



Drawn Products

Wire and bar

 **Aurubis**

Facts & Figures

Aurubis specialty wire

» In **2010**, Aurubis casts the first **BlueBrass®** — **lead-free, machinable brass alloy, RoHS compliant** and developed in-house.

» **1,000** profile shapes are expertly produced in our toolshop.

» In **2023**, in-house **bar production** rounds out the **drawn products** portfolio.

Aurubis Group

Metals for progress

With its metals, Aurubis is laying the foundation for the technologies of the future. A smart, connected world would be impossible without metals.

Whether for renewable energies, electric vehicles, digitalization or urbanization, the demand for metals will continue to rise.

For more than 150 years, Aurubis has produced copper and other metals that are crucial for modernization and for advancing our lives over the coming decades.

Aurubis has around 7,200 employees, production sites in Europe and the US, and an extensive distribution network around the world.

Aurubis

Specialty Wire



Aurubis drawn products are ideal for manufacturers of sophisticated precision parts, who benefit from a diverse portfolio of alloys and dimensions. In addition to round, square and hexagonal wires and bars with a broad range of dimensions, Aurubis manufactures an extensive selection of special profiles. Delivery options include on spools, in drums, as packaged coils, or as ring material, ensuring a wide spectrum of coil types and processing weights. We focus on markets where the specific properties of copper and copper alloys, especially relating to conductivity, offer our customers added value. Customers profit from our quality, productivity, process efficiency, and innovative power. Long-term customer relationships stand for reliability and confidence.

Sustainability



Tomorrow Metals is our promise to always do our utmost to meet all the sustainability challenges of today and the future through our metals. We are committed to creating increasingly more value with an ever decreasing environmental footprint. Our understanding of sustainability encompasses the focus areas the Economy, Environment, and People. Our mission: We responsibly transform raw materials into metals for an innovative and sustainable world.

Certification

Aurubis Stolberg is certified according to IATF 16949, DIN EN ISO 9001:2021, DIN EN ISO 50001:2018, DIN EN ISO 45001:2018, and DIN EN ISO 14001:2015.

Alloys & dimensions

Forms of delivery

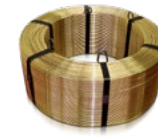
Alloys					
	ISO	UNS	EN	BS	Aurubis
Brass leaded	CuZn35Pb1	C34000	CW600N	CZ118	PNA 262
	CuZn35Pb2	C34200	CW601N	CZ119	PNA 263
	CuZn36Pb3	C36000	CW603N	CZ124	PNA 254
	CuZn37Pb2	C35300	CW606N	CZ131	PNA 273
	CuZn38Pb2	C35300	CW608N	CZ128	PNA 272
	CuZn39PB2	C37700	CW612N	CZ128	PNA 250
	CuZn39Pb3	C38500	CW614N	CZ121	PNA 253
	CuZn40Pb2	C38000	CW617N	CZ122	PNA 251
Brass low-lead	CuZn39Pb0.5	C36500	CW610N	CZ137	PNA 265
Brass lead-free	CuZn37Pb0.5	C33500	CW33500		PNA 266
	CuZn36	C27000	CW507L		PNA 244/246
	CuZn37	C27200	CW508L	CZ108	PNA 245
BlueBrass®	BlueBrass® CuZn42				PNA 277
	BlueBrass® CuZn42In0.1				PNA 279
	BlueBrass® CuZn40				PNA 311
Copper	Cu-ETP (E-Cu)	C11000	CW004A	C101	PNA 211
	Cu-OFE (OF-Cu)	C10100	CW009A	C110	PNA 203
	CuSn0.15				PNA 216

Additional alloys available upon request (in larger amounts).

Dimensions						
	Product	Round in mm	Square in mm	Hexagon in mm	Flat in mm	Profile cross section** in mm ²
Wire drawn	Brass leaded	2.0 – 14.5	3.5 – 12.0	3.5 – 13.0	2.0 – 15.0*	10 – 150
	Brass lead-free	2.0 – 14.5	3.5 – 12.0	3.5 – 13.0	2.0 – 15.0*	10 – 150
	Copper	2.0 – 14.5	3.5 – 12.0	3.5 – 13.0	2.0 – 15.0*	10 – 150
	BlueBrass® extruded	2.0 – 14.5	3.5 – 12.0	3.5 – 13.0	2.0 – 15.0*	10 – 150
Wire extruded	Brass leaded	4.5 – 16.0	All available upon request			
	Brass lead-free	8.0 – 16.0				
	BlueBrass® extruded	4.0 – 16.0				
Bars	Drawn	2.0 – 65.0	6.0 – 50.0	6.0 – 46.0	Available upon request	36 – 1,764
	Extruded	> 65.0 – 90.0	> 50.0 – 64.0	> 46.0 – 78.0	Available upon request	> 1,764 – 3,850

* Circumscribed circle max. 14 mm.

** Width to height specifications available upon request.



Coils spooled with and without cardboard core			
Inner Ø in mm	Traversing width in mm	Outer Ø in mm	Weight in kg
710	350	1,150	500 – 1,200
630	350	1,150	500 – 1,100
500	300	800	300 – 550
500	450	1,000	500 – 1,200
500	500	1,000	500 – 1,250
400	278	740	450 – 550

Iron spools			
Receiving bore in mm	Traversing width in mm	Outer Ø in mm	Weight in kg
Ø 80	520	1,050	500 – 1,200

Rings			
Inner Ø in mm	Traversing width in mm	Outer Ø in mm	Weight in kg
800	80 – 250	1,000	50 – 150
550	70 – 200	850	50 – 120
450	50 – 150	750	30 – 80

Wire carrier			
Height	Max. base Ø in mm	Arbor Ø in mm	Weight in kg
800 – 1,500	1,000	approx. 480	250 – 750

Wire in barrels			
Inner Ø in mm	Height in mm	Outer Ø in mm	Weight in kg
400	600	630	max. 300

Bars			
Standard length	Surface	Packaging	Other
3,000 mm	Uncoated, drawn	Boxes each 500 kg	Chamfered ends for automatic bar feeding

BlueBrass®

lead-free. machinable. conductive.

www.BlueBrass.com



Aurubis Stolberg developed the BlueBrass® family of alloys, which combines the current electrical and automotive industry standards for conductivity, machinability and formability with the increasing demand for lead-free products. BlueBrass® is excellent for producing lead-free connectors. Its electrical conductivity and corrosion resistance are fully comparable to the machining brass currently in use.

In addition to its strength, this alloy's formability is much higher than brass alloys containing lead, to a degree that was previously only possible with lead-free alloys with poor machinability.

Applications:

- » Automotive sector
- » Electrical industry
- » Construction industry
- » Air-conditioning technology

Cost-efficient and recyclable

The material is also interesting for processors of semifinished products from an economic point of view, such as the price of metal and the miscibility of production scrap. Swarf and production scrap can be returned to existing recycling cycles.

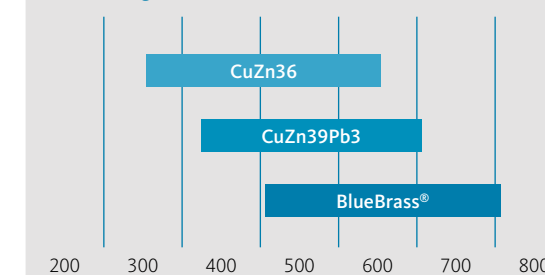
Chemical composition		
	BlueBrass®42 weight in %	BlueBrass®40 weight in %
Cu	57 – 59	59.0 – 60.5
Zn	Residual	Residual
Fe, Ni, Sn	0.1 – 0.5	0.2 – 0.5
Si, Mn	max. 0.1	max. 0.1
Pb	<0.1	<0.1

Physical properties		
Density	g/cm³	8.4
Thermal expansion coefficient	10 – 6/K	20
Electrical conductivity	MS/m % IACS	14.6 25
Thermal conductivity	W/(mK)	113
Elastic modulus	kN/mm²	105

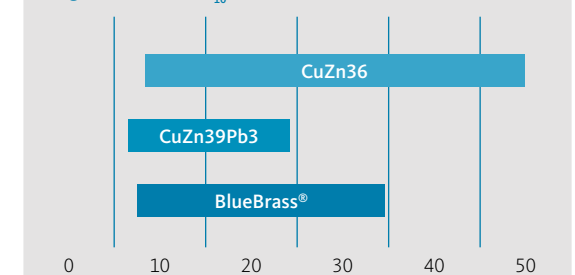
Potential savings in processing

The combination of high stability and good formability paired with good machinability opens up new avenues in component production. BlueBrass® generates new potential for processing companies. Cold working followed by custom-fit machining achieves better stability of the parts while reducing swarf waste at the same time.

Tensile strength of BlueBrass® in N/mm²



Elongation at break A₁₀ of BlueBrass® in %



The BlueBrass® family is growing

Visit www.bluebrass.com to see all the current alloys in the BlueBrass family. Aurubis application engineering is available for special requirements.

Bars

Brass bars now complete the Aurubis portfolio.

Lead-free BlueBrass® alloys and standard brass are part of the program. All current products are RoHS compliant — with no exemption for BlueBrass®.

Alloys	
Lead-free, RoHS compliant with no exemption	PNA
CuZn42	277
CuZn42In	279
CuZn40	311
For more lead-free solutions visit www.bluebrass.com	
Low lead	PNA
CuZn39P0.5	265
CuZn37Pb0.5	266
Brass leaded	PNA
CuZn39Pb3	253
CuZn39PB2	250
CuZn38Pb2	272
CuZn37Pb2	273
CuZn36Pb3	254
CuZn35Pb2	263
CuZn35Pb1	262

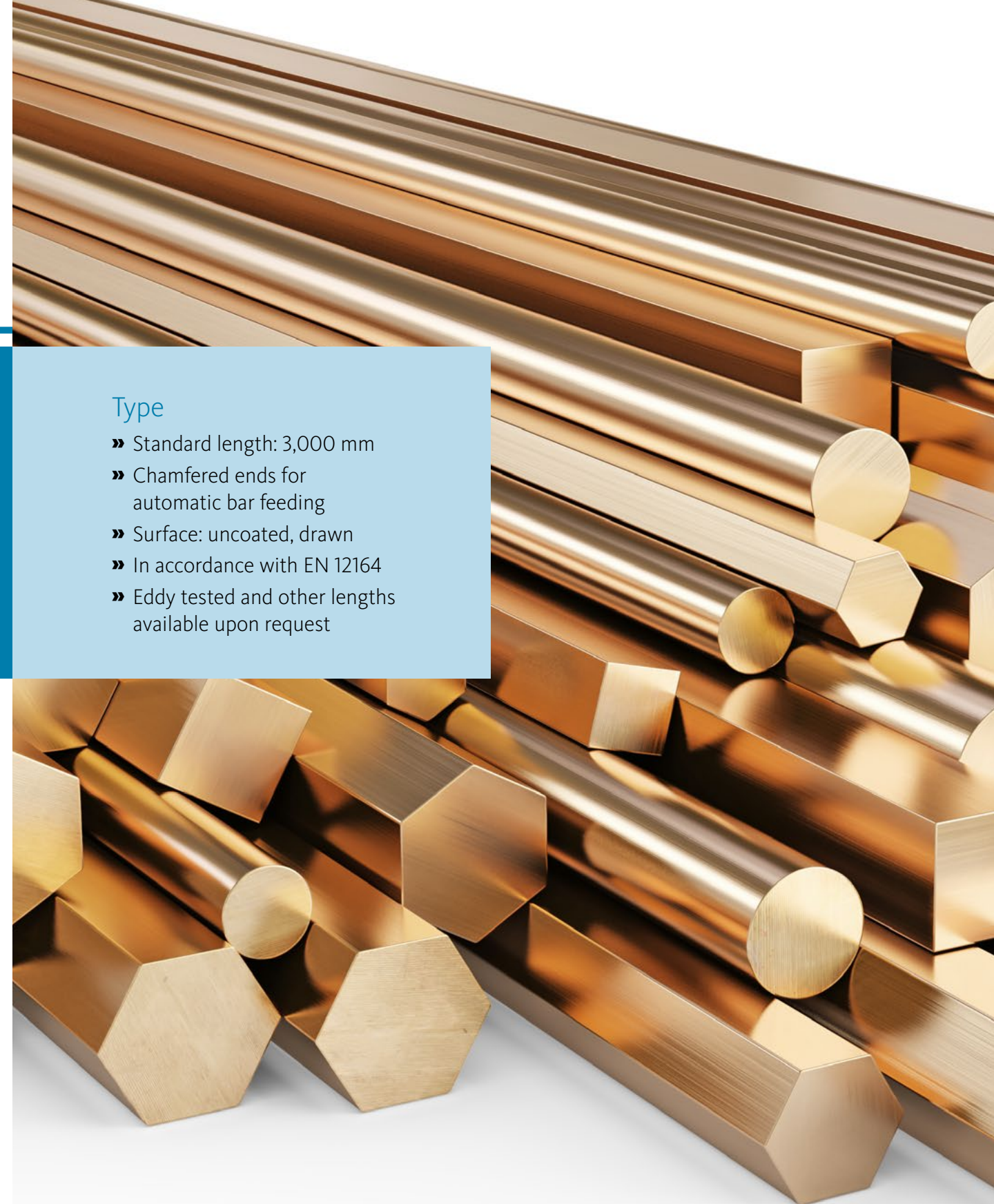
Additional alloys available upon request.

Dimensions		
Solid	Drawn	Extruded
Round in mm	2 – 65	> 65 – 90
Square in mm	6 – 50	> 50 – 64
Hexagon in mm	6 – 46	> 46 – 78
Flat in mm	Available upon request	Available upon request
Profile cross section in mm ² *	36 – 1,764	> 1,764 – 3,850

* Width-to-height ratio is a prerequisite. Additional tolerances available upon request.

Type

- » Standard length: 3,000 mm
- » Chamfered ends for automatic bar feeding
- » Surface: uncoated, drawn
- » In accordance with EN 12164
- » Eddy tested and other lengths available upon request



Exceptional service

Commercial services

- » Expertise and many years of copper market experience
- » Strong, financially secure long-term copper supply
- » Up-to-date information about the copper market
- » Advice and support with hedging

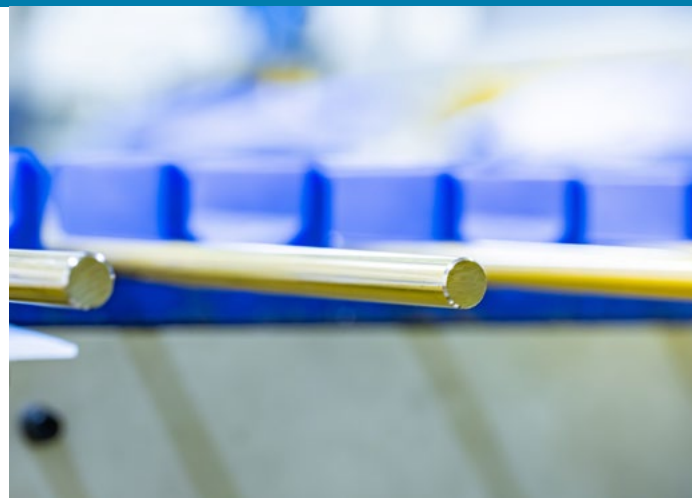
Technical service

- » Support from our network of experienced technicians and engineers when selecting and processing semifinished products
- » Laboratory with comprehensive, state-of-the-art physical and chemical analysis methods, including a scanning electron microscope
- » Recycling concepts for our customers for increasing efficiency — closing the loop

Logistics

- » Exceptionally reliable delivery and flexibility through our integrated supply chain — from the concentrate through to the specialty wire
- » Joint projects with our customers to optimize the manufacturing chain
- » Worldwide availability thanks to a globally expanded distribution network: globally present — locally active

Aurubis provides customer support before, during and, of course, after purchase with comprehensive commercial, technical and logistical services that focus entirely on the customer's needs.





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Metals for progress

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