434606100	224	0.140	0.013	35 Coils = 1750 m
	8 x 1.0		434608100	162	0.196	0.028	35 Coils = 1750 m
	10 x 1.0		434610100	126	0.252	0.050	35 Coils = 1750 m
	12 x 1.0		434612100	104	0.308	0.079	30 Coils = 1500 m
	14 x 1.0		434614100	88	0.364	0.113	35 Coils = 875 m
	15 x 1.0		434615100	82	0.391	0.133	25 Coils = 1250 m
	18 x 1.0	431600400		66	0.475	0.201	30 Coils = 750 m
	22 x 1.0	431600700		53	0.587	0.314	20 Coils = 500 m

## SANCO – Straight lengths

- Temper: **hard or half-hard**
- in straight lengths of 5 m
- Dimensions ex stock, many further sizes available e.g. UK table X/Y, ASTM ¼" to 11"



Tube	Dimension mm	Temper		Operating pressure* bar	Nominal weight kg/m	Water content l/m	Packaging unit small m	Packaging unit big m
		half-hard R250	hard R290					
	6 x 1.0		431800100	224	0.140	0.013	50	1000
	8 x 1.0		431800200	162	0.196	0.028	50	1000
	10 x 1.0		433410100	126	0.252	0.050	100	2000
	12 x 1.0	434212100	433412100	104	0.308	0.079	50	2000
	15 x 1.0	433615100	433415100	82	0.391	0.133	50	2000
	18 x 1.0	434218100	433418100	66	0.475	0.201	50	1000
	22 x 1.0	434222100	433422100	53	0.587	0.314	50	1000
	22 x 1.1	433622111		59	0.643	0.308	50	1000
	28 x 1.0	433628101	433428100	42	0.755	0.531	25	500
	28 x 1.2	433628121		50	0.899	0.515	25	500
	28 x 1.5	433628150	431801300	63	1.111	0.491	25	500
	35 x 1.0		433435100	33	0.951	0.855	25	500
	35 x 1.2		433435121	40	1.134	0.835	25	500
	35 x 1.5		431801501	50	1.405	0.804	25	500
	42 x 1.0		433442100	28	1.146	1.257	25	500
	42 x 1.2		433442121	33	1.369	1.232	25	500
	42 x 1.5		431801701	42	1.699	1.195	25	500
	54 x 1.5		433454150	32	2.202	2.043	15	150
	54 x 2.0		431802000	43	2.908	1.963	15	150
	64 x 2.0		433464200	36	3.467	2.827	5	
76,1 x 2.0		433476120	30	4.144	4.083	5		
88,9 x 2.0		433488920	26	4.859	5.661	5		
108 x 2.5		433410825	27	7.374	8.332	5		
133 x 3.0		433413330	26	10.904	12.668	5		
159 x 3.0		433415930	22	13.085	18.385	5		

\* Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

## WICU – System solutions

The WICU system consists of Wieland copper tubes equipped, thermal or noise insulation.

## WICU – Tube

WICU tubes have a mill-applied protective coating. They are therefore suitable for concealed installation under plaster or in environments with an aggressive atmosphere, and for installation outdoors, either above or below ground.

### Applications:

- Domestic hot and cold water supply
- Central heating systems
- Gas services for heating/cooking
- Liquefied gas
- Oil services for heating
- Rainwater
- Compressed air




### Technical properties:

- The tubes conform to EN 1057 and are quality assured
- Protective coating conforms to EN 13349
- External protection: DIN 30672-1
- Fire resistance conforms to EN 13501-1-E
- Color of coating: light grey
- Temperature range: up to 100 °C operating temperature

## WICU – Coils

- Temper: **soft R220**
- wrapped in plastic film

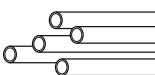


Tube	Dimension mm	Item number 25 m coil	Operating pressure* bar	Total outside diameter mm	Nominal weight kg/m	Water content l/m	Packaging unit Palette
	10 x 1.0	422610100	126	14	0.252	0.050	35 Coils = 875 m
	12 x 1.0	422612100	104	16	0.308	0.079	35 Coils = 875 m
	15 x 1.0	422615100	82	19	0.391	0.133	30 Coils = 750 m
	18 x 1.0	422618100	66	23	0.475	0.201	25 Coils = 625 m
	22 x 1.0	422622100	53	27	0.587	0.314	20 Coils = 500 m

## WICU – Straight lengths

- Temper: **hard R290**
- in lengths of 5 m, packed in cardboard boxes / wrapped with plastic film



Tube	Dimension mm	Item number	Operating pressure* bar	Total outside diameter mm	Nominal weight kg/m	Water content l/m	Packaging unit Palette
	15 x 1.0	422815100	82	19	0.391	0.133	50
	18 x 1.0	422818100	66	23	0.475	0.201	50
	22 x 1.0	422822100	53	27	0.587	0.314	50
	28 x 1.0	422828100	42	33	0.755	0.531	25
	28 x 1.2	422828120	50	33	0.900	0.515	25
	35 x 1.2	422835120	40	40	1.134	0.835	25
	42 x 1.2	422842120	33	48	1.369	1.232	20

\* Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

## WICU Flex

WICU Flex is a plumbing tube with a flexible coating for rapid installation. The coating consists of closed-cell PE foam covered by a structured protective film. WICU Flex is supplied in coils for rapid connection to manifolds, etc and for underfloor installations.



### Applications:

- Connecting tubes
- Domestic hot and cold water supply
- Central heating systems


### Technical properties:

- The tubes conform to EN 1057 and are quality assured
- Insulation reduces the heat loss of the tube by up to 80%
- Thermal conductivity of the insulation layer  $\lambda = 0.040 \text{ W/mK (40 °C)}$
- Fire resistance:  $B_L-s1,d0$  according to EN 13501-1
- Color of coating: white

## WICU Flex in coils

– Temper: **soft annealed**



Tube	Dimension mm	Item number 25 m coil	Operating pressure* bar	Total outside diameter mm	Nominal weight kg/m	Water content l/m	Packaging unit Palette
	12 x 1,0	423512160	104	30	0.308	12.73	20 coils = 500 m
	15 x 1,0	423515160	82	33	0.391	7.53	18 coils = 450 m
	18 x 1,0	423518160	66	36	0.475	4.97	10 coils = 250 m
	22 x 1,0	423522160	53	40	0.587	3.18	15 coils = 375 m

\* Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m 200 \text{ N/mm}^2$  at an operating temperature of 100 °C, according to EN 14726

## Copper tubes for surface heating

In addition to the particularly flexible copper tubes with a firmly adhering coating of the cuprotherm CTX type classic copper tubes are also available for surface heating, with an orange coating or without a coating

- Absolute impermeability to oxygen diffusion
- Unlimited aging resistance
- High mechanical resistance
- Long-term solution
- Optimal heat conduction

### cuprotherm.plus



The powerful heating tube with external protection

#### Technical properties:

- Mechanical properties according to EN 1057
- Fire class: EN 13501-1-E
- Color of the coating: orange
- With RAL quality mark
- Diffusion rate: 0.00 mg/m<sup>2</sup> d after 50 years

#### Applications:

- Underfloor heating / cooling
- Industrial surface heating
- Sports floor heating
- Open space heating

### cuprotherm.blank



The bare heating tube

#### Technical properties:

- Mechanical properties according to EN 1057
- Fire class: EN 13501-1 - A1
- With RAL quality mark
- Diffusion rate: 0.00 mg/m<sup>2</sup> d after 50 years

#### Applications:

- Underfloor heating with mastic asphalt screed

### Tube types and dimensions cuprotherm.plus and cuprotherm.blank

Tube	Dimension mm	Item number	Operating pressure* bar	Total outside diameter mm	Nominal weight kg/m	Water content l/m	Packaging unit Palette
cuprotherm.plus	12 x 0.7	426112700	74	14	0.221	0.088	15 coils = 750 m
cuprotherm.plus	14 x 0.8	426114800	72	16	0.295	0.121	15 coils = 750 m
cuprotherm.blank	12 x 0.7	425012700	74	12	0.221	0.088	15 coils = 750 m
cuprotherm.blank	14 x 0.8	425001400	72	14	0.295	0.121	15 coils = 750 m

\* Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

## cuprotherm CTX

cuprotherm CTX tubes are copper tubes with a firmly adhering coating. Due to their structure, they are very easy to process and are characterized by a flexibility hitherto unknown for metal tubes. CTX tubes are a technically high-quality and at the same time economically interesting solution: They offer an attractive price per meter for copper tubes at stable conditions, and are therefore also convincing in terms of reliability in planning.



### Applications:

- Heating
- Cooling
- Radiator connection
- Geothermal collectors (water/glycol)
- Concrete core activation

### Technical properties:

- Flexible copper tube made of pure copper Cu-DHP
- Temper: soft R220 according to EN 1057 with firmly adhering coating made of PE-RT
- Fire behavior EN 13501-1-E
- Color of the coating: white, similar to RAL 9010 (pure white)
- Operating temperature range: up to 95 °C

## Dimensions



### cuprotherm CTX

Tube	Dimension	Item number	Ring length	Packaging unit	
	mm			m	1 Palette
	14 x 2.0	424514200	100	10 coils = 1.000	
	16 x 2.0	424516200	100	10 coils = 1.000	

## Technical characteristics



### cuprotherm CTX

Dimension		14 x 2	16 x 2
Outer diameter, coating	mm	14	16
Wall thickness, coating	mm	1.70	1.65
Wall thickness, copper tube	mm	0.30	0.35
Temper as per EN 1057		R 220	R 220
Permissible operating pressure up to 100°C**	bar	35	34
Total weight	kg/m	0.147	0.189
Delivery form	in coils		
Coil length	m	100	100
Coil length per pallet	m	1000	1000
Bending radius with bending devices*	mm	50	55
Manual bending radius	mm	70	80
Water content	l/m	0.079	0.113
Material copper tube		Pure copper Cu-DHP according to EN 1057	
Roughness of the inner surface Ra	µm		≤ 1.5
Coefficient of thermal expansion	mm/mK		0.017
Material, coating			PE-RT
Thermal conductivity, coating / copper tube	W/mK		0.35/> 344
Coating color			white (similar RAL 9010)
Reaction to fire			EN 13501-1 E
Max. operating temperature	°C	95	95
Examples of circuit lengths for surface heating	m	80–100	100–120

\* With special bending devices, significantly smaller radii are possible

\*\*Calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

## Crimp fittings

CTX crimp fittings are intended for the use with CTX tubes. The connection is made with the CTX crimping tool contour TH. Commercially available crimping tools from other vendors can also be used.





### Applications:

- Surface heating
- Surface cooling
- Hot water heating
- Concrete core activation
- Rainwater harvesting system

### Technical properties:

- Crimp sleeve made of stainless steel 1.4301,
- inspection window for checking the insertion depth
- Sealing elements double arranged
- Pressure stage PN 10

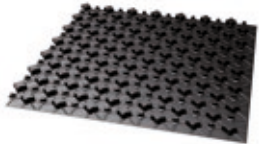

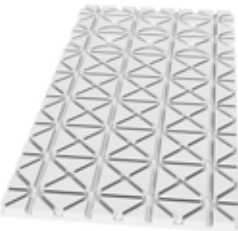


### Crimp fittings

	Article Article number/Dimensions in mm	Minimum packaging unit
	<b>CTX coupling</b> for joining of flexible copper tubes. <b>650114000</b> 14 x 2 <b>650116000</b> 16 x 2	Packed in PE bag 10 pieces 10 pieces
	<b>CTX adapter</b> for joining flexible copper tubes to copper plumbing tubes. <b>650414150</b> 14 x 2 – Cu 15 mm <b>650416150</b> 16 x 2 – Cu 15 mm	Packed in PE bag 10 pieces 10 pieces




Accessories

	Article Article number/Dimensions in mm	Minimum packaging unit
	<p><b>CTX union with eurocone</b> Thread connection <math>\frac{3}{4}</math>" , female, brass, nickel-plated, for connection to the heating group manifold.</p> <p><b>650014000</b>    14 x 2 <b>650016000</b>    16 x 2</p>	<p>Packed in PE bag 10 pieces 10 pieces</p>
	<p><b>cuprotherm compression fitting</b> 3 pieces, consisting of union nut, clamping ring and support sleeve, Euro cone, for cuprotherm tubes.</p> <p><b>625203300</b>    union nut R <math>\frac{3}{4}</math>" x 12 x 0.7 mm <b>625203100</b>    union nut R <math>\frac{3}{4}</math>" x 14 x 0.8 mm</p>	<p>Packed in PE bag 10 pieces 10 pieces</p>
	<p><b>cuprotherm capillary soldering sleeve</b> made of copper Cu-DHP, for the connection of cuprotherm tubes.</p> <p><b>625205000</b>    14 x 0.8 mm</p>	<p>Packed in PE bag 10 pieces</p>
	<p><b>cuprotherm bracket</b> of steel wire, for fastening the CTX tubes on the system insulation by hand.</p> <p><b>625202000</b>    for tubes up to 20 mm</p>	<p>Boxed 500 Pieces</p>
	<p><b>cuprotherm twin bracket</b> of steel wire, for fastening the CTX tubes on the system insulation with a system tacker.</p> <p><b>625202200</b>    For tube outside diameter 14 to 20 mm</p>	<p>Boxed 1,000 Pieces</p>
	<p><b>cuprotherm grid foil</b> as insulating layer cover and installation aid with printed spacing grid.</p> <p><b>625201000</b>    0.2 mm thick, 1,100 mm wide</p>	<p>1 roll = 50 m</p>

Accessories

	Article Article number/Dimensions in mm	Minimum packaging unit
	<p><b>cuprotherm knob panel „ekoBoden“</b> System board with installation distances of 7.5 cm and 15 cm. Made of polystyrene. Suitable for cuprotherm CTX tubes 14 x 2 mm. Meander as well as helical (bifilar) installation possible. Fire class B2 according to DIN 4102 Color: black <b>625271000</b>    1,275 x 975 x 23 Incl. overlap Effective surface per panel: 1.08 m<sup>2</sup></p>	<p>1 box = 18 pieces = 19.44 m<sup>2</sup></p>
	<p><b>cuprotherm door/distributor element for „ekoBoden“</b> Suitable for cuprotherm screed knob plate, made of solid polystyrene for the door and distribution area. With cut-outs for one-sided fixation. Fire class B2 according to DIN 4102 Color: black. <b>625271200</b>    1,200 x 575 x 1 mm</p>	<p>1 Pieces lose</p>
	<p><b>cuprotherm dry construction element TBE 25</b> System board for dry construction with installation distances of 12.5 cm and 25 cm. Made of polystyrene foam EPS 035 DEO dh according to EN 13163. Suitable for cuprotherm CTX tubes 14 x 2 mm. Meander as well as helical (bifilar) installation possible. Fire class B1 according DIN 4102 Thermal conductivity class WLS 035. <b>625275100</b>    1,000 x 500 x 25 mm    <math>R_{\lambda} = 0.56 \text{ m}^2\text{K/W}</math> Pressure load 60 kPa (60 kN/m<sup>2</sup>)</p>	<p>packed in PE film 10 elements = 5 m<sup>2</sup></p>
	<p><b>cuprotherm heat conducting lamella WLL</b> Made of galvanized sheet steel for the cuprotherm dry construction element. Suitable for the cuprotherm CTX tube 14 x 2 mm. Tool-less divisible every 100 mm. <b>625275300</b>    750 x 122 x 0.4 mm</p>	<p>1 box = 50 pieces</p>
	<p><b>CTX radiator connection block</b> With insulation box made of EPS, insulation thickness at the back 18 mm for plastering into the wall (installation depth 50 mm), with bent copper tube 15 x 1 mm, for SANCO and WICU tubes. Dimensions: Height: 260 mm, Width: 100 mm Mounting depth: 50 mm (base 210 mm) Distance between axes: 215 mm Bottom insulation: 14 mm. <b>625433000</b></p>	<p>1 piece loose</p>

Tools

	Article Article number/Dimensions in mm	Minimum packaging unit
	<p><b>CTX cutting tool</b> Calibrating and deburring CTX tubes for use of CTX crimp fittings. <b>655100100</b></p>	<p>Loose 1 piece</p>
	<p><b>cuprotherm tacker</b> for easy fastening of cuprotherm double anchors, suitable for commercially available insulation boards of EPS, PU, Styrodur, Foamglas, cork, autoclaved aerated concrete and wood soft fibre boards. <b>625220700</b></p>	<p>Loose 1 piece</p>
	<p><b>cuprotherm calibration tool</b> consisting of a mandrel and ring. <b>625429600</b> for copper tube 12 x 0.7 mm <b>625220100</b> for copper tube 14 x 0.8 mm</p>	<p>Packed in PE bag</p>

## cuprotherm surface heating

cuprotherm is Europe's most popular copper-based surface heating system – with good reason. Alongside the absolute oxygen diffusion tightness of the core tube, the combination of unlimited ageing resistance and high mechanical resistance make it a secure, long-term solution in the field of surface heating. Optimum heat transfer obviously also comes as standard here.

## cuprotherm ekoBoden underfloor heating/cooling



**Special characteristic:** use of a thin, conventional cement screed in place of expensive filler or sealing compound, fast response time, tiles with decoupling underlay

**Load-distributing layer:** conventional cement or calcium sulphate screed

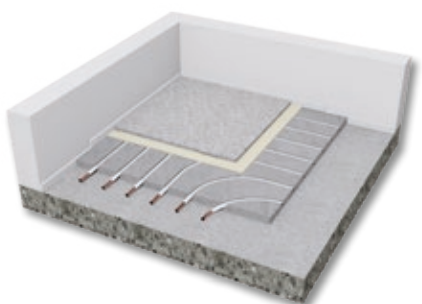
**Screed thickness:** from 33 mm (including tubes)

**System accessories:** castellated foil

**Minimum installation height:** approximately 33 mm without top surface covering/mortar bed

**Copper tubes:** cuprotherm CTX tube 14 x 2 mm

## cuprotherm mini underfloor heating system for retrofit applications



**Special characteristic:** installation height of "zero" due to milling of the old screed, fast response time

**Load-distributing layer:** old screed

**Screed thickness:** at least 30 mm

**Insulation:** existing building structure

**Minimum installation height:** "zero" plus top surface covering (preferably tiles)

**Copper tubes:** cuprotherm CTX tube 14 x 2 mm

## Classic underfloor heating/cooling with wet screed



**Special characteristic:** proven in millions of installations, preferred option in new buildings (residential/non-residential construction, commercial/industrial buildings)

**Load-distributing layer:** cement screed, calcium sulphate screed, calcium sulphate floating screed

**Screed thickness:** approximately 60 mm for a traffic load of 2 kN/m<sup>2</sup>  
approximately 85 mm for a traffic load of 5 kN/m<sup>2</sup>

**Insulation:** for example EPS 040 DES sg 30-2 mm

**Installation height on intermediate storeys:** approximately 90 mm without top surface covering

**Copper tubes:** cuprotherm CTX and cuprotherm.plus tube  
14 x 2 mm, 16 x 2 mm, 12 x 0.7 mm, 14 x 0.8 mm

## Underfloor heating/cooling with poured asphalt



**Special characteristic:** when quick installation is required, low installation height, no water ingress/no screed curing, quick controllability, jointless

**Load-distributing layer:** poured asphalt (ICH10), generally single-layer

**Screed thickness:** approximately 40 mm for a traffic load of 2 kN/m<sup>2</sup>  
minimum 40 mm for a traffic load of 5 kN/m<sup>2</sup>

**Insulation:** suitable for asphalt  
(EPD/MW DES sg); observe traffic loads

**Installation height on intermediate storeys:** approximately 70-75 mm without top surface covering

**Copper tubes:** cuprotherm.blank tube 14 x 0.8 mm

## Underfloor heating/cooling with dry screed



**Special characteristic:** clear separation of heating/screed works, no water ingress/no screed curing, low weight approximately 40 kg/m<sup>2</sup>

**Load-distributing layer:** dry screed panels

**Screed thickness:** approximately 25 mm for a traffic load of 2 kN/m<sup>2</sup>

**System insulation:** cuprotherm dry construction element TBE

**Installation height on intermediate storeys:** approximately 50 mm without top surface covering

**Copper tubes:** cuprotherm CTX tube 14 x 2 mm

## Wall heating/cooling with wet plaster



**Special characteristic:** easy and secure construction, exceptionally fast response time, very comfortable, floor is left untouched

**Covering:** plastering mortars with gypsum, lime, gypsum/lime, lime/cement, cement or clay binders

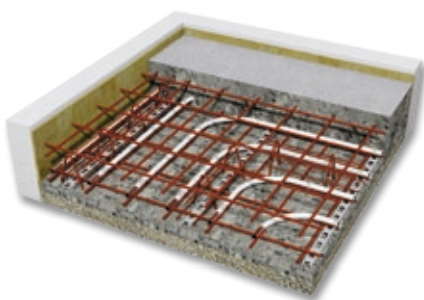
**Plaster thickness:** approximately 25–30 mm

**Insulation:** generally not required

**Installation height on solid walls:** approximately 25 mm without top surface covering

**Copper tubes:** cuprotherm CTX and cuprotherm.plus tube  
14 x 12 x 0.7 mm.

## Industrial surface heating



**Special characteristic:** easy, secure integration of the heating at any level, concrete structure as per statics

**Load-distributing layer:** unreinforced or reinforced concrete structure

**Thickness:** based on statics and loads, up to 400 mm

**Insulation:** none, generally high-strength (perimeter) insulation

**Installation height:** based on statics (independent of the surface heating system)

**Copper tubes:** cuprotherm CTX tube 16 x 2 mm

## Copper tubes for use in refrigeration / air conditioning technology and medical gas supply systems

The seamless drawn copper tubes cupromed and cuprofrio are suitable for the transport of technical gases and liquids (refrigerants) in chillers, refrigeration and air conditioning systems, heat pumps and, in the case of cupromed, especially for medical gases and for vacuum.

cupromed and cuprofrio tubes meet the requirements for copper tubes used in refrigeration and air conditioning described in EN 12735-1 and EN 378 and comply with the requirements of the current Pressure Equipment Directive PED 2014/68 / EU.

cupromed tubes also meet the requirements of ISO 7396-1 for medical gas supply systems and exceed the cleanliness of the inner surface according to EN 13348.

Both types have a clean and dry inner surface. The tube ends are plugged to maintain the respective defined condition of the inner surface during storage and transport.

### cupromed / cuprofrio in straight lengths



Material:	Cu-DHP / Wieland K20
Temper:	R290 / R250
Ends:	closed
Packaging:	in cardboard boxes
Design:	EN 12735-1 / EN 13348

### cuprofrio Pancake

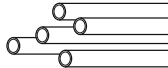


Material:	Cu-DHP / Wieland K20
Temper:	R220
Ends:	closed
Packaging:	in cardboard boxes
Design:	EN 12735-1

## cupromed/cuprofrío – Straight lengths

- Temper: **soft R220**, **half-hard R250** and **hard R290**
- EN 12735-1 / EN 13348
- in straight length of 5 m

Stock dimensions\* cupromed / cuprofrío in straight lengths, temper hard, half-hard and soft

Tube	Dimension mm	Item number soft R220***	Item number half-hard R250	Item number hard R290	Operating pressure**	Nominal weight	Volume	Packaging unit	
								m/card- board box	m/ wooden box
	6 x 1.0			432506100	224	0.140	0.013	200	
	8 x 1.0			432508100	162	0.196	0.028	100	
	10 x 1.0		432210100	432510100	126	0.252	0.050	75	
	12 x 1.0	432201210	432212100	432512100	104	0.308	0.079	50	1730
	14 x 1.0			432514100	88	0.363	0.113	50	
	15 x 1.0			432515100	82	0.391	0.133	50	
	16 x 1.0		432216100	432516100	76	0.419	0.154	50	
	18 x 1.0	432201810	432218100	432518100	66	0.475	0.201	50	1165
	22 x 1.0	432202210	432222100	432522100	53	0.587	0.314	505	945
	28 x 1.0	432202810	432228100	432528100	42	0.755	0.531	50	720
	28 x 1.5	432202815		432528150	63	1.110	0.491	25	600
	35 x 1.0			432535100	33	0.951	0.855	25	
	35 x 1.5	432203515		432535150	50	1.410	0.804	25	500
	42 x 1.0			432542100	28	1.146	1.257	25	
	42 x 1.5	432204215		432542150	42	1.700	1.195	25	350
	54 x 1.5			432554150	32	2.202	2.043	5 m lose	
	54 x 2.0	432205420		432554200	43	2.910	1.963	5 m lose	
	64 x 2.0			432564200	36	3.467	2.827	5 m lose	
	76,1 x 2.0			432576120	30	4.144	4.083	5 m lose	
	88,9 x 2.0			432588920	26	4.859	5.661	5 m lose	
108 x 2.5			432510825	27	7.374	8.332	5 m lose		

\* other dimensions are available on request


\*\* calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

\*\*\* only EN 12735-1

## cuprofrío – Coils/Pancakes


- Temper: **soft R220**
- **EN 12735-1**

Stock dimensions\* cuprofrío in coils, temper soft

Tube	Dimension mm	Item number	Operating pressure** bar	Nominal weight kg/m	Volume l/m	Packaging unit m/cardboard box
	6 x 1,0	432106125	224	0.140	0,013	25 m
	8 x 1,0	432108125	162	0.196	0,028	25 m
	10 x 1,0	432110125	126	0,252	0,050	25 m
	12 x 1,0	432112125	104	0,308	0,079	25 m

- Temper: **soft R220**
- **EN 12735-1**

Stock dimensions\* cuprofrío in coils, temper soft

Tube	Dimension mm	Item number	Operating pressure** bar	Nominal weight kg/m	Volume l/m	Packaging unit m/cardboard box
	6 x 1.0	432106100	224	0.140	0.013	2 x 35
	8 x 1.0	432108100	162	0.196	0.028	2 x 35
	10 x 1.0	432110100	126	0.252	0.050	35
	12 x 1.0	432112100	104	0.308	0.079	35
	14 x 1.0	432114100	88	0.363	0.113	35
	15 x 1.0	432315100	82	0.391	0.133	25
	16 x 1.0	432316100	76	0.419	0.154	25
	18 x 1.0	432318100	66	0.475	0.201	25
	22 x 1.0	432322100	53	0.587	0.314	25

## Pre-insulated refrigeration tube

This tube consists of a seamlessly drawn Wieland cold tube of the cuprofrio type with a heat thermally insulating coating. It is used for transporting technical gases and liquids as well as for all common safety refrigerants. cuprofrio.plus is easy to unroll and bend thanks to the factory-fitted insulating tube.

The cuprofrio tube meets and exceeds the requirements described in the EN 12735-1 and EN 378 for copper tubes for use in refrigeration and air conditioning technology. cuprofrio.plus complies with the requirements of the current Pressure Equipment Directive DGRL 2014/68/EU.

The sheathing is characterized by good tear resistance, low thermal conductivity, high water vapor diffusion and is flame retardant in the event of fire with a very limited contribution to the fire.

cuprofrio.plus is intended for indoor installation; suitable protective measures must be taken for outdoor or underground installation.

With cuprofrio.plus Twin, the special connection of the insulation hoses allows simple and tool-free separation and rejoining of the tubes without tools. This enables particularly efficient and visually appealing installation.

The factory-fitted thermal insulation reduces energy losses. The insulation also reduces the likelihood of moisture condensing on the tubes. Taking into account the air temperature and relative humidity, the following table shows the minimum media temperatures at which condensation does not occur on the insulation are given in the following table.

Air temperature	Tube dimension / relative humidity	6 x 1 (mm)	10 x 1 (mm)	12 x 1 (mm)	16 x 1 (mm)	18 x 1 (mm)	22 x 1 (mm)
25 °C	50 %	-37 °C	-29 °C	-27 °C	-23 °C	-22 °C	-20 °C
	60 %	-20 °C	-14 °C	-13 °C	-10 °C	-9 °C	-8 °C
	70 %	-6 °C	-2 °C	-1 °C	1 °C	1 °C	2 °C
30 °C	50 %	-36 °C	-27 °C	-25 °C	-21 °C	-20 °C	-18 °C
	60 %	-18 °C	-12 °C	-10 °C	-7 °C	-7 °C	-5 °C
	70 %	-3 °C	2 °C	3 °C	4 °C	5 °C	6 °C
35 °C	50 %	-34 °C	-26 °C	-23 °C	-19 °C	-18 °C	-16 °C
	60 %	-16 °C	-9 °C	-7 °C	-5 °C	-4 °C	-2 °C
	70 %	0 °C	5 °C	6 °C	8 °C	9 °C	10 °C
40 °C	50 %	-34 °C	-24 °C	-21 °C	-17 °C	-16 °C	-14 °C
	60 %	-14 °C	-7 °C	-5 °C	-2 °C	-1 °C	1 °C
	70 %	3 °C	8 °C	9 °C	11 °C	12 °C	13 °C

An outstanding characteristic of cuprofrío.plus is its bright, clean and dry inner surface. The tube ends are closed in order to keep the surface clean from storage and transportation through to installation.

## cuprofrío.plus-Single



Material of copper tube:	Cu-DHP, Wieland-K20, R220 soft
Design:	EN 12735-1
Pressure Equipment Directive:	compliant
Thermal insulation:	elastomer-modified polyethylene
Thermal conductivity:	0,035 W/mK at 10 °C
Fire resistance:	B <sub>L</sub> -s1,d0
Temperature range:	from -50° to 110°C

## cuprofrío.plus-Twin



### DGNB Systems - ENV1.2 Risks for the local environment - Requirements of QS 4 are fulfilled:

- |  |        |
|--|--------|
| 1. free of prohibited substances according to POP-VO, ChemverbotV:                                       | yes    |
| 2. free from substances on the current candidate list according to Annex XIV/XV of the REACH Regulation: | yes    |
| 3. free from hexabromocyclododecane (HBCD):  | yes    |
| 4. free from halogenated and partially halogenated blowing agents:                                       | yes    |
| 5. polybrominated biphenyls (PBB):   | < 0.1% |
| 6. diphenyl ether (PBDE) and tris(2-chloroethyl) phosphate (TCEP):                                       | < 0.1% |
| 7. chlorinated kerosenes (SCCPs + MCCPs + LCCPs):"   | < 0.1% |



### For outdoor use:

Protective measures against weathering and mechanical stress must be taken.



E.g. with suitable protective tapes, sheet metal or installation in the duct or protective tube.

## Pre-insulated refrigeration tubes

### cuprofrío plus Single

Stock dimensions* cuprofrío.plus (metric) in coils, temper soft							
Tube	Dimension	Item number	Operating pressure**	Nominal weight	Volume	Insulation thickness	Packaging unit
	mm		bar	kg/m	l/m	mm	m/coil
	6 x 1.0	432706125	224	0.140	0.013	9	25
	10 x 1.0	432710125	126	0.253	0.050	9	25
	12 x 1.0	432712125	104	0.309	0.079	9	25
	16 x 1.0	432716125	76	0.421	0.154	9	25
	18 x 1.0	432718125	66	0.477	0.201	9	25
	22 x 1.0	432722125	53	0.590	0.314	9	25
Stock dimensions* cuprofrío.plus (inch) in coils, temper soft							
	(1/4") 6.35 x 0.8	432863558	170	0.125	0.018	9	50
	(3/8") 9.52 x 0.8	432895258	109	0.196	0.049	9	50
	(1/2") 12.70 x 0.8	432812758	80	0.267	0.097	9	50
	(5/8") 15.88 x 1.0	432815881	77	0.418	0.151	9	25
	(3/4") 19.05 x 1.0	432819051	62	0.507	0.228	9	25
	(7/8") 22.22 x 1.0	432822220	53	0.594	0.321	9	25

### cuprofrío plus Twin

Stock dimensions* cuprofrío.twin (metric) in coils, temper soft							
Tube	Dimension	Item number	Operating pressure	Volume	Insulation thickness	Packaging unit	
	mm		kg/m	l/m	mm	m/coil	
	6 x 1.0 – 10 x 1.0	432906110	0.393	0.063	9-9	25	
	6 x 1.0 – 12 x 1.0	432906112	0.449	0.092	9-9	25	
	10 x 1.0 – 16 x 1.0	432910116	0.674	0.204	9-9	25	
Stock dimensions* cuprofrío.twin (inch) in coils, temper soft							
	(1/4") 6.35 x 0.8 – (3/8") 9.52 x 0.8	432914380	0.321	0.067	9-9	25	
	(1/4") 6.35 x 0.8 – (1/2") 12.70 x 0.8	432914120	0.392	0.049	9-9	25	
	(1/4") 6.35 x 0.8 – (5/8") 15.88 x 1.0	432914580	0.543	0.115	9-9	25	
	(3/8") 9.52 x 0.8 – (5/8") 15.88 x 1.0	432938580	0.614	0.200	9-9	25	

\* other dimensions are available on request

\*\* calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m$  200 N/mm<sup>2</sup> at an operating temperature of 100 °C, according to EN 14726

## Geothermal energy tube

The seamless drawn cuprogeo tube is used for geothermal energy production. cuprogeo is designed for the use of refrigerants and gases for direct evaporation. The advantage of this application is that high performance can be achieved with suitable heat pumps.


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

cuprogeo meets the requirements of EN 12735-1 for use in air-conditioning and refrigeration and for transportation of technical gases. cuprogeo complies with the Pressure Equipment Directive 2014/68/EU.



Material copper tube:	Cu-DHP, Wieland-K20 soft R220
Thermal conductivity:	$\lambda \geq 344 \text{ W/(m}\cdot\text{K)}$
Design:	EN 12735-1
Pressure equipment directive:	compliant
Coating:	Polyethylene
Thermal conductivity coating:	$\lambda = 0.35 \text{ W/(m}\cdot\text{K)}$
Tube ends:	tightly closed
Packaging:	Coils on a pallet

### Coils – Temper soft

Dimensions* cuprogeo in coils, temper soft							
Tube	Dimension mm	Item number	Operating pressure** bar	Total outside diameter mm	Nominal weight kg/m	Volume l/m	Packaging unit m/coil
	10 x 0,7	424410785	89	12	0,183	0,058	85
	12 x 0,7	424412775	74	14	0,252	0,088	75

\* other dimensions are available on request

\*\* calculated with 3.0 times safety coefficient on the basis of soft copper tubes with  $R_m 200 \text{ N/mm}^2$  at an operating temperature of 100 °C, according to EN 14726

## The tube system for high-pressure applications

The tube system for high-pressure applications in refrigeration technology, especially in supermarket refrigeration systems, are increasingly using ecologically oriented system concepts. The natural, environmentally friendly refrigerant CO<sub>2</sub> leads to very high operating pressures.

### Application and easy handling

High-pressure lines, especially for CO<sub>2</sub> as a refrigerant. Other media are possible in consultation with the manufacturer. The thinner wall thicknesses of the tubes not only save material, but also result in a lighter a lighter product that is easier to handle during installation.

### Proven connection technology

K65 can be processed just as easily as copper. K65 tubes can be connected to K65 fittings by brazing. K65 fittings are manufactured by IBP Conex | Bänninger.

### Safety from two renowned manufacturers

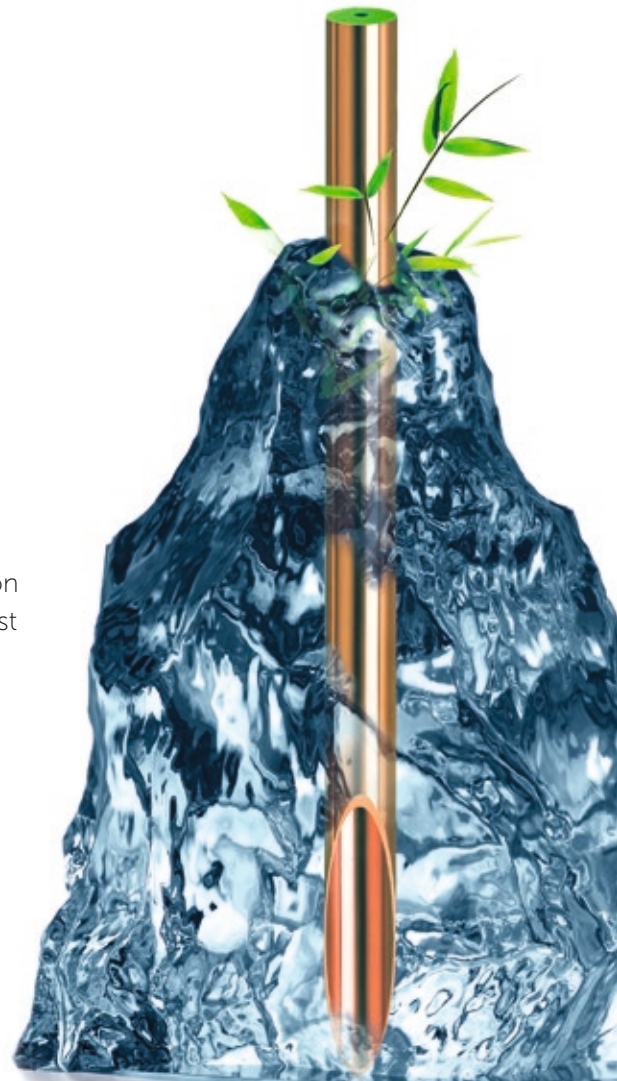
The use of Wieland K65 tubes and K65 fittings from IBP Conex | Bänninger is covered by a system warranty. This system warranty includes CO<sub>2</sub> applications for the items listed in the following tables.

### Easy to identify - even after installation

K65 tubes and fittings are labeled so that the system components can be clearly identified at all times. In addition, the material is slightly magnetic and can be easily distinguished from copper with the help of a strong magnet. A helpful advantage in practice.

## K65-Tubes

Dimensional tolerances:	EN 12735-1
Internal cleanliness:	EN 12735-1
Material:	Wieland K65, CuFe2P
Temper:	R300 (with heat treatment) R420 (drawn)
Maximum operating pressure:	80 bar, 120 bar and 130 bar, see tables on the following page
Application range:	-196 °C to 150 °C
Certification:	closed according to VdTÜV WB 567 on request UL 207 certification on request
Tube ends:	closed
Packaging:	bundled into small bundles
Availability:	3 product series available from stock, other dimensions on request
Material control:	K65 tubes are slightly magnetic and can be distinguished from copper easily



According to the requirements of EN 14276:2020, the following dimensions are available ex stock:

Wieland material number	Dimensions		Wall thickness	Nominal weight	Content Volume	Packaging unit: bundle		Packaging unit: ballot		Minimum bending radius
	mm	inch	mm	kg/m	l/m	Number of tubes per 5 m	Metres per bundle	Bundles per ballot	Metres per ballot	mm
<b>Wieland K65 tubes for up to 80 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300</b>										
433015878	15.87	5/8"	0.63	0.267	0.168	10	50	20	1,000	63
433019058	19.05	3/4"	0.76	0.386	0.241	10	50	20	1,000	75
433022238	22.23	7/8"	0.89	0.528	0.328	10	50	10	500	98
433028578	28.57	1 1/8"	1.20	0.913	0.538	5	25	20	500	102
433034928	34.92	1 3/8"	1.47	1.367	0.803	3	15	10	150	140
433041278	41.27	1 5/8"	1.74	1.912	1.122	3	15	10	150	140
433053978	53.97	2 1/8"	2.27	3.263	1.919	1	5	–	–	not defined
<b>Wieland K65 tubes for up to 120 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300</b>										
433009522	9.52	3/8"	0.56	0.140	0.050	20	100	20	2,000	43
433012702	12.70	1/2"	0.75	0.249	0.099	20	100	20	2,000	52
433015872	15.87	5/8"	0.93	0.386	0.154	10	50	20	1,000	63
433019052	19.05	3/4"	1.19	0.591	0.218	10	50	20	1,000	75
433022232	22.23	7/8"	1.38	0.800	0.298	10	50	10	500	98
433028572	28.57	1 1/8"	1.78	1.326	0.491	5	25	20	500	102
433034922	34.92	1 3/8"	2.17	1.976	0.734	3	15	10	150	140
433041272	41.27	1 5/8"	2.56	2.755	1.026	3	15	10	150	140
433053972	53.97	2 1/8"	3.35	4.715	1.755	1	5	–	–	not defined
<b>Wieland K65 tubes for up to 130 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300</b>										
433009523	9.52	3/8"	0.61	0.151	0.054	20	100	20	2,000	43
433012703	12.70	1/2"	0.81	0.268	0.096	20	100	20	2,000	52
433015873	15.87	5/8"	1.04	0.429	0.149	10	50	20	1,000	63
433019053	19.05	3/4"	1.28	0.632	0.214	10	50	20	1,000	75
433022233	22.23	7/8"	1.49	0.859	0.291	10	50	10	500	98
433028573	28.57	1 1/8"	1.92	1.423	0.480	5	25	20	500	102
433034923	34.92	1 3/8"	2.34	2.120	0.718	3	15	10	150	140
433041273	41.27	1 5/8"	2.76	2.955	1.004	3	15	10	150	140
433053973	53.97	2 1/8"	3.61	5.055	1.717	1	5			not defined
433066673	66.67	2 5/8"	4.46	7.730	2.618	1	5			not defined





## Working instructions


K65 copper tubes must be processed in accordance with the standard EN 378 for refrigeration technology. The safety precautions for high-pressure systems, in particular for pressure testing and commissioning, must be observed by experts! K65 tubes must be cold bent using suitable bending equipment and bending segments precisely matched to the outside diameter. Hot bending is not intended. Industrial bending tubes also allow tighter bending radii. Hairpin bending is possible on suitable equipment. K65 tubes may be widened in order to connect tubes of the same nominal diameter.

## K65 fittings

The following K65-fitting designs are available:

Identification: >B< K65  
 Maximum operating pressure: 130 bar / 1885 psi

Type	Detailed designation	Size	Item No.
K65 Bend 90° i/a 	K5001 i/a	3/8"	K5001003000000
	K5001 i/a	1/2"	K5001004000000
	K5001 i/a	5/8"	K5001005000000
	K5001 i/a	3/4"	K5001006000000
	K5001 i/a	7/8"	K5001007000000
	K5001 i/a	1 1/8"	K5001009000000
	K5001 i/a	1 1/3"	K5001011000000
	K5001 i/a	1 5/8"	K5001013000000
	K5001 i/a	2 1/8"	K5001017000000
	K5001 i/a	2 5/8"	K5001021000000
K65 Bend 90° i/i 	K5002 i/i	3/8"	K5002003000000
	K5002 i/i	1/2"	K5002004000000
	K5002 i/i	5/8"	K5002005000000
	K5002 i/i	3/4"	K5002006000000
	K5002 i/i	7/8"	K5002007000000
	K5002 i/i	1 1/8"	K5002009000000
	K5002 i/i	1 3/8"	K5002011000000
	K5002 i/i	1 5/8"	K5002013000000
	K5002 i/i	2 1/8"	K5002017000000
	K5002 i/i	2 5/8"	K5002021000000
K65 Bend 45° i/a 	K5040 i/a	3/8"	K5040003000000
	K5040 i/a	1/2"	K5040004000000
	K5040 i/a	5/8"	K5040005000000
	K5040 i/a	3/4"	K5040006000000
	K5040 i/a	7/8"	K5040007000000
	K5040 i/a	1 1/8"	K5040009000000
	K5040 i/a	1 3/8"	K5040011000000
	K5040 i/a	1 5/8"	K5040013000000
	K5040 i/a	2 1/8"	K5040017000000
	K65 Bend 45° i/i 	K5041 i/i	3/8"
K5041 i/i		1/2"	K5041004000000
K5041 i/i		5/8"	K5041005000000
K5041 i/i		3/4"	K5041006000000
K5041 i/i		7/8"	K5041007000000
K5041 i/i		1 1/8"	K5041009000000
K5041 i/i		1 3/8"	K5041011000000
K5041 i/i		1 5/8"	K5041013000000
K5041 i/i		2 1/8"	K5041017000000

Type	Detailed designation	Size	Item No.
K65 Tee 	K5130	3/8"	K5130003003003
	K5130	1/2" x 3/8" x 3/8"	K5130004003003
	K5130	1/2" x 1/2" x 3/8"	K5130004004003
	K5130	1/2"	K5130004004004
	K5130	5/8" x 1/2" x 1/2"	K5130005004004
	K5130	5/8" x 5/8" x 3/8"	K5130005005003
	K5130	5/8" x 5/8" x 1/2"	K5130005005004
	K5130	5/8"	K5130005005005
	K5130	3/4" x 3/4" x 1/2"	K5130006006004
	K5130	3/4" x 3/4" x 5/8"	K5130006006005
	K5130	3/4"	K5130006006006
	K5130	7/8" x 7/8" x 1/2"	K5130007007004
	K5130	7/8" x 7/8" x 5/8"	K5130007007005
	K5130	7/8" x 7/8" x 3/4"	K5130007007006
	K5130	7/8"	K5130007007007
	K5130	1 1/8" x 7/8" x 1/2"	K5130009007004
	K5130	1 1/8" x 1 1/8" x 3/4"	K5130009009006
	K5130	1 1/8" x 1 1/8" x 7/8"	K5130009009007
	K5130	1 1/8"	K5130009009009
	K5130	1 3/8" x 1 3/8" x 3/4"	K5130011011006
K5130	1 3/8" x 1 3/8" x 7/8"	K5130011011007	
K5130	1 3/8" x 1 3/8" x 1 1/8"	K5130011011009	
K5130	1 3/8"	K5130011011011	
K5130	1 5/8" x 1 5/8" x 3/4"	K5130013013006	
K5130	1 5/8" x 1 5/8" x 7/8"	K5130013013007	
K5130	1 5/8" x 1 5/8" x 1 1/8"	K5130013013009	
K5130	1 5/8" x 1 5/8" x 1 3/8"	K5130013013011	
K5130	1 5/8"	K5130013013013	
K5130	2 1/8" x 2 1/8" x 1 5/8"	K5130017017013	
K5130	2 1/8"	K5130017017017	
K5130	2 5/8" x 2 5/8" x 2 1/8"	K5130021021017	
K5130	2 5/8"	K5130021021021	

Type	Detailed designation	Size	Item No.	
K65 Red Coupler 	K5240	1/2" x 3/8"	K5240004003000	
	K5240	5/8" x 1/2"	K5240005004000	
	K5240	3/4" x 5/8"	K5240006005000	
	K5240	7/8" x 3/4"	K5240007006000	
	K5240	1 1/8" x 1/2"	K5240009004000	
	K5240	1 1/8" x 7/8"	K5240009007000	
	K5240	1 3/8" x 1/2"	K5240011004000	
	K5240	1 3/8" x 5/8"	K5240011005000	
	K5240	1 3/8" x 3/4"	K5240011006000	
	K5240	1.3/8" x 7/8"	K5240011007000	
	K5240	1 3/8" x 1 1/8"	K5240011009000	
	K5240	1 5/8" x 3/4"	K5240013006000	
	K5240	1 5/8" x 7/8"	K5240013007000	
	K5240	1 5/8" x 1 1/8"	K5240013009000	
	K5240	1 5/8" x 1 3/8"	K5240013011000	
	K5240	2 1/8" x 1 5/8"	K5240017013000	
	K5240	2 5/8" x 2 1/8"	K5240021017000	
	K65 Reducer 	K5243 o-i	1/2" x 3/8"	K5243004003000
		K5243 I/M	1/2" x 12 mm	K5243004012000
		K5243 o-i	5/8" x 3/8"	K5243005003000
K5243 o-i		5/8" x 1/2"	K5243005004000	
K5243 I/M		5/8" x 15 mm	K5243005015000	
K5243 o-i		3/4" x 3/8"	K5243006003000	
K5243 o-i		3/4" x 1/2"	K5243006004000	
K5243 o-i		3/4" x 5/8"	K5243006005000	
K5243 I/M		3/4" x 18 mm	K5243006018000	
K5243 o-i		7/8" x 3/8"	K5243007003000	
K5243 o-i		7/8" x 1/2"	K5243007004000	
K5243 o-i		7/8" x 5/8"	K5243007005000	
K5243 o-i		7/8" x 3/4"	K5243007006000	
K5243 I/M		7/8" x 22 mm	K5243007022000	
K5243 o-i		1 1/8" x 1/2"	K5243009004000	
K5243 o-i		1 1/8" x 5/8"	K5243009005000	
K5243 o-i		1 1/8" x 3/4"	K5243009006000	
K5243 o-i		1 1/8" x 7/8"	K5243009007000	
K5243 I/M		1 1/8" x 28 mm	K5243009028000	
K5243 o-i		1 3/8" x 1 1/8"	K5243011009000	
K5243 I/M		1 3/8" x 35 mm	K5243011035000	
K5243 o-i		1 5/8" x 7/8"	K5243013007000	
K5243 o-i		1 5/8" x 1 3/8"	K5243013011000	
K5243 I/M		1 5/8" x 42 mm	K5243013042000	
K5243 o-i		2 1/8" x 1 5/8"	K5243017013000	
K5243 o-i		2 5/8" x 2 1/8"	K5243021017000	

Type	Detailed designation	Size	Item No.
K65 Coupler 	K5270	3/8"	K5270003000000
	K5270	1/2"	K5270004000000
	K5270	5/8"	K5270005000000
	K5270	3/4"	K5270006000000
	K5270	7/8"	K5270007000000
	K5270	1 1/8"	K5270009000000
	K5270	1 3/8"	K5270011000000
	K5270	1 5/8"	K5270013000000
	K5270	2 1/8"	K5270017000000
	K5270	2 5/8"	K5270021000000
K65 Stop End 	K5301	3/8"	K5301003000000
	K5301	1/2"	K5301004000000
	K5301	5/8"	K5301005000000
	K5301	3/4"	K5301006000000
	K5301	7/8"	K5301007000000
	K5301	1 1/8"	K5301009000000
	K5301	1 3/8"	K5301011000000
	K5301	1 5/8"	K5301013000000
	K5301	2 1/8"	K5301017000000
	K5301	2 5/8"	K5301021000000



# Application of different tubes

Refrigeration and air conditioning	Symbol	Product
<b>Safety refrigerant</b>		
H-FCKW (Halogenated fluorochlorocarbon) no longer permitted!		cupromed cuprofrio cuprofrio.plus cuprogeo K65
H-FKW, e.g. R134a, R404A, R407C, R410A, R507		
<b>Flammable refrigerants</b>	$C_nH_n$	
<b>Others</b>		
Carbon dioxide*	$CO_2$	not permitted!
Ammonia	$NH_3$	

Technical gases	Symbol	Product
<b>Noble gases</b>		
Helium	He	cupromed cuprofrio cuprogeo
Neon	Ne	
Argon	Ar	
Krypton	Kr	
Xenon	Xe	
Radon	Rn	
<b>Inert gases</b>		
Nitrogen	$N_2$	Please contact us regarding technical set of rules
Carbon dioxide*	$CO_2$	
Sulphur hexafluoride	$SF_6$	
<b>Fuel gases</b>		
Hydrogen	$H_2$	cupromed, cuprofrio, cuprogeo
Methane	$CH_4$	Please contact us regarding technical set of rules
Liquid gases	$C_nH_n$	
Coke oven gas		
Acetylene**	$C_2H_2$	Copper not permitted!

Medical technology and laboratory gases	Symbol	Product
Oxygen	$O_2$	cupromed
Nitrogen	$N_2$	
Carbon dioxide*	$CO_2$	
Nitrous oxide	$N_2O$	
Argon	Ar	
Helium	He	
Xenon	Xe	
Compressed air with cleanliness requirements according to ISO 8573-1 and for medical purposes		
Vacuum		

\* The gas must be absolutely dry, as in the case, for example, in compressed air cylinders. Respect the maximum operating pressure of the tubes. For high pressures (e.g. 120 bar), use K65 tubes.

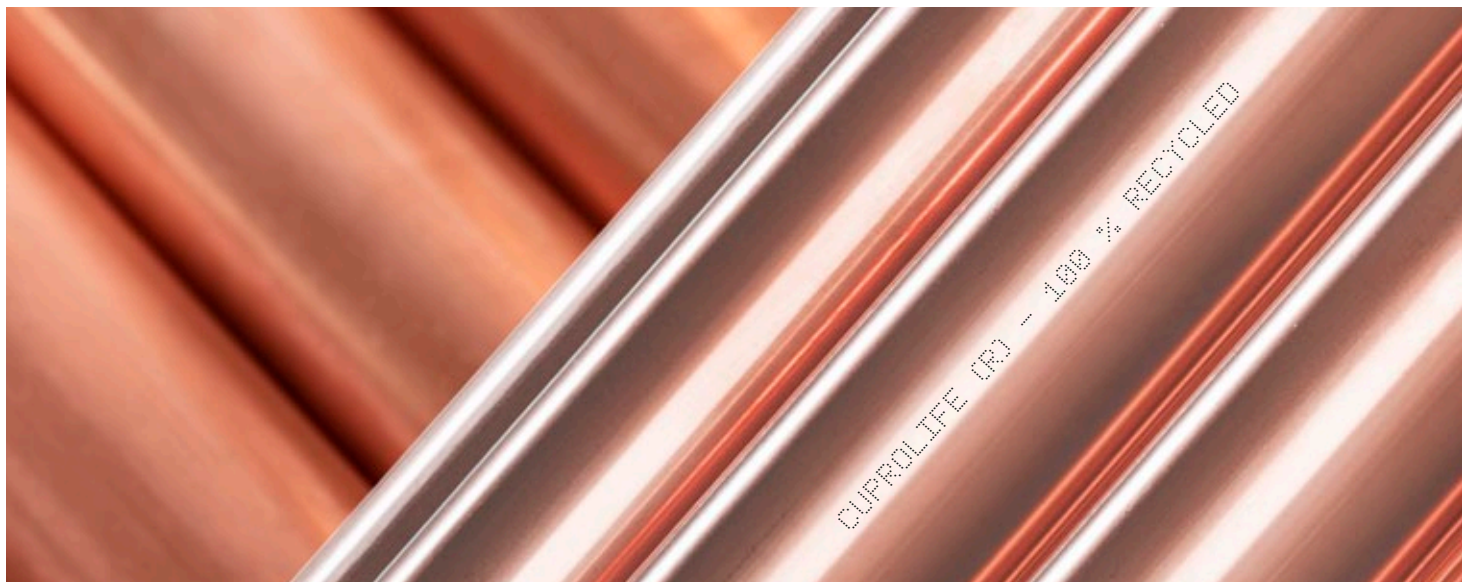
\*\* Formation of the highly explosive copper acetylide possible! To observing regulations: „Industrial Safety Ordinance“ (BetrSichV) and „Technical rules for acetylene plants and Calcium Carbide Bearings“ (TRAC).

# Marking of copper tubes

Each tube has an identification mark.

The indication of the product name documents our claim to the safety of the major brands and the production according to specified procedures „better than standards and regulations“. The following is an example of the marking of plumbing tubes:

cuprolife	Product name with characteristic properties and areas of application. In this case, cuprolife consists of 100% copper recycle.
WIELAND	The manufacturer is Wieland-Werke AG, Ulm
DEUTSCHLAND	The place of manufacture is Germany
⊙	RAL quality mark for tubes
DVGW DV 7204AU2106	DVGW approval for gas and drinking water (depending on dimensions)
15 x 1	Dimensions: outside diameter x wall thickness
EN 1057	Fulfillment of the requirements from EN 1057
HH	Temper half-hard R250
Quartal I 2024	Year of Manufacture
IV	Quarter of manufacture
CE	Conformity with the EU Construction Products Regulation



We secure the trust of our partners through exemplary quality management.

Branded copper tubes from Wieland for building services are manufactured in accordance with the specifications of EN 1057 and are made from the standardized material Cu-DHP (oxygen-free pure copper). This production is subject to extensive internal and external quality assurance measures and is certified in accordance with ISO 9001 and EN 14001.

Branded copper tubes for the following areas of application drinking water and gas additionally fulfill the requirements of DVGW worksheet GW 392.

Numerous quality test certificates and product approvals from all renowned testing organizations a consistently high quality level of Wieland brand copper tubes.

**wieland**

Wieland-Werke AG | Graf-Arco-Straße 36 | 89079 Ulm | Germany  
Hotline +49 731 944 1122 | [info@wieland.com](mailto:info@wieland.com) | [wieland.com](http://wieland.com)



0541-07 012 | 0724 Qi 0.0 (VIDU)

This printed matter is not subject to revision. No claims can be derived from it unless there is evidence of intent or gross negligence.  
The product characteristics are not guaranteed and do not replace our experts' advice..