



Reliable Conductivity



Conductive



High conductivity from the purest in-house produced copper

Few other metals can reach the same electrical conductivity as copper, and the combination of conductivity, formability, and total cost of ownership in relation to its other properties makes copper the optimal and most sustainable choice for wires and conductors in cables. We attain the high conductivity of Aurubis ROD, dg-RheinROD and Aurubis FOXROD by starting from our in-house produced high-purity copper cathodes and to some extent clean Millberry scrap from customers. Only a few other companies in the world have the same level of expertise as Aurubis in copper smelting and refining – the precursor to tankhouses as we know them today was developed by Aurubis in 1876.

The metallurgical expertise in our company is what enables us to manufacture copper wire rod with benchmark conductivity exceeding the standards. No matter if your wire application requires Cu-ETP1 or oxygen-free copper, we can supply the rod.

Standard grades

8 mm Cu-ETP1 wire rod suited for any application can be supplied from any of our rod lines, and in most of our lines we can also produce various larger diameters.

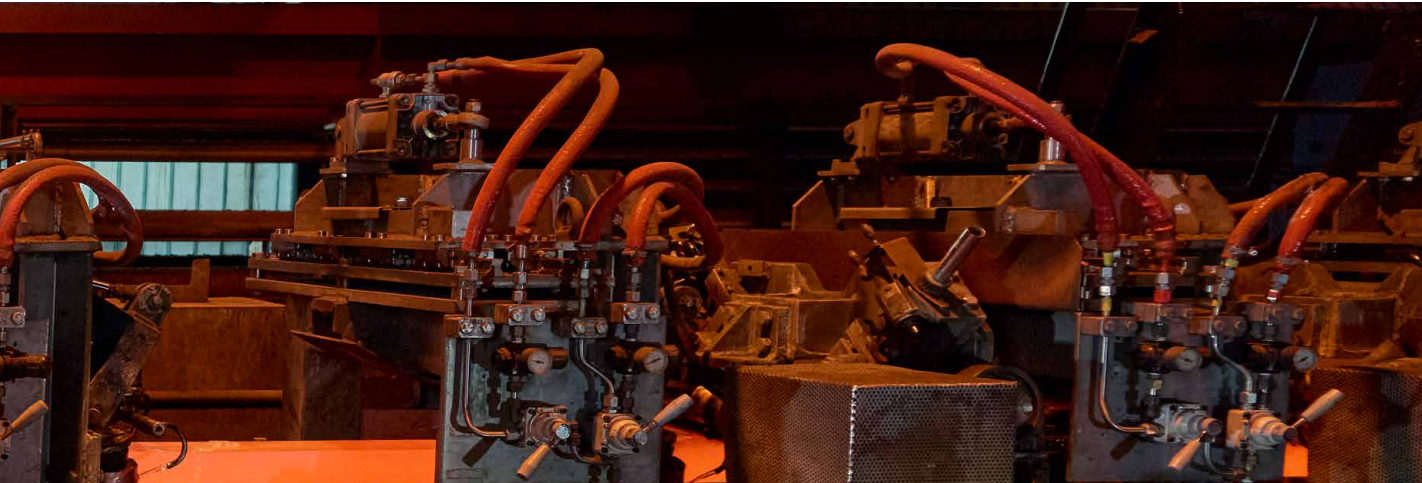
Oxygen-free

Specific high-performance applications require copper that is more or less free of oxygen. Our solution is Aurubis FOXROD, which is a Cu-OFE wire rod containing less than 4 ppm oxygen. In addition to extremely high conductivity, Cu-OFE copper is also resistant to hydrogen embrittlement and can be used in fire-resistant applications as well as when welding is needed.

A little extra something

Sometimes just a small addition of another element makes a big difference. In addition to unalloyed, Cu-ETP1 and Cu-OFE, we also have high-performance alloys in our portfolio. They are produced on the same production lines as the pure copper grades with a small amount of the alloying element added to the melt. In this way, we can change the mechanical properties of the copper wire rod to perfectly fit your application.

Reliable

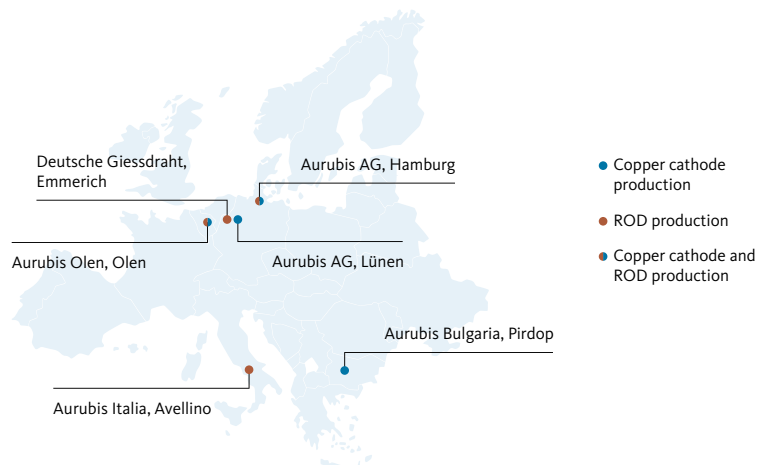


Reliability though redundancy

We make every effort to keep our production facilities running and in great shape, including preventive maintenance and 5S. Unplanned standstills can never be totally avoided, but we will still be able to supply you with the product you need, as our lines stand in for each other. Aurubis redundancy is unparalleled. We have four production lines for Cu-ETP1 wire rod – two in Germany, one in Italy, and one in Belgium. In total, we have capacity to produce more than a million tons of copper wire rod

per year. The oxygen-free FOXROD production is located at a single site in Belgium, but there we have redundancy within the site with six independent lines.

The main feedstock for our wire rod plants is copper cathode, another area where you will benefit from the multi-redundancy within Aurubis. In total, we have four tankhouses fed with anodes from four metallurgical plants, where the input material comes either from one of our two smelters or from one of our recycling facilities.



Formidable formability

The right copper wire rod for your application

Almost all copper wire starts its life as wire rod. It is the most common copper semi in the world next to cathode. Aurubis is the largest independent producer of wire rod in Europe. We have achieved this position through years of hard, focused work by some of the best professionals in the market. We are also working together with leading manufacturers of wire drawing machinery and lubricants as well as with customers to better understand how our wire rod behaves in your processes. Today, we can supply Cu-ETP1 wire rod in well-defined qualities tailored to your needs. No matter if you are looking for the best drawability for the thinnest wire or for running your multi-wire lines at high speed with minimized breaks, our Aurubis ROD, dg-RheinROD and FOXROD are there for you.

Surface to your preference

Although what's on the inside is most important, we pay great attention to the outside, too. We can supply rod with smooth or rough surfaces depending on your needs. Our rod surface is perfectly aligned with the needs of modern thin, heat-resistant insulation systems for round and flat wires. Thin insulation film or strip enables optimization of the copper content in windings in motors for the car industry, power transformers, and generators, to name a few examples. Thanks to the uniform high surface quality, the enamel layer can be thinner and still provide flawless insulation. Our wire rod fulfills all requirements for use in demanding automotive applications.

Conductors don't have to be round

Wire drawing is no doubt the most common next step for our wire rod, but it is equally well suited for other cold forming processes. In Belgium we use our own FOXROD as input material for Conform to make bars & profiles. Aurubis ROD and dg-RheinROD are also very well suited for rolling into flat wire.



Broad portfolio



Material grades		Aurubis ROD, dg-RheinROD & Aurubis FOXROD							
	Copper wire rod		Cu-HCP	Cu-DXP	CuAg		CuSn		CuMg
Type	Cu-ETP1	Cu-OFE	Cu-OFE	Cu-OFE	ETP1	OFE	ETP1	OFE	OFE
Diameter	8–23.5 mm	8–25 mm	8–21 mm	8–21 mm	8–23.5 mm	8–25 mm	8 mm	8–25 mm	16–25 mm
Chemical elements	100–400 ppm oxygen	< 4 ppm oxygen	0.001–0.007 wt % P	0.04–0.06 wt % P	0.005–0.12 wt % Ag	0.005–0.5 wt % Ag	0.005–0.3 wt % Sn	0.005–0.5 wt % Sn	0.005–0.5 wt % Mg
Conductivity in % IACS	> 101	> 101	> 101–97.4	> 76.4–67.8	> 100	> 100	100–78	100–66	100–68
Cu content	Min 99.99 %	Min 99.99 %	Min 99.95 %	Min 99.9 %	Rest	Rest	Rest	Rest	Rest

In accordance with standards DIN EN 1977 & ASTM B 49 (where applicable).
All Aurubis ROD plants are certified in accordance with ISO 9001 and 14001.



Beyond conductivity

We at Aurubis can do more for you than just supply copper semis:

- » Copper is infinitely recyclable and Aurubis is a leader in the field. Together we can close the loop, using your scrap as our input material.
- » Technical services, including two metallurgical laboratories, product development projects, and technical workshops
- » We help you mitigate risk by offering different models for copper price fixations, including “Copper on Account,” in which a third party, often your customer, fixes copper and releases it for use.
- » Flexible logistics solutions

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Metals for Progress



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