

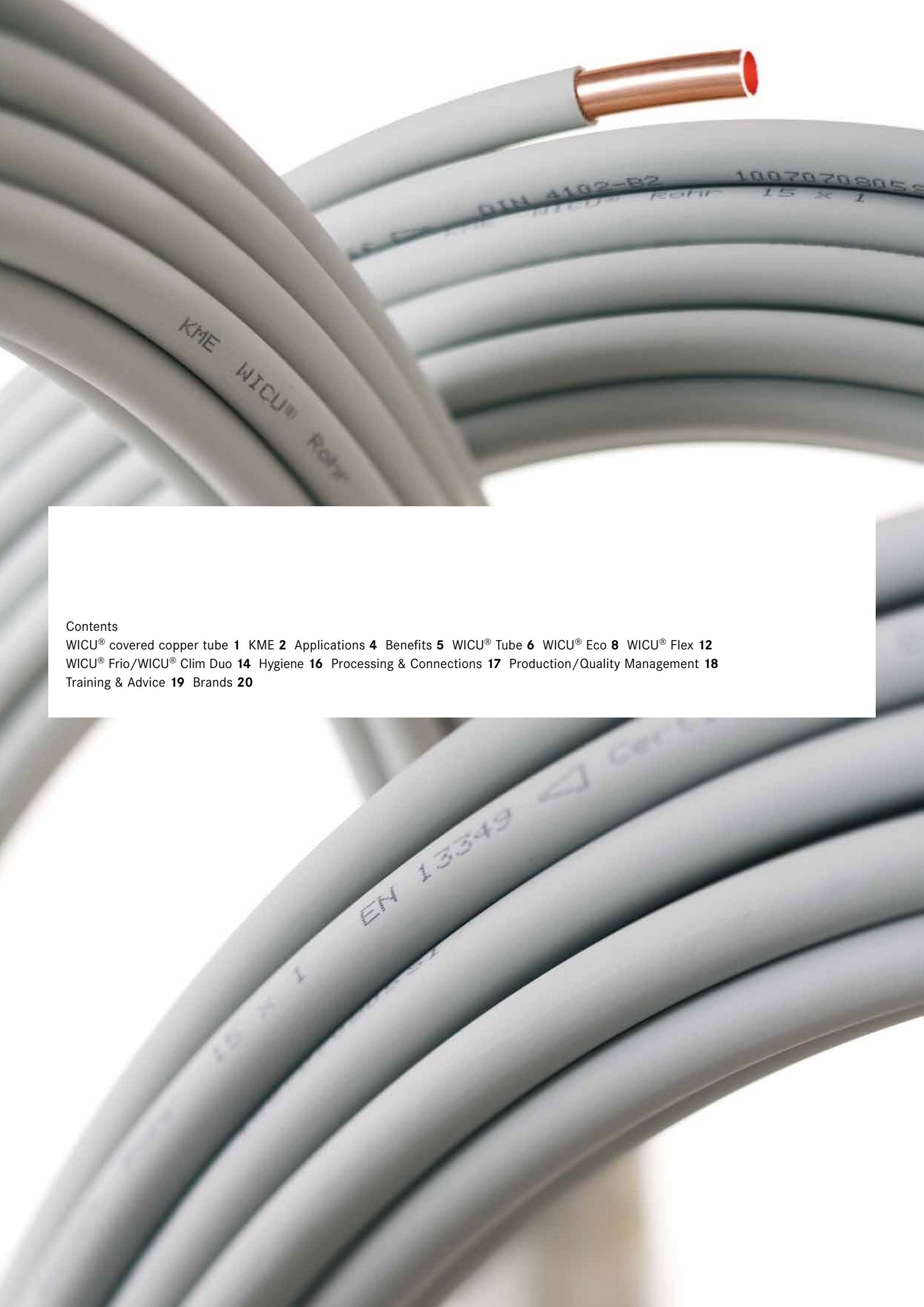
WICU®

KME
THE EVOLUTION OF COPPER

The covered brand name copper tube.

KME Germany GmbH & Co. KG
WICU®
[GB]





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WICU® tubes are made from high-quality copper with a purity grade of at least 99.9%. They are manufactured in a patented process which makes the tubes extremely durable and long-lasting. WICU® tubes come pre-covered. WICU® Tube is the universal plastic-coated copper tube for many different domestic plumbing applications. WICU® Eco is the thermally insulated energy saving tube with a PUR coating for heating, plumbing and solar applications. WICU® Flex is the thermally insulated copper tube with a flexible PE coating for plumbing and heating system connections. WICU® Clim, WICU® Clim Duo and WICU® Frio are thermally insulated copper tubes with a PE coating for air-conditioning systems.



WICU®

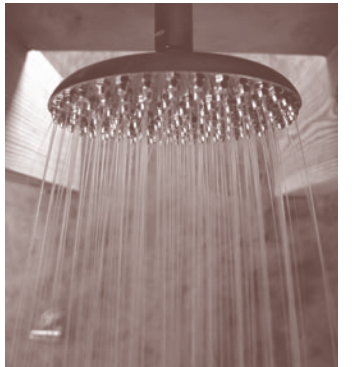
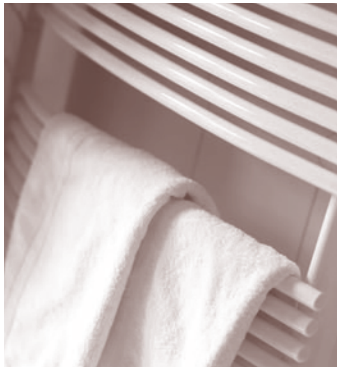
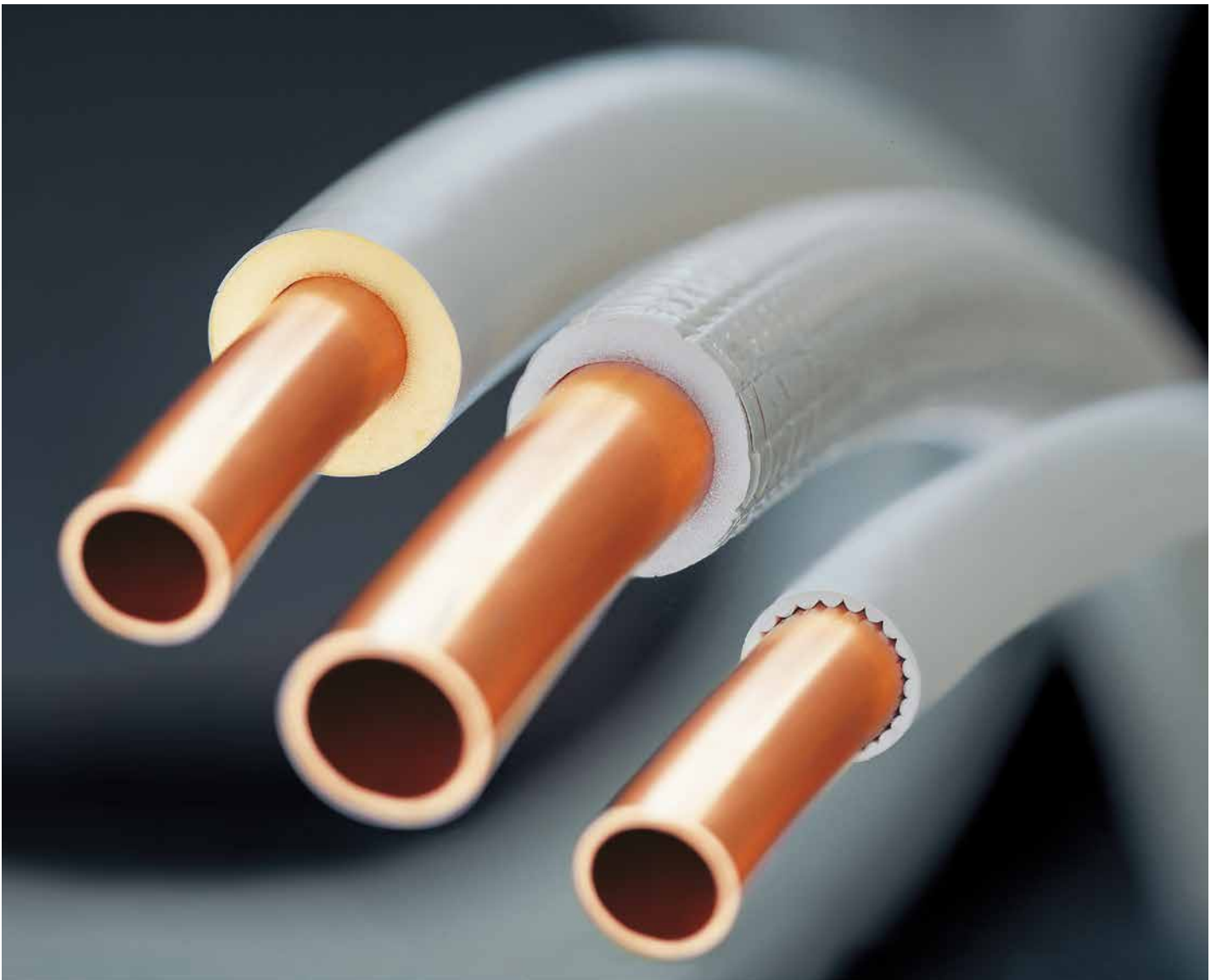




With production facilities in Germany, France, Italy, the UK, Spain and China, KME is one of the world's leading manufacturers of semi-finished goods and copper and copper alloy products. A large part of the copper products for the construction industry is designed for the domestic plumbing industry. KME has a wide range of specially designed and finished tubes for all domestic plumbing applications. KME's product and system solutions fulfill all quality standards, and are reliable and easy to assemble. This, combined with an extensive range of services, makes KME a competent partner for all its customers.

The image features several white, flexible copper tubes arranged in a dynamic, overlapping fashion. Some tubes are coiled into loops, while others are straight, showing their hollow interior. The tubes have a smooth, matte white exterior and a bright, metallic copper interior. A central white rectangular box contains the text 'WICU® Copper Tubes'.

WICU® Copper Tubes



WICU® Tubes for Many Different Applications

	WICU® Tube	WICU® Eco	WICU® Flex	WICU® Frio	WICU® Clim
Plumbing					
Heating					
Gas					
Liquefied gas					
Oil					
Rainwater					
Solar					
Sprinklers					
Extinguishing water					
Refrigeration technology					

Product benefits

- One range of tube products covers all areas of application.
- Standard and reliable installation in domestic heating and plumbing systems.
- Convenience of pre-insulation.
- Compatible with fittings from many different manufacturers.
- No material ageing.
- Gas-proof, impervious to oxygen diffusion, and UV-resistant.
- Higher quality standard than prescribed by standards and regulations.
- Every single meter can be processed. Tube offcuts can be fully recycled, so that waste and disposal problems do not arise in the first place.

WICU® is tried and trusted in all areas of domestic plumbing and heating

WICU® The Convenient Tube System.

WICU® Tube

The plastic covered copper tube

WICU® Tube, the plastic covered copper tube, is designed for all applications in domestic plumbing, especially where good exterior protection is needed – such as installation under plaster, in rooms with an aggressive atmosphere and installations with exposed exteriors above or below ground. WICU® Tube is easy to work with and can be joined with conventional copper fittings.

Copper tubes according to EN 1057 (EN 13349)

- With quality marks RAL and DVGW DV-7204AT2142
- Cu-DHP, R 220 (soft), in 25 and 50m coils
- Cu-DHP, R 290 (hard), in 5m lengths
- or all applications not subject to the German Energy Saving Regulation (EnEV)
- Colour: Light Grey

Availability

- in coils 6 x 1,0 mm to 22 x 1,0 mm
- in straight lengths 12 x 1,0 mm to 54 x 2,0 mm

Product benefits

- *Universal application.*
- *Reduces condensation.*
- *Protects against external influences and mechanical damage.*
- *Certified external corrosion protection according to EN 12068.*
- *Suitable for exterior applications above or below ground (e.g. liquefied gas lines).*
- *Suitable for installation in rooms with aggressive atmospheres.*



WICU® – registered trademark of KME Germany GmbH & Co. KG

R 220 = soft, R 290 = hard

* These dimensions are not included in GW 392. This is why they do not have the DVGW sign.

** The maximum permitted working pressure was calculated on the basis of soft copper tubes with $R_m = 200 \text{ N/mm}^2$ and a safety factor of 3.5 at a working temperature of 100 °C. The permitted working pressure relates to the copper tube, not the joint.

*** Can be used to 100 °C

Product Range WICU® Tube

Straight lengths (5 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7042104	12.0 x 1.0	16	R 290	0.308	104	0.079
7042106	15.0 x 1.0	19	R 290	0.391	82	0.133
7042109	18.0 x 1.0	22	R 290	0.475	67	0.201
7042111	22.0 x 1.0	26	R 290	0.587	54	0.314
7042115	28.0 x 1.5	33	R 290	1.110	65	0.491
7042118	35.0 x 1.5	40	R 290	1.410	51	0.804
7042120	42.0 x 1.5	48	R 290	1.700	42	1.195
7042122	54.0 x 2.0	60	R 290	2.910	44	1.963

Coils (50 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7042126	6.0 x 1.0*	9	R 220	0.140	229	0.013
7042130	8.0 x 1.0*	11	R 220	0.196	163	0.028
7042137	10.0 x 1.0*	13	R 220	0.252	127	0.050
7042141	12.0 x 1.0	16	R 220	0.308	104	0.079
7042152	15.0 x 1.0	19	R 220	0.391	82	0.133
7042156	18.0 x 1.0	22	R 220	0.475	67	0.201

Coils (25 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7042124	6.0 x 1.0*	9	R 220	0.140	229	0.013
7042128	8.0 x 1.0*	11	R 220	0.196	163	0.028
7042135	10.0 x 1.0*	13	R 220	0.252	127	0.050
7042140	12.0 x 1.0	16	R 220	0.308	104	0.079
7042151	15.0 x 1.0	19	R 220	0.391	82	0.133
7042155	18.0 x 1.0	22	R 220	0.475	67	0.201
7042157	22.0 x 1.0	26	R 220	0.587	54	0.314

Product Range WICU® Tube

For low and medium pressure liquefied gas systems with acceptance test certificate 3.1 B according to DIN EN 10 204

Straight lengths (5 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7041789	12.0 x 1.0	16	R 290	0.308	104	0.079
7059025	15.0 x 1.0	19	R 290	0.391	82	0.133
7059026	18.0 x 1.0	22	R 290	0.475	67	0.201
7059544	22.0 x 1.0	26	R 290	0.587	54	0.314
7045179	28.0 x 1.5	33	R 290	1.110	65	0.491
7011561	35.0 x 1.5	40	R 290	1.410	51	0.804
7045189	42.0 x 1.5	48	R 290	1.700	42	1.195
7059546	54.0 x 2.0	60	R 290	2.910	44	1.963

Coils (25 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7049761	15.0 x 1.0	19	R 220	0.391	82	0.133
7049763	18.0 x 1.0	22	R 220	0.475	67	0.201
7049364	22.0 x 1.0	27	R 220	0.587	54	0.314

The energy saving tube for heating, sanitary and solar

WICU® Eco is thermally insulated with a special PUR sheath. The insulation has particularly low thermal conductivity (WLG 026) and is so efficient that the total diameter is very small, which makes installation easy and space saving. KME is the only company in the world that supplies a covered tube with such outstanding insulation properties. WICU® Eco is especially suitable for transporting warm water in plumbing and heating systems, including solar installations, due to its excellent resistance to permanent temperatures of up to 150 °C. The tube completely fulfils all requirements of the German Energy Saving Regulation (EnEV).

Joints can also be insulated afterwards quickly and easily with various components from the WICU® Eco range of system accessories. Commonly available EPDM foams can be used for re-insulation of solar systems.

Copper tube according to EN 1057

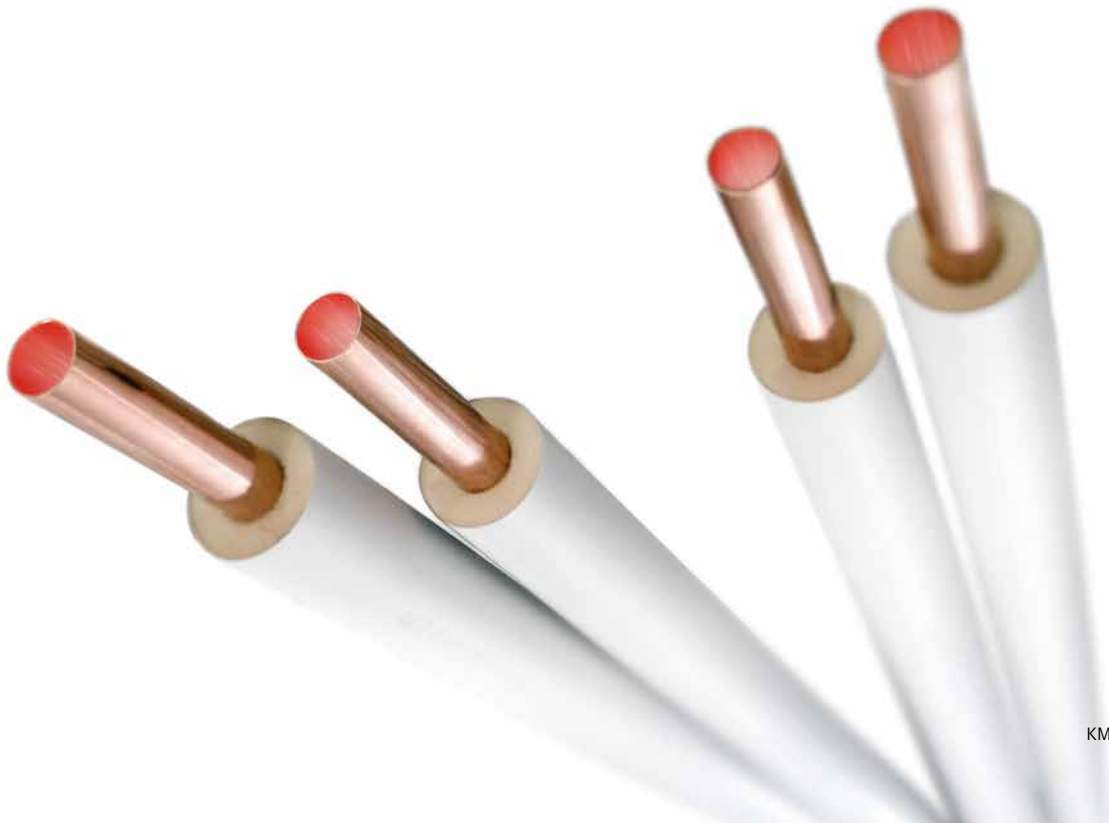
- Cu-DHP, R 290 (hard), in 5 m lengths
- Cu-DHP, R 220 (soft), in 25 m coils
- Max. working temperature 150 °C (for short time periods higher)

Straight lengths and coils

- With polyurethane foam (PUR) insulation, 100% HFC/CFC-free and a protective sheath made from hard PVC
- Colour: light grey
- Heat insulation corresponds to the requirements of EnEV
- Thermal conductivity $\lambda = 0.026 \text{ W/(m}\cdot\text{k)}$

Product benefits

- *High-quality heat insulation applied in the factory with particularly low thermal conductivity (WLG 026).*
- *The small overall outer diameter saves space during installation.*
- *Inexpensive in comparison to installations that are insulated afterwards.*
- *Clean installation.*
- *Complete range of accessories to insulate joints.*
- *Fulfils the requirements of the German Energy Saving Regulation (EnEV).*
- *Weather resistant.*
- *Maintenance free.*
- *Delivery as straight length and coil.*
- *Less pressure losses through smooth inner surface.*



Product Range WICU® Eco

The energy-saving tube for heating, sanitary and solar



Straight lengths (5 m) 100% EnEV

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7091759	12,0 x 1,0	34	R 290	0,414	90	0,079
7093494	15,0 x 1,0	38	R 290	0,514	71	0,133
7093526	18,0 x 1,0	42	R 290	0,616	58	0,201
7093531	22,0 x 1,0	45	R 290	0,735	47	0,314
7093532	28,0 x 1,0	63	R 290	0,755	37	0,531
7093533	35,0 x 1,2	71	R 290	1,134	35	0,835
7093534	42,0 x 1,2	90	R 290	1,369	29	1,232
7093537	54,0 x 1,5	109	R 290	2,202	28	2,043

Coils (25 m) 50% EnEV

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
7093490	12,0 x 1,0	26	R 220	0,366	90	0,079
7093491	15,0 x 1,0	29	R 220	0,455	71	0,133
7093492	18,0 x 1,0	32	R 220	0,545	58	0,201

R 220 = soft, R 290 = hard

* The maximum permitted working pressure was calculated on the basis of soft copper tubes with $R_m = 200 \text{ N/mm}^2$ and a safety factor of 3.5 at a working temperature of 100 °C.

The permitted working pressure relates to the copper tube, not the joint.

Can be used up to 100 °C

The energy-saving tube for heating, sanitary and solar

Preformed parts, accessories and installation aids

To insulate joints of thermally insulated WICU® Eco tubes

- Insulation made from foamed polyethylene, 100% HFC/CFC-free
- Easy to bend and dimensionally stable
- Colour: light grey
- All preformed parts for the WICU® tube system can be recycled

Preformed exterior shell to insulate joints

- Made from hard PVC
- Colour: light grey
- All preformed for the WICU® tube system can be recycled

Preformed parts to insulate joints

Article No.	Article	For tube outer diameter (mm)	Packaging unit
7010918	90°-bend	12	10 pieces
7010919		15	10 pieces
7010920		18	10 pieces
7010921		22	10 pieces
7010922		28	5 pieces
7010923		35	5 pieces
7010924		42	5 pieces
7010925		54	5 pieces
7010910	T-piece	12	10 pieces
7010911		15	10 pieces
7010912		18	10 pieces
7010913		22	10 pieces
7010914		28	5 pieces
7010889	Hose 1 m	12	10 pieces
7010890		15	10 pieces
7010891		18	10 pieces
7010892		22	10 pieces
7010893		28	5 pieces
7010894		35	5 pieces
7010895		42	5 pieces
7010896		54	5 pieces

Preformed hard PVC exterior shell

Article No.	Article	For tube outer diameter (mm)	Packaging unit
7010897	90°-bend	12	10 pieces
7010898		15	10 pieces
7010899		18	10 pieces
7010900		22	10 pieces
7010901		28	5 pieces
7010902		35	5 pieces
7010903		42	5 pieces
7010904		54	5 pieces
7010905	T-piece	12	10 pieces
7010906		15	10 pieces
7010907		18	10 pieces
7010908		22	10 pieces
7010909		28	5 pieces
7010932	Shell	12-22	10 pieces
7010936		28-35	5 pieces
7010937		42-54	5 pieces

Installation aids

Article No.	Article	Packaging unit
7010933	Collar tape	1 pieces
7010934	Plastic rivets	1000 pieces
7010935	Awl	1 piece
7010926	Coroplast 19mm	32 rolls
7010927	Coroplast 25mm	24 rolls
7010928	Sealing tape 204mm	100 pieces
7010929	Sealing tape 389mm	100 pieces
7010930	Assembly clamps	100 pieces

Accessories - The Copper System

The system accessories from KME consist of components that are especially designed for our tube products and which are absolutely state of the art. This applies to both the installation tube system and the panel heating systems. KME supplies insulation and preformed parts for perfect installation as well as all the necessary components to install panel heating systems reliably and professionally. All KME system components are covered by warranty.



Plastic rivets



Sealing tape



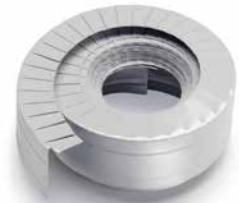
Assembly clamps



Awl



Coroplast 19 and 25mm wide



Collar tape



Preformed exterior shell T-piece



Preformed exterior shell 90° bend



Preformed exterior shell Straight shell



Preformed part T-piece



Preformed part 90° bend



Preformed part Straight insulation hose

The flexible covered copper tube

WICU® Flex has a flexible PE sheath which reduces sound transmission as well as condensation and heat loss. The sheath protects the tube during shipping, installation and handling at the building site. It is very easy to work with. WICU® Flex can be laid quickly, is easy to bend and simple to join with copper fittings. To join tubes, you only have to slide back the sheath and then press it over the fitting. This simple system offers substantial time savings. No subsequent insulation is needed.

WICU® Flex is available only in coils. It is ideal as a drinking water distribution tube or as a heating system connection tube - the perfect solution when the job needs to be done quickly.

Copper tube according to EN 1057

- With quality marks RAL and DVGW DV-7204AT2142
- Cu-DHP, R 220 (soft), in coils
- With heat insulation made from 100% HFC/CFC-free polyethylene foam (PE) and a PE structure film
- 6mm layer of insulation with a thermal conductivity rating of 0.040 W/(m · K)
- For all applications not subject to the German Energy Saving Regulation (EnEV)
- Colour: light grey
- Meter-marking on the tube

Availability

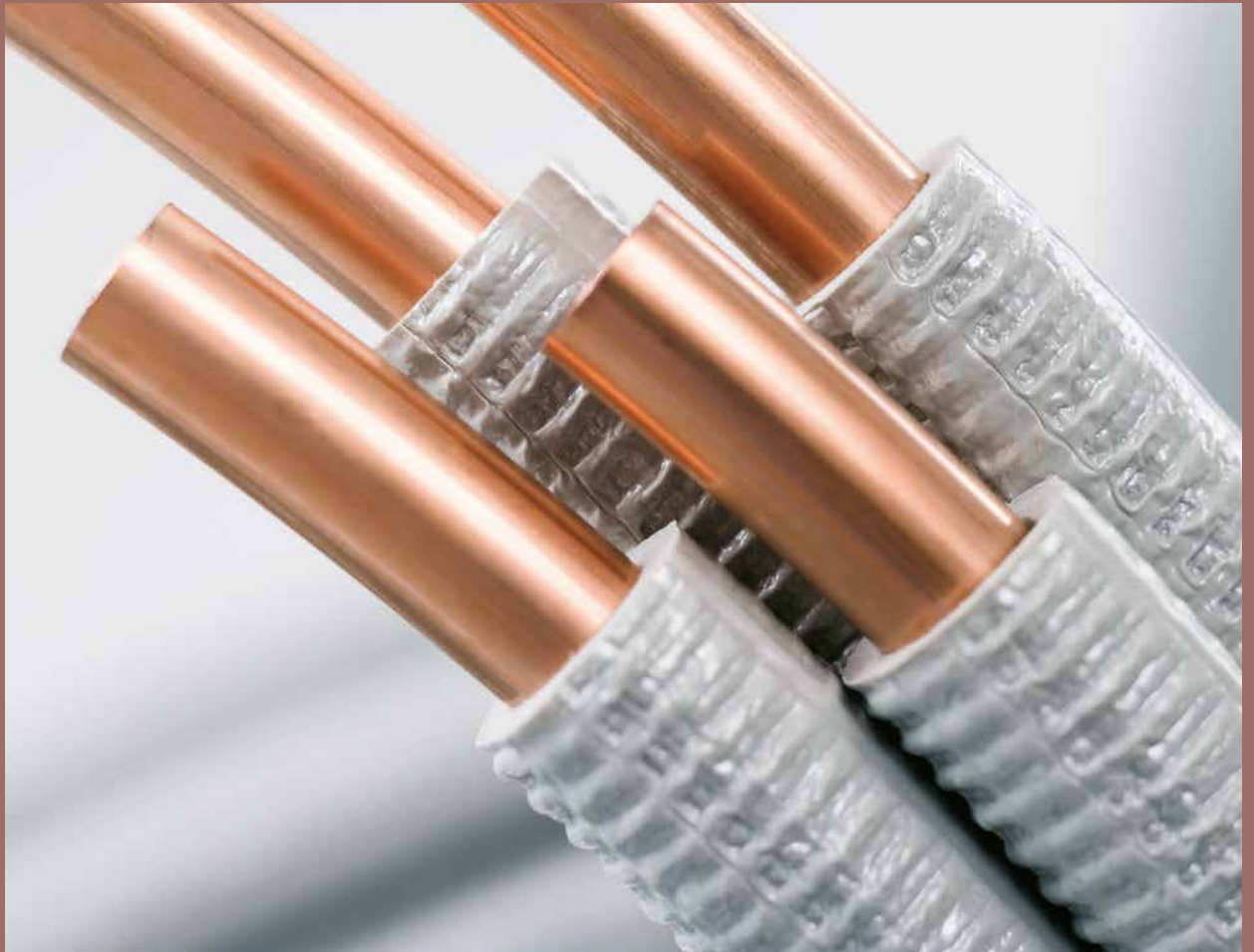
- 12 x 1,0 to 18 x 1,0 mm in 25 m and 50 m coils
- 22 x 1,0 mm in 25m coils

Product benefits

- *Flexible, soft elastic sheath.*
- *Fast installation with few joints.*
- *Certified sound protection according to DIN 4109.*
- *Reduces condensation.*
- *Heat and energy losses are reduced.*



Product Range WICU® Flex



Coils (25 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Total outer diameter (mm)	Strength	Weight (kg/m)	Permitted working pressure** (bar)	Water volume (l/m)
0045088	12.0 x 1.0	24	R 220	0.331	90	0.079
0045090	15.0 x 1.0	27	R 220	0.417	71	0.133
0045094	18.0 x 1.0	30	R 220	0.505	58	0.201
0045097	22.0 x 1.0	34	R 220	0.621	47	0.314

R 220 = soft

* The maximum permitted working pressure was calculated on the basis of soft copper tubes with $R_m = 200 \text{ N/mm}^2$ and a safety factor of 3.5 at a working temperature of 100 °C.
The permitted working pressure relates to the copper tube, not the joint.
Can be used up to 100 °C

The covered copper tubes for air conditioning technology

Copper tubes to transport cooling fluids and refrigerants are the ideal connection lines between the outer part (condenser) and the inner part (evaporator) in split-system air-conditioning units. These tubes are also ideal in secondary circulation systems, such as refrigerating media with water-glycol mixtures. Installation of supermarket cooling systems is made much simpler, among other things.

The core copper tube is manufactured according to EN 12735-1 and, in accordance with the standard, has a particularly clean and metallic smooth inner surface. The tubing is covered with closed-cell PE foam which reduces refrigeration and heating energy losses. A PE film with a high resistance to steam diffusion prevents condensation entering the insulation, which ensures the long-term insulating effect of the flexible PE sheath.

Product benefits

- *Flexible, soft elastic cold temperature insulation.*
- *Fast installation with few joints*
- *High resistance to steam diffusion*
- *Available in metric and inch dimensions*

Copper tube according to EN 12735-1

- Cu-DHP, R 220 (soft), in 50 m and 25 m coils
- Inner surface smooth according to EN 12735-1
- Dimensional tolerances according to EN 12735-1

Sheath

- Closed-cell PE foam with protective PE film
- 100% HFC/CFC-free
- Excellent resistance to external chemical effects
- Fire resistance: DIN 4102-B2 or DIN EN 13501-1 Class E

Air conditioning tubes in metric sizes

Sheath

- Colour: grey
- Medium steam diffusion resistance $\mu = 13000$

Availability

- 10 x 1 mm to 18 x 1 mm in 50 m coils
- 22 x 1 mm in 25 m coils

Product Range WICU® Frio

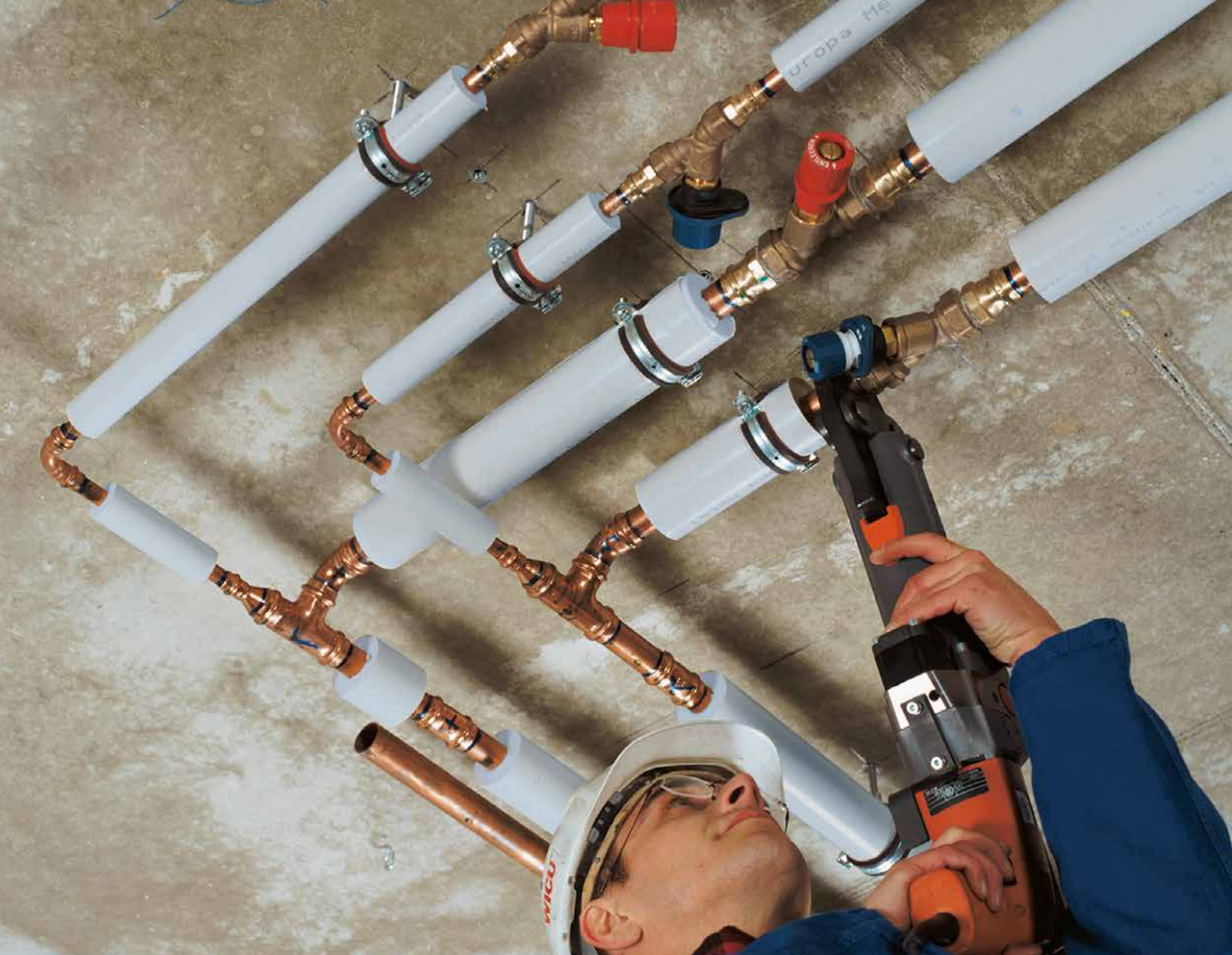


Coils (50 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Minimum thick- ness of the insulating sheath (mm)	Max. permitted working pressure ASTM (MPa)	Max. permitted working pressure DIN 43614-1 (bar)	Water volume (l/m)
0056042	6 x 1	8	10,45	111	0,050
0044355	10 x 1	10	8,70	91	0,079
0044357	12 x 1	10	7,47	73	0,113
0044358	14 x 1	10	6,97	71	0,133
0044449	15 x 1	10	6,53	66	0,154
0044359	16 x 1	10	5,81	59	0,201
0044361	18 x 1	10	5,81	59	0,201

Coils (25 m)

Article No.	Dimensions Outer diameter x wall thickness (mm)	Minimum thick- ness of the insulating sheath (mm)	Max. permitted working pressure ASTM (MPa)	Max. permitted working pressure DIN 43614-1 (bar)	Water volume (l/m)
0044362	22 x 1	10	4,75	48	0,314



Hygiene

Compared to other materials, copper has hygienic advantages that are especially important in drinking water installations. As experience and recent studies have shown, the formation of legionella and other harmful bacteria caused by unfavourable operating conditions is considerably reduced when copper is a part of the system. Additionally, there are no temperature-related limitations for thermal disinfecting as in other materials. With copper, the normal use of disinfecting agents in water such as chlorine is also possible in the concentrations typical for drinking water, even short-term high-chlorination processes of up to 12 hours cause no problems whatsoever.

WICU® – install, join, finished

	WICU®	WICU® Eco	WICU® Flex	WICU® Frio	WICU® Clim
Soldering	○	○	○	○	○
Brazing	○	○	○	○	○
Pressing	○	○	○	○	○
Screwing	○	○	○	○	○
Insertion	○	○	○	○	○

WICU® – take the benefit of patented processes

With their patented manufacturing process, WICU® tubes exceed the requirements of European standards and regulations. This alone gives them an advantage over other copper tubes, guaranteeing that their use is safe in your applications.

WICU® – reliable quality

Consistent in-house and external monitoring of production and our DIN ISO 9001 quality management system guarantee the consistently high quality of our brand name tubes.

WICU® – always available

WICU® tubes are always available on stock. Contractors can order for just-in-time deliveries.

WICU® – good to work with

All conventional connection techniques used in domestic plumbing can be used on WICU® tubes. They can be soldered, brazed, or cold pressed. WICU® tubes can be bent with suitable tools.

WICU® – universal applications

In domestic plumbing, WICU® tubes can be used universally as riser lines and distribution lines for drinking water, heating, oil, gas and liquefied gas.

WICU® – always reliable

You can always trust WICU® manufacturers. They offer extensive warranties, advice for planners, contractors and the specialised trade, and a wide range of seminars and training events.



Manufacture

Modern tube manufacturing is an extensive, high-tech process. At KME, all stages from the first processing steps with the raw material through to delivery of the final product run smoothly as part of a single quality chain.



The starting products are refined copper billets delivered from continuous casting plants. These are heated to 950 °C and processed into hollows for further processing by hot pressing or hot skew rolling. Reciprocating rolls then perform the subsequent cold forming. Hard, half-hard and soft copper tubes are produced for domestic plumbing in multi-stage cold-drawing processes.

Quality and Reliability

KME defines quality as a responsibility that is to be met by its employees. Effective improvement is an on-going process that is practiced day in, day out at every workplace. The commitment of each and every employee to quality is vital in order to ensure that we only put the best copper tubes on to the market. And it is thanks to their continued dedication that KME quality management systems fulfill the ISO 9000 standard, among many other trade standards and regulations. At KME, we know that you can only have fully satisfied customers in the long term if you achieve complete reliability in the production processes and the quality of the finished products.

On the basis of this responsibility, KME offers all contractors reliable warranty agreements. The manufacturers' system alliance with the ZVSHK (German Central Association Plumbing, Heating, Air Conditioning) and the BHKS (Federal Industrial Association for Heating, Air Conditioning and Sanitary Engineering/Technical Buildings Systems) guarantees maximum reliability.

Reliability is top priority – from the raw material to the finished KME copper tube.

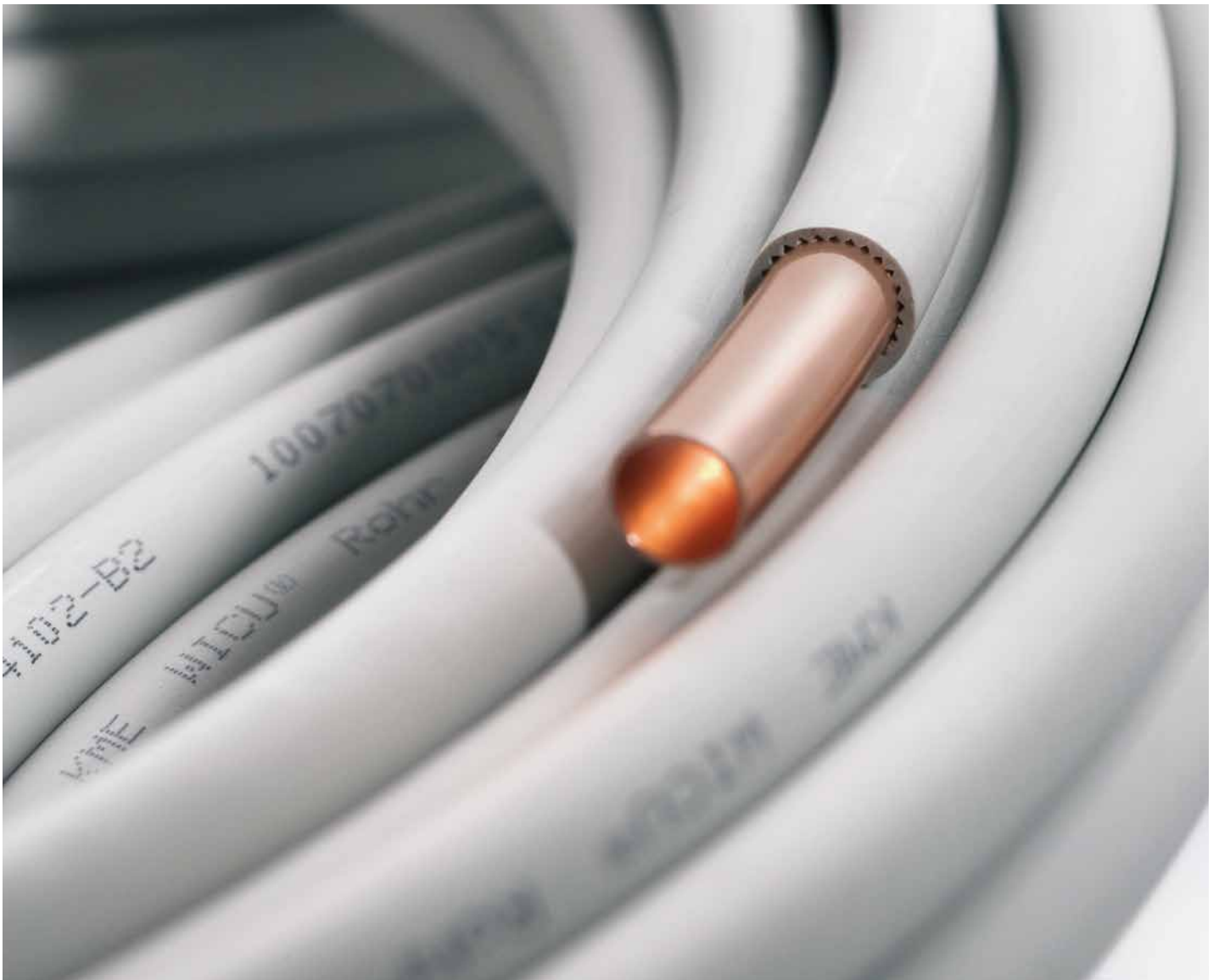




KME Plumbing Tubes – Training and Advice

High-quality brand name products have to be processed properly so that quality standards and reliability can be guaranteed. As a leading manufacturer of brand name copper tubes in Europe, KME not only offers the widest product range, but also the best support.

We pass on our many years of experience with copper plumbing tubes to contractors in the plumbing, heating, and air-conditioning industries in numerous seminars. The content of the seminars is always up to date and can be used in practical application. In addition to theoretical fundamentals, the seminars also deal with practical planning and installation of plumbing and heating systems with brand name copper tubes. Our specialist seminars are held by experienced trainers. They also offer extensive advice for all issues relating to KME brand name copper tubes.



SANCO®



Qtec®
SANCO® INSIDE



COPATIN®



HYPOPLAN®

Brand Name Quality from KME

Brand name tubes from KME prove their reliability in many different applications – the smooth **SANCO®** tube for all domestic plumbing applications, flexible and lightweight **Q-tec®** tubes, also for all domestic plumbing applications, and for under-floor heating systems, **COPATIN®** tubes with internal tin plating, especially for drinking water, the **HYPOPLAN®** tube system in wall heating systems.

All WICU® products are sold through traditional channels – from the manufacturer to plumbing, heating and air conditioning wholesalers and from there to the trades.

If you have any questions, our staff in the Plumbing Tubes division will be pleased to help you.

KME Germany GmbH & Co. KG

Plumbing Tubes

Klosterstrasse 29

49074 OSNABRÜCK

GERMANY

Tel. +49 541 3 21-4329

Fax +49 541 3 21-82010

www.kme.com

info-rohre@kme.com

Sales & Service

KME Germany GmbH & Co. KG

Plumbing Tubes

P.O. Box 3320

49023 OSNABRÜCK

Klosterstraße 29

49074 OSNABRÜCK

GERMANY

Fon +49 541 321-4329

Fax +49 541 321-82010

www.kme.com

info-rohre@kme.com

Plumbing Tubes