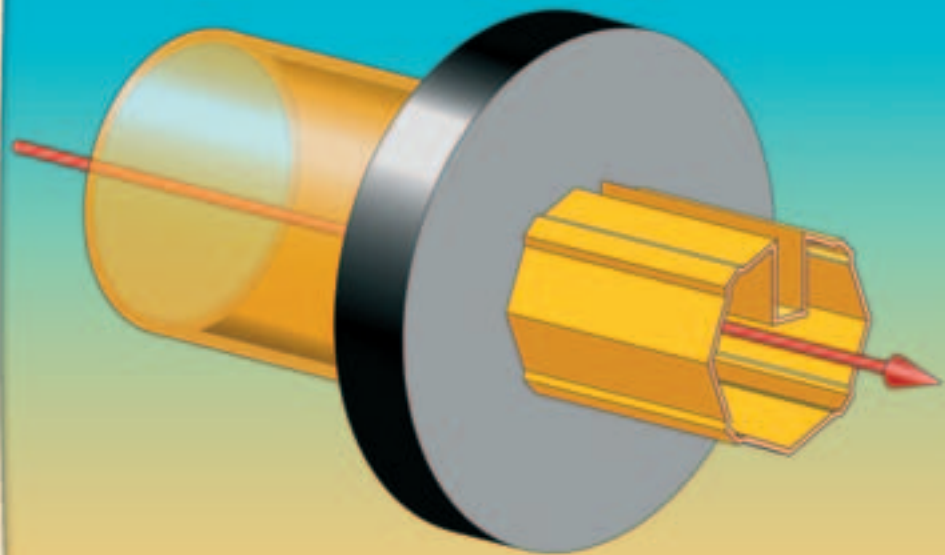


Wieland



Sectional tubes
in copper alloys

Sectional tubes in copper alloys

Copper alloys

Copper is one of the oldest materials and today amongst the most widely used non-ferrous metals. Wieland semi-finished products form an indispensable link between the raw material copper and the products made by our customers.

Copper-based materials are suitable for a wide range of applications due to the unique combination of various properties such as

- easy to alloy with a variety of metals
- high electrical and thermal conductivity
- outstanding corrosion resistance
- good forming and processing properties
- excellent suitability for surface coating

Wieland sectional tubes are therefore used across most industries.



Shower fixing in chromium-plated brass



Applications

Wieland sectional tubes in copper alloys are widely used in industries with particular requirements in terms of material and reliability of the end product.

Our sectional tubes are popular in the electronic and plumbing industries as well as in architecture. They are also used in model making, the manufacture of musical and writing instruments, medical technology and automotive engineering. Wieland also manufactures large square or round sectional tubes for moulds especially for foundries.

Moulds for the casting industry

– Design options

Advantages of sectional tubes

Sectional tubes drawn from round tubes are characterized by their uniform wall thicknesses making them particularly suitable for pressure gauges.

Special manufacturing methods enable us to produce complex structures. This allows the designer to design low weight multifunctional sections with high resistance.

Our method of manufacturing sectional tubes also enables us to form defined surface geometries, in the drawing direction, assuming additional functions.

A beading operation of up to 180° further increases resistance in the selected areas of the component. This results in an increase in mechanical strength.



Open to new challenges

To meet specific customer requirements our Research Department develops new materials which we also use for the manufacture of sectional tubes.

We provide our customers with bespoke solutions in compliance with new legislation or specific mechanical property requirements.

Special forming techniques allow us already to manufacture combinations of round tubes and sections which enable us to produce multi-chamber sections as used for example in cooling lines.



– Material properties and service

Alloys and sizes

Material designation			Sectional tubes drawn		
Wieland	EN codes	Alloy symbol	Largest diameter of circumscribed circle	Cross-section	Wall thickness
			[mm]	[mm ²]	[mm]
K10	Cu-OFE	CW009A	230	≥20	0.5 – 15
K12	Cu-HCP	CW021A	230	≥20	0.5 – 15
K20	Cu-DHP	CW024A	230	≥20	0.5 – 15
K30	Cu-OF	CW008A	230	≥20	0.5 – 15
K32	Cu-ETP	CW004A	230	≥20	0.5 – 15
K60	CuZr1Zr	CW106C	●	●	●
K65	CuFe2P	CW107C	●	●	●
KA1	CuAg0,10P	CW016A	●	●	●
M10	CuZn10	CW501L	●	●	●
M15	CuZn15	CW502L	165	≥5	0.1 – 8.5
M20	CuZn20	CW503L	70	≥5	0.1 – 8.5
M30	CuZn30	CW505L	120	≥10	0.25 – 8.5
M36	CuZn36	CW507L	●	●	●
M37	CuZn37	CW508L	120	≥10	0.25 – 8.5
Z10	CuZn37Pb0,5	CW604N	230	≥20	0.5 – 15
Z11	CuZn35Pb1	CW600N	50	≥20	0.5 – 4
Z21	CuZn38Pb2	CW608N	120	≥20	0.5 – 15
Z23	CuZn36Pb3	CW603N	●	●	●
Z31	CuZn40Pb2	CW617N	●	●	●
Z32	CuZn39Pb3	CW614N	●	●	●
Z45	CuZn36Pb2As	CW602N	●	●	●
S28	CuZn28Sn1As	CW706R	90	≥20	0.25 – 8.5
B05	CuSn5	CW451K	●	●	●
B06	CuSn6	CW452K	●	●	●
B09	CuSn8	CW453K	●	●	●
B10	CuSn8	CW453K	70	≥5	0.10 – 3.75
N22	CuNi12Zn24	CW403J	50	≥20	0.30 – 5
N29	CuNi18Zn20	CW409J	50	≥20	0.30 – 5

● Supply to be agreed

Customer advice

Our Technical Marketing experts can provide assistance right from the planning stage. Our extensive knowledge gained over many years in the sectional tube production has made us a leading supplier and competent partner to our customers.

Quality management

All our products are manufactured according to current European standards and directives which are even exceeded in some areas.

Our production and quality control personnel are striving for continuous improvements thereby ensuring that our customer's orders are executed with the greatest accuracy and reliability.

– An economical construction component for all industries

What is a sectional tube?

Sectional tubes are manufactured from round, extruded or drawn tubes. Depending on the requirement the final shape is obtained through different cold working operations making the sectional tube an economical complement to conventional extruded sections.

Sectional tubes can be an alternative especially where current extrusion technology reaches its limits.



Exhaust embellishers

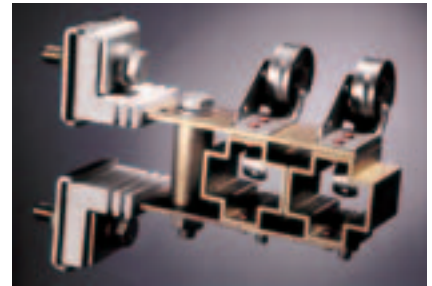
Sectional tubes have the right technical preconditions for tight wall thickness tolerances or for the manufacture of complex hollow sections.

Materials

Sectional tubes are manufactured primarily from copper materials (Wieland-K alloys) or from lead-free brass (Wieland-M alloys).

Depending on the application other types of alloys can also be used:

- leaded brass (Wieland-Z alloys)
- special alloys (Wieland-S alloys)
- bronze (Wieland-B alloys)
- nickel silver (Wieland-N alloys)



Carbon brush holder of Carbone Lorraine

Varied design options for sectional tubes are made possible by the good cold working properties of the material.

Depending on applications and the demands thus placed on the material, the sections can be manufactured in any temper from soft to hard (tensile strengths for certain alloys up to 600 N/mm²).

For more information concerning our range of alloys, please refer to our homepage www.wieland.de under Products/Extruded and Drawn Products/Product Catalogue.

Sizes

Sectional tubes can be made from round tubes with a diameter of 5 to 230 mm. A wall thickness of 0.1 mm to up to 15 mm can be chosen depending on the alloy and diameter, however, the inner cross-section has to be at least 5 mm² and the smallest diameter of the circumscribed circle a minimum of 5 mm. The ratio between the largest circumscribed circle to the smallest wall thickness must not exceed 125:1. Sectional tubes can be manufactured in 10 m lengths and in exceptional cases up to 18 m long.



Heat exchanger

Wieland

WIELAND-WERKE AG
www.wieland.de

Extruded and
Drawn Products Division

89079 Ulm, Graf-Arco-Strasse 36, Germany, Phone: +49 (0)731 944-0, Fax: +49 (0)731 944-2879, info@wieland.de

This leaflet 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.