

**Wieland**

Copper plumbing tubes



## Branded copper tubes from Wieland

Wieland copper plumbing tubes, branded “made in Germany”, meet the highest standards of quality. Our performance is oriented to our customer’s requirements and we strictly adhere to the three-tier distribution system. We value our long term partnerships with trade associations. Experienced engineers are at your disposal to answer any questions you may have.

## The Wieland Group

The Wieland Group with headquarters in Ulm, Germany, is one of the world’s leading manufacturers of semi-finished and special products in copper and copper alloys, such as strip, sheet, tube, rod, wire and sections as well as slide bearings, finned tubes and heat exchangers.

The Wieland Group has today several manufacturing companies, slitting centres and trading subsidiaries in many European countries as well as in USA, South Africa, Singapore and others.



*Ulm plant*



*Vöhringen plant – production location for copper plumbing tubes*

## Copper

Copper is the shining reddish metal known by the Romans as aes cyprum (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.

## SANCO® – Europe's No.1 copper plumbing tube

A clear concept and reliable solutions make SANCO® the copper tube of choice for all domestic plumbing applications. The plain copper tube for drinking water supply, gas and heating installations is protected at the manufacturing stage against pitting corrosion. The universal plumbing tube is subjected to continuous quality monitoring and is always available in the full range of dimensions.

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
- Central heating systems
- Gas services for heating/cooking
- Liquefied gas
- Oil services for heating
- Solar heat installations
- Rainwater harvesting
- Pneumatics
- Sprinkler systems

SANCO® tubes offer all the benefits associated with copper tubes plus excellent safety.

### Technical properties:

- The patented production process means that the specifications of SANCO® tubes are far superior to the requirements defined in the applicable standards and regulations.
- The tubes conform to EN 1057 and are quality assured.
- Universally utilisable in a range of finely differentiated dimensions.
- Optimal availability and compatibility with a wide range of fittings.
- Fire behaviour: non-flammable
- Temperature range: up to 250 °C operating temperature

Standard dimensions [mm]	Weight [kg/m]	Permissible operating pressure [bar]	Volume of water [l/m]	Tube length per litre [m/l]	Coils 50 m	Coils 25 m	Straight lengths 5 m
6 x 1	0.140	229	0.013	79.58	•		•
8 x 1	0.196	163	0.028	35.37	•		•
10 x 1	0.252	127	0.050	19.89	•		•
12 x 1	0.308	104	0.079	12.73	•		hh
15 x 1	0.391	82	0.133	7.53	•		hh
18 x 1	0.475	67	0.201	4.97		•	hh
22 x 1	0.587	54	0.314	3.18		•	hh
28 x 1	0.756	42	0.531	1.88			hh
28 x 1.5	1.110	65	0.491	2.04			hh
35 x 1.5	1.410	51	0.804	1.24			•
42 x 1.5	1.700	42	1.195	0.84			•
54 x 2	2.910	44	1.963	0.51			•
64 x 2	3.467	37	2.827	0.35			•
76.1 x 2	4.144	31	4.083	0.24			•
88.9 x 2	4.855	26	5.661	0.18			•
108 x 2.5	7.374	27	8.332	0.12			•
133 x 3	10.904	26	12.668	0.08			•
159 x 3	13.085	22	18.385	0.05			•
219 x 3	18.118	16	35.633	0.03			•
267 x 3	22.144	13	53.502	0.02			•

hh = half-hard temper R 250

# cuprotherm CTX®

The flexible copper tube

## cuprotherm-CTX®

cuprotherm CTX® tubes are copper tubes with a firmly adherent coating. Due to their structure they can be easily processed and are characterized by a flexibility hitherto unknown in metal tubes. Compared to classical copper tubes, the cuprotherm CTX® tube is almost 50 % lighter in weight and, therefore, much easier to handle.

The tube is cut with CTX® shears instead of a tube saw, deburred and calibrated in one operation. The flexible copper tube can be joined both with CTX® and commercial press fittings approved by Wieland. The joining technology is based on metal fittings and a copper core tube.

### Applications:

- Drinking water, hot
- Drinking water, cold
- Underfloor heating/cooling
- Radiator connections
- Geothermal collectors (water/glycol)



### Technical properties

Dimensions		14 x 2	16 x 2	18 x 2	20 x 2	26 x 3
Outer diameter, coating	mm	14	16	18	20	26
Wall thickness, coating	mm	1.70	1.65	1.65	1.50	2.50
Wall thickness, copper tube	mm	0.30	0.35	0.35	0.50	0.50
Temper as per DIN EN 1057		R 220	R 220	R 220	R 220	R 220
Permissible operating pressure up to 100 °C	bar	33	32	28	34	28
Total weight	kg/m	0.147	0.189	0.215	0.311	0.451
Delivery format		in coils				
Coil length	m	100	100	100	50	50
Material, coating		PE-RT				
Thermal conductivity, coating / core tube	W/mK	0.35 / 365				
Coating color		white				
Fire resistance		EN 13501-1 E				
Max. operating temperature	°C	95	95	95	95	95

### CTX® crimp fittings

#### Fitting core

- CuZn, CW602N
- Dezincification resistant brass
- Suitable for drinking water supply

#### Crimping sleeve














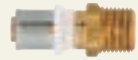

- Stainless steel
- Tube viewer to control insert depth

#### Sealing elements

- Double placed
- EPDM, acc. to DVGW W270 and KTW



## CTX® crimp fittings and system accessories

Tube connector		14 x 2	16 x 2	18 x 2	20 x 2	26 x 3
CTX® compression union 3/4" Eurokonus		•	•	•	•	
CTX® straight coupling		•	•	•	•	•
CTX® equal T coupling		•	•	•	•	•
CTX® reducing T			16/14/14	18/16/18	20/16/20	26/16/26
			16/14/16		20/16/16	26/20/20
			16/20/16		20/20/16	26/20/26
CTX® female branch T coupling			16- Rp 1/2" -16	18- Rp 1/2" -18	20- Rp 1/2" -20	26- Rp 1/2" -26
CTX® elbow coupling 90°		•	•	•	•	•
CTX® elbow coupling 45°						•
CTX® reducer			16/14 mm	18/16 mm	20/16 mm	26/20 mm
CTX® adaptor for copper tube		15 mm	15 mm	15 mm	15/18 mm	22 mm
		12 mm			22 mm	
CTX® crimp union 3/4" Eurokonus		•	•	•	•	
CTX® crimp union, flat seal			1/2"	3/4"	3/4"	
CTX® crimp union, flat seal						Rp 1" R 1"
CTX® male elbow 90° on 1/2", male		•	•	•	•	
CTX® male elbow 90° on 3/4", male					•	
CTX® female elbow 90° on 1/2", female		•	•	•	•	
CTX® female elbow 90° on 3/4", female					•	
CTX® straight male connector		R 1/2"	R 1/2"	R 1/2"	R 1/2"	R 3/4"
					R 3/4"	R 1"
CTX® straight female connector		Rp 1/2"	Rp 1/2"	Rp 1/2"	Rp 3/4"	Rp 3/4" Rp 1"



Accessory for sanitary applications		14 x 2	16 x 2	18 x 2	20 x 2	26 x 3
CTX® stop end fitting		•	•	•	•	•
CTX® back plate elbow, short		R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	
CTX® back plate elbow, long		R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	R <sub>p</sub> 1/2"	
CTX® back plate elbow, double			16 x R <sub>p</sub> 1/2" x 16		20 x R <sub>p</sub> 1/2" x 20	
CTX® metal template			16 x R <sub>p</sub> 1/2"			
Sound-insulating element, short, 1/2"						
Sound-insulating element, short, 3/4"						
Sound-insulating element, long, 1/2"						
Sound-insulating element, double, 1/2"						
CTX® connecting elbow for flush-mounted toilet tank		14 x R <sub>p</sub> 1/2"	16 x R <sub>p</sub> 1/2"			
CTX® mounting set			16 x R <sub>p</sub> 1/2"			
<b>Accessory for radiator connections</b>						
CTX® crossover tee			16/16/16		20/16/16	
					20/16/20	
Insulation box			•			
<b>Tools</b>						
CTX® shear		•	•		•	
CTX® bending spring		•	•	•	•	•
Crimping tool		•	•	•	•	•
CTX® tube cutter				•		
CTX® calibrating tool		•	•	•	•	•

## cuprotherm® – Underfloor heating system

cuprotherm® is, for good reasons, Europe's most widely used copper underfloor heating system.

In addition to the core tube being absolutely impervious to the diffusion of gas and oxygen, the combination of unlimited ageing resistance and excellent mechanical strength provides a reliable long-term panel heating solution. The system is supplemented by a comprehensive range of accessories. Copper, as the material with the highest thermal conductivity, makes cuprotherm® one of the most efficient underfloor heating systems available.

## cuprotherm.plus

The efficient coated heating tube

### Applications:

- Underfloor heating and cooling (in and out of buildings)

### Technical properties:

- The tubes conform to EN 1057 and are quality assured
- Fire behaviour conforms to EN 13501-1-E
- Colour of sheath: orange

### Accessories:

- Insulating plates
- Tube brackets
- Border insulation
- Manifolds (2-14 circuits) (equipped with valves and flow meters)
- Manifold cabinets
- Fittings and union nuts
- Adhesive tape
- Screed additive
- Grid foil
- Room temperature control (wire-based, radio-based)
- Tools

## cuprotherm®

the bare heating tube

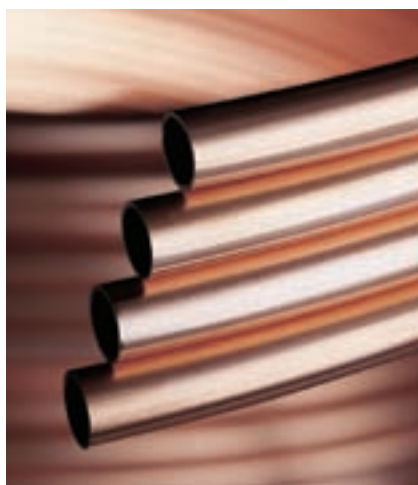
### Applications:

- Underfloor heating with mastic asphalt floor screed

### Technical properties:

- According to DIN EN 1057
- With quality mark

Tube type	Standard dimensions [mm]	Weight [kg/m]	Total outside diameter [mm]	Permissible operating pressure [bar]	Volume of water [l/m]	Coils 50 m
cuprotherm.plus	10 x 0.6	0.158	14	73	0.061	•
	12 x 0.7	0.221	14	70	0.088	•
	14 x 0.8	0.295	16	69	0.121	•
	15 x 0.8	0.318	18	64	0.141	•
	18 x 0.8	0.385	22	53	0.211	•
cuprotherm	12 x 0.7	0.221	12	70	0.088	•
	14 x 0.8	0.295	14	69	0.121	•



## WICU® – System solutions

The WICU® system consists of Wieland copper tubes equipped with coating, 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

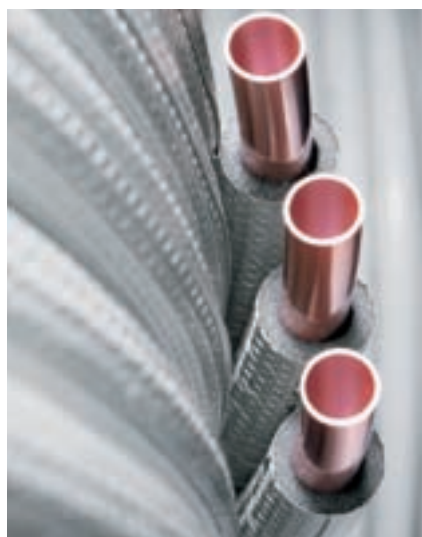
- Liquefied gas
- Oil services for heating
- Rainwater
- Pneumatics

#### Technical properties:

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



Standard dimensions [mm]	Total outside diameter [mm]	Permissible operating pressure [bar]	Volume of water [l/m]	Tube length per litre [m/l]	Coils 50 m	Coils 25 m	Straight lengths 5 m
8 x 1	12	163	0.028	35.37	•		
10 x 1	14	127	0.050	19.89	•	•	•
12 x 1	16	104	0.079	12.73	•	•	•
15 x 1	19	82	0.133	7.53	•	•	•
18 x 1	23	67	0.201	4.97	•	•	•
22 x 1	27	54	0.314	3.18		•	•
28 x 1.5	33	65	0.491	2.04			•
35 x 1.5	40	51	0.804	1.24			•
42 x 1.5	48	42	1.195	0.84			•
54 x 2	60	44	1.963	0.51			•



## 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 behaviour conforms to EN 13501-1-E
- Colour of coating: grey

Standard dimensions [mm]	Total outside diameter [mm]	Permissible operating pressure [bar]	Volume of water [l/m]	Tube length per litre [m/l]	Coils 50 m	Coils 25 m	Straight lengths 5 m
12 x 1	24	104	0.079	12.73	•	•	
15 x 1	27	82	0.133	7.53	•	•	
18 x 1	30	67	0.201	4.97	•	•	
22 x 1	34	54	0.314	3.18		•	



## WICU®Eco

WICU®Eco are copper tubes that are heat-insulated with stable PUR foam and equipped with an outer protective sleeve. The particular advantage of WICU®Eco is its extremely small external diameters while complying with the statutory provisions relating to required

insulation layer thickness, for example, for hot-water pipes with circulation or radiator connection lines in outdoor components. Installation and insulation are done in parallel.

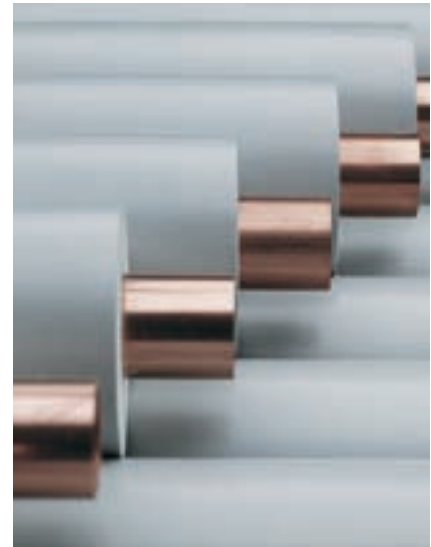
### Applications:

- Domestic hot water supply
- Central heating systems

### Technical properties:

- Tubes conform to EN 1057
- Temperature range: up to 100 °C operating temperature
- Colour of the coating: grey

100% EnEV	Total outside diameter [mm]	Permissible operating pressure [bar]	Volume of water [l/m]	Tube length per litre [m/l]	Straight lengths 5 m
12 x 1	32	104	0.079	12.73	•
15 x 1	36	82	0.133	7.53	•
18 x 1	40	67	0.201	4.97	•
22 x 1	45	54	0.314	3.18	•
28 x 1.5	63	65	0.491	2.04	•
35 x 1.5	71	51	0.804	1.24	•
42 x 1.5	90	42	1.195	0.84	•
54 x 2	113	44	1.963	0.51	•
50% EnEV	Total outside diameter [mm]	Permissible operating pressure [bar]	Volume of water [l/m]	Tube length per litre [m/l]	Coils 25 m
12 x 1	24	104	0.079	12.73	•
15 x 1	27	82	0.133	7.53	•
18 x 1	30	67	0.201	4.97	•

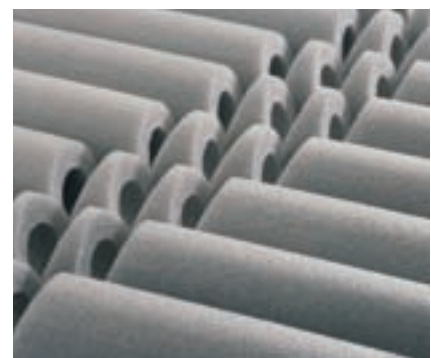


## WICU®Eco accessories

A complete range of accessories is available for insulating tube joints, consisting of parts used as insulation foam and as external protection foil.



External protection



90° Insulation elbow

Dimensions mm	Insulation			External protection		
	90°-Elbow	T-Section	Hose	90°-Elbow	T-Section	Hose
12 x 1.0	•	•	•	•	•	•
15 x 1.0	•	•	•	•	•	•
18 x 1.0	•	•	•	•	•	•
22 x 1.0	•	•	•	•	•	•
28 x 1.5	•	•	•	•	•	•
35 x 1.5	•	•	•	•	•	•
42 x 1.5	•	•	•	•	•	•
54 x 2.0	•	•	•	•	•	•

# Service

## General

Further information concerning installation practices can be found in appropriate standard.

## Information regarding special applications

Special approved tube qualities have to be used for the application fields air conditioning and refrigeration as well as technical and medical gases.

These tube qualities are not designed for use in domestic plumbing.



## Reliability – Our claim

We practice exemplary quality management to ensure that we justify our partners' reliance on our performance.

Copper tubes from Wieland for domestic plumbing applications are produced in conformity with the specifications of EN 1057 and are made from the stand-

ard material Cu-DHP (deoxidised pure copper).

The manufacturing process is subject to numerous internal and external quality assurance measures and is certified to EN ISO 9001.

Continuous internal monitoring is ensured by our certified and accredited research laboratory. Numerous quality test certificates and product licences from all well-known test organisations underline the constant high quality level of Wieland branded copper tubes.



Compliance with quality requirements is made transparent to our partners by means of the appropriate symbols on the tubes.

By indicating the product name, we document our “better than regulations and standards” claim with regard to the reliability of our products and manufacture by means of specified methods. An example of the labelling of plumbing tubes is shown below:

SANCO®	Product manufactured by a patented process
WIELAND	Manufacturer is Wieland-Werke AG
DEUTSCHLAND	Manufactured in Germany
15 x 1	Dimensions: outside diameter x wall thickness
EN 1057	Conforms to EN 1057
HH	Temper R 250 half hard
2002	Year of manufacture
IV	Quarter in which manufactured
CE	Conforms to European Standards

**Wieland-Werke AG**

**[www.wieland-plumbing.com](http://www.wieland-plumbing.com)**

**Tube Division**

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