Wieland

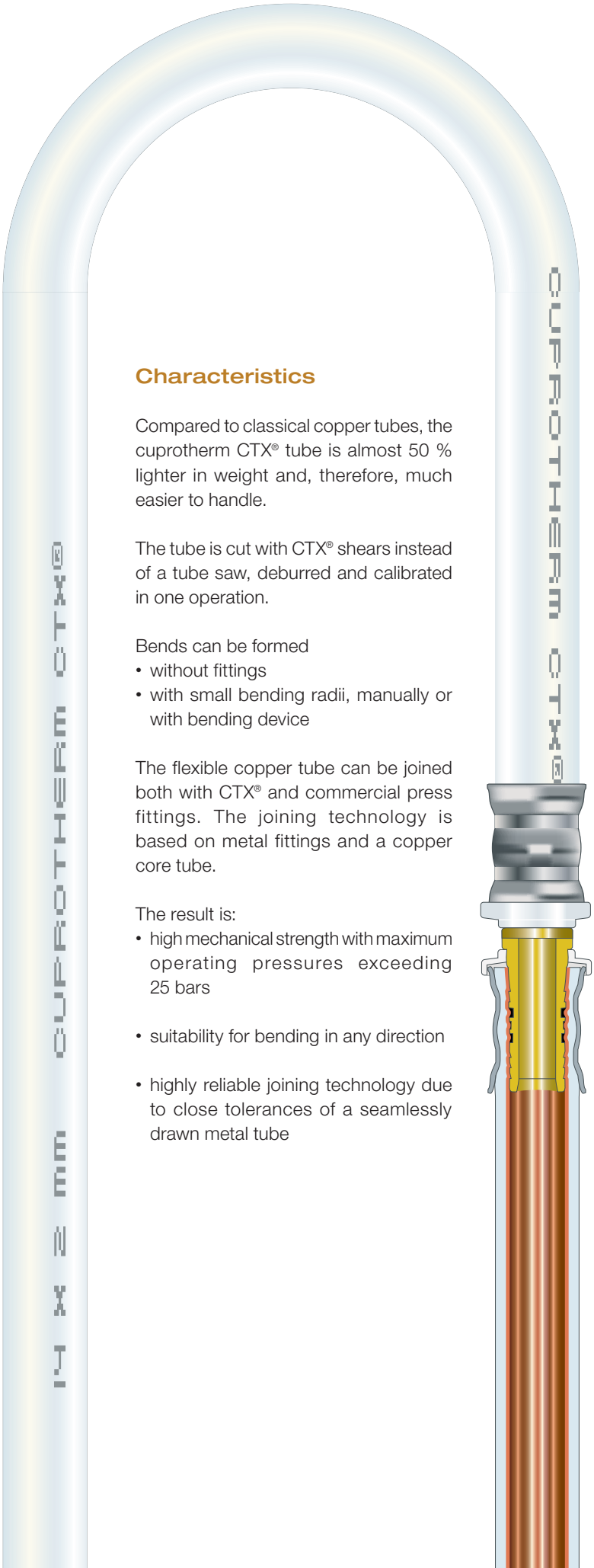
cuprotherm ctx®
Flexible & Intelligent

The flexible copper tube

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. The joining technology is based on an open system: The installer may choose between crimp fittings from different manufacturers approved by Wieland.

cuprotherm CTX® tubes are:

- **flexible**
- **easy to install**
- **light**
- **cost-effective**
  - attractive price per metre
  - fast installation



Characteristics

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.

Bends can be formed
- without fittings
- with small bending radii, manually or with bending device

The flexible copper tube can be joined both with CTX® and commercial press fittings. The joining technology is based on metal fittings and a copper core tube.

The result is:
- high mechanical strength with maximum operating pressures exceeding 25 bars
- suitability for bending in any direction
- highly reliable joining technology due to close tolerances of a seamlessly drawn metal tube

Wide range of applications

cuprotherm CTX® tubes have been designed for plumbing applications:

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

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

Overview of technical characteristics

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
Coil length per pallet	m	1000	1000	1000	750	750
Bending radius with bending device	mm	50	55	72	80	88
Bending radius, manual	mm	70	80	110	140	180
Clamping interval, horizontal	m	1.2	1.2	1.3	1.3	1.7
Clamping interval, vertical	m	1.55	1.55	1.7	1.7	2.2
Water content	l/m	0.079	0.113	0.154	0.201	0.314
Tube length with 3 l water content	m	38.0	26.5	19.5	14.9	9.5
Material, core tube		Pure copper Cu-DHP as per EN 1057				
Roughness of inner surface, R_a	µm	≤ 1,5				
Coefficient of thermal expansion	mm/mK	0.017				
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
Examples of recommend loop length for underfloor heating	m	80-100	100-120	120-150	150-170	–
Tube identification		Wieland cuprotherm® CTX tube dimension flexible copper tube EN 13501-1, class E				
Wieland article no.		424514200	424516200	424518200	424520200	424526300

CTX® Energy – pre-insulated flexible copper tubes

This product consists of flexible CTX® tubes pre-insulated with PE-foam and equipped with a protective PE-foil.
Two types of this product are available, one with an insulation wall thickness of 6 mm and one with an insulation wall thickness of 9 mm:

	14 x 2 mm	16 x 2 mm	20 x 2 mm
Insulation material:	expanded closed-cell PE foam		
Thermal conductivity of insulating foam:	≤ 0,040 W/mK		
Maximum service temperature:	95 °C		
Available coil length for insulation layer thickness 6 mm:	25 m	25 m	25 m
Available coil length for insulation layer thickness 9 mm:	50 m	50 m	–

For all applications – copper

Drinking water supply

With CTX® it is possible to have a uniform material for the entire drinking water installation, including flexible components, i.e. copper-alloy fittings, inter-floor distribution with flexible copper tubes, basement distribution and risers made of conventional copper tubes in straight lengths.

Copper is very hygienic, as it does not release any nutrients to micro-organisms. Its high temperature resistance makes it the choice material for complete drinking water installations. The combination of these advantages effectively counteracts the growth of micro-organisms, including Legionella.

cuprotherm CTX® tubes do not contain softeners, flame-retardant additives, stabilisers or modifiers. Only the copper material comes into contact with water which is tasteless and odourless.

Underfloor heating/cooling

Tubes to be embedded in screed have to fulfil two main requirements: be diffusion tight and resistant to aging. cuprotherm CTX® tubes remain 100 % diffusion tight during their lifetime, and have an unlimited service life: no fouling, no embrittlement, no problems – all thanks to copper.

The complete cuprotherm® system, including insulating plates and manifolds, is available for underfloor heating and cooling installations.

Fixtures such as cuprotherm® manual brackets and twin brackets (designed for use with system tacker) and accessories for individual room temperature control are also available.

Heating/radiator connection

Traditional copper tubes with copper crimp connections in conjuction with flexible CTX® tubes make it possible to install the complete heating system from copper. This ensures a long service life irrespective of the operating temperature. The fact that temperature variations result in only a minor change in tube length simplifies professional planning and installation.

CTX®: the reliability of copper combined with ease of installation and attractive conditions.

Installation made easy

Decoiling

cuprotherm CTX® tubes offer the safety of high-quality branded copper tubes and are easy to install. Coils of 100 m can be easily decoiled manually.

Bending

CTX® tubes are easy to bend by hand. Very small bending radii can be achieved with bending devices or bending springs. Once bent, the flexible copper tubes can even be bent back to their original shape.

Cutting

Fast and easy with CTX® shears or alternatively with a CTX® tube cutter (20 x 2, 26 x 3).

Deburring/calibrating

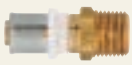
With a CTX® cutter in one operation, or alternatively for 18 x 2, 20 x 2 and 26 x 3 mm by means of CTX® expanding pliers.

Joining

Crimping with crimping tool type TH; inspection window in crimp fittings allows the user to check the insertion depth of the tube.

Other tool types and further information can be found at www.wieland-plumbing.com.

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- R_p 1/2" -16	18- R_p 1/2" -18	20- R_p 1/2" -20	26- R_p 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						R_p 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		R_p 1/2"	R_p 1/2"	R_p 1/2"	R_p 3/4"	R_p 3/4" R_p 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_p 1/2"	R_p 1/2"	R_p 1/2"	R_p 1/2"	
					R_p 3/4"	
CTX® back plate elbow, long		R_p 1/2"	R_p 1/2"	R_p 1/2"	R_p 1/2"	
CTX® back plate elbow, double			16 x R_p 1/2" x 16		20 x R_p 1/2" x 20	
CTX® metal template			16 x R_p 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_p 1/2"	16 x R_p 1/2"			
CTX® mounting set			16 x R_p 1/2"			
Accessory for radiator connections						
CTX® crossover tee			16/16/16		20/16/16	
					20/16/20	
Insulation box			•			
Tools						
CTX® shear		•	•		•	
CTX® bending spring		•	•	•	•	•
Crimping tool		•	•	•	•	•
CTX® tube cutter				•		
CTX® calibrating tool		•	•	•	•	•

CTX® crimp connector for copper tube

The open system: various connectors, several crimping tools

Practical solution

CTX® copper tubes can be joined with Wieland CTX® crimp fittings and also with commercially available crimping tools, e.g. type TH, which have been tested and approved by Wieland.

The possibility to use a variety of fittings offers advantages in storage and availability.

Please find the current list of approved fittings at www.wieland-plumbing.com, and search for “CTX”.

Every fitting marked C^2 may also be used.

Quality assurance

Wieland plumbing copper tubes are subject to continuous quality control. Production and storage are third-party supervised.

Wieland-plumbing applications

Premium Class

Branded quality

- Quality certificate DIN EN ISO 9001
- Accredited testing laboratory to EN 17025
- Pure copper material Cu-DHP – 99.9 % Cu
- Made in Germany
- Environmental certificate DIN EN 14001
- Production certified to EMAS
- Environmental declaration ISO 14025

WIELAND-WERKE AG **www.wieland-plumbing.com** **Tube Division**

Graf-Arco-Str. 36, 89079 Ulm, Germany, Phone +49 (0)731 944-0, Fax +49 (0)731 944-2820, info@wieland.de

This brochure is for your general information only and is not subject to revision. No claims can be derived from it unless there is evidence of intent or gross negligence.
The data given are no warranty that the product is of a specified quality and they cannot replace expert advice or the customer's own tests.

0541-07 702/07.08 Wr 1 SVG (R+G).