



Bars & Profiles

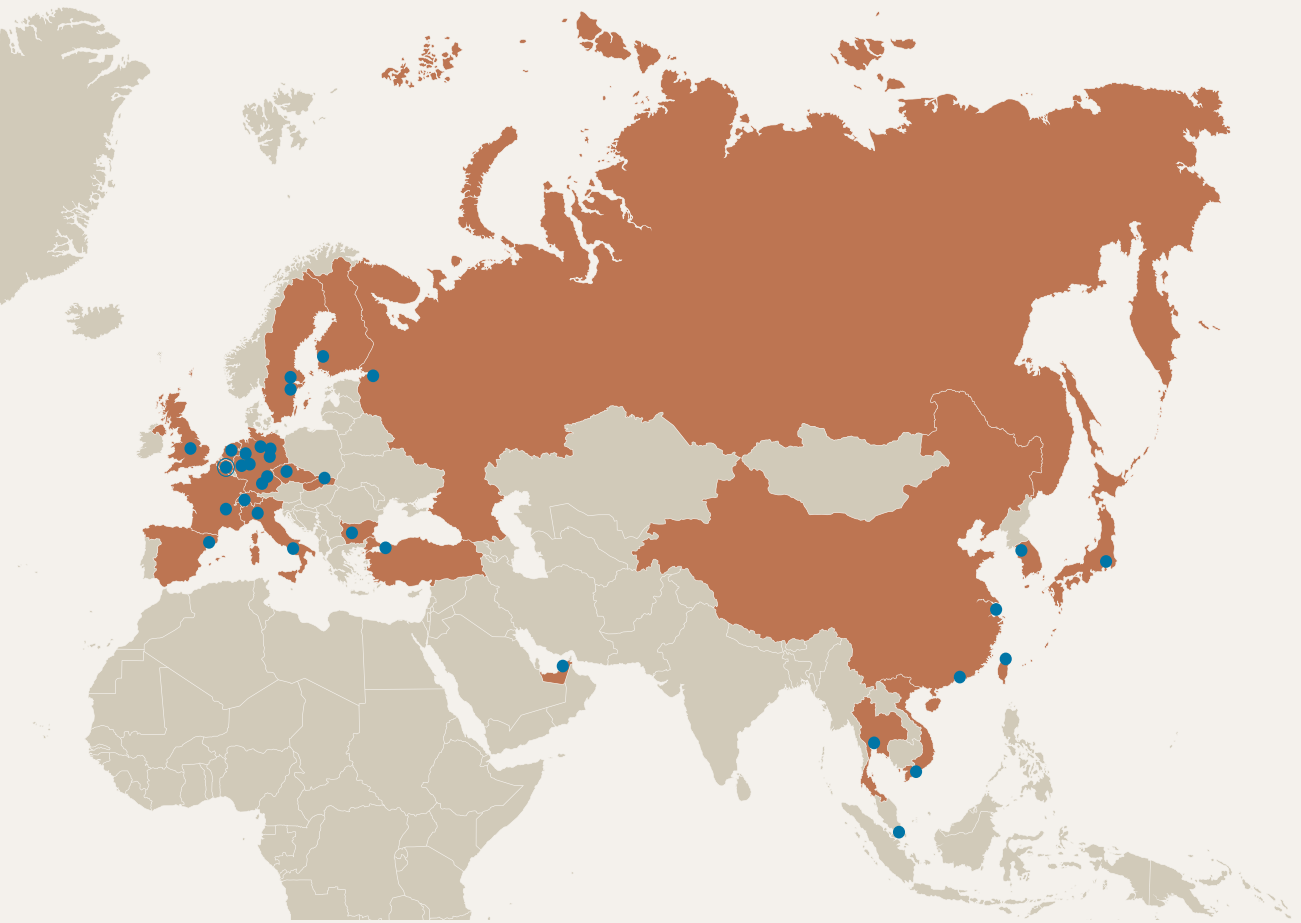
 **Aurubis**



Bars & Profiles at Aurubis



Production sites

AE	Dubai	
BE	Brussels	
	Olen	
BG	Pirdop	
CN	Hong Kong	
	Shanghai	
CZ	Prague	
DE	Emmerich	
	Fehrbellin	
	Hamburg	
	Group headquarters	
	Lünen	
	Neuss	
	Röthenbach	
	Stolberg	
	Strass	
FI	Pori	
FR	Lyon	
IT	Avellino	
	Mortara	
JP	Tokyo	
KR	Seoul	
NL	Zutphen	
RU	St. Petersburg	
SG	Singapore	
SI	Dolný Kubín	
ES	Barcelona	
SE	Finspång	
	Västerås	
CH	Yverdon-les-Bains	
TW	Taipei	
TH	Bangkok	
TR	Istanbul	
UK	Birmingham	
US	Buffalo	
	Chicago	
VN	Ho Chi Minh City	




Raw materials

Concentrates and recycling materials are the raw materials from which copper is produced.

-  Concentrates
-  Recycling materials

Products

The copper is processed into products. Some products are already the result of copper production.

- | | | | |
|---|-----------------|---|---------------------------|
|  | Iron silicate |  | Continuous cast shapes |
|  | Sulfuric acid |  | Wire rod |
|  | Other metals |  | Specialty rod/shaped wire |
|  | Precious metals |  | Strip/foil |
|  | Cathodes |  | Bars & Profiles |

Slitting Centers

Service centers located near our customers slit strip to the desired dimensions.



Sales and distribution

An international sales and distribution network markets our products.



Facts & Figures

Bars & Profiles

2006 is the year Aurubis **started producing** Bars & Profiles.

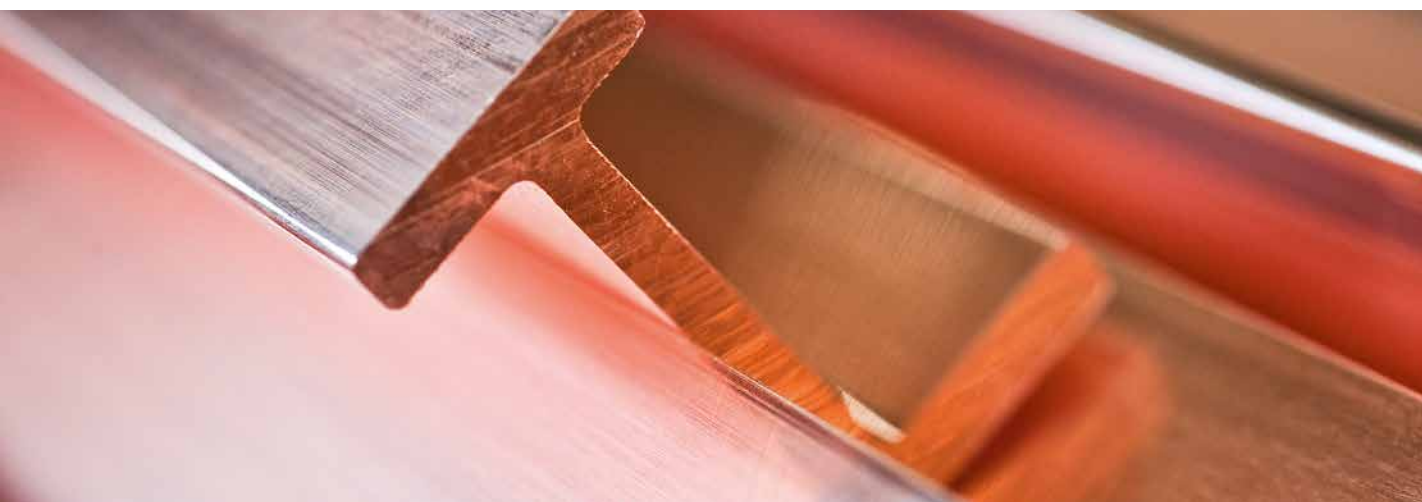
2,000 is the number of **different profiles** created with our know-how.

99.99 % is the **purity** of the copper which assures the excellent quality of our products.

21,000 t is the **production capacity** per year using Conform™ technology.



Profiled to our customers' needs



Copper products of the highest purity

The Aurubis Group combines copper smelting and refining with copper processing activities to create a broad range of products and custom-made solutions.

The company was founded as a stock corporation back in 1866 and has successfully positioned itself ever since. Today Aurubis is the leading integrated copper producer with approximately 6,300 employees across production sites in Europe and the USA and an extensive service and sales system for copper products in Europe, Asia and North America. The Aurubis Group is synonymous with innovation, a competitive technological edge and exemplary environmental conservation. Aurubis is the world's largest copper recycler.

Cathodes with 99.99 % copper content

Aurubis Bars & Profiles production is located in our facility in Olen, Belgium. It is supplied with outstandingly pure copper cathodes produced on site. Aurubis Olen runs a large tankhouse – the last step in the copper refining process. In this plant, copper anodes are transformed into cathodes with a copper content of 99.99 %.

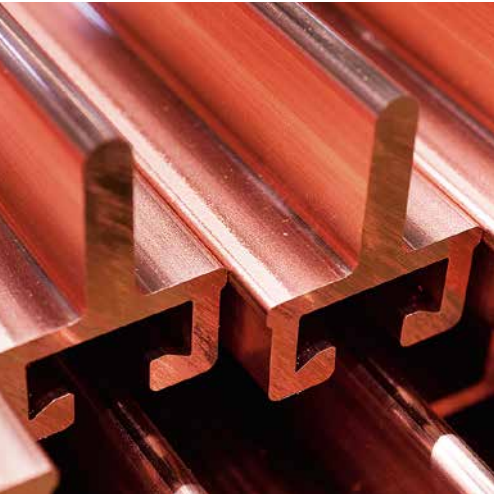
These high-purity copper cathode sheets have outstanding electrical, mechanical and chemical properties and are the perfect starting material for further processing into Aurubis Bars & Profiles.

Aurubis Bars & Profiles

Aurubis Belgium is specialized in the production and distribution of copper bars and profiles for the electrical engineering industry. We have the most advanced equipment in Belgium, enabling us to deliver our products to our customers around the globe.

We take care of developing close partnerships to fully meet our customers' requirements. The constant quality of our products, the respect of our lead times and the expertise of our teams shows our willingness to develop sustainable partnerships on a daily basis.

Electronics: the basis of our activities



Aurubis Bars & Profiles always keeps its customers' success in mind by giving them a choice of copper products of high quality. Electrical engineering is the industry's answer to the transformation of natural resources into usable energy. This process includes three phases: the generation, the distribution and the consumption of electric current.

Generation of electric current

Aurubis Bars & Profiles provides copper solutions for generators. Electric current is obtained from a natural resource. Hydroelectricity, for example, is produced in hydroelectric power plants that operate in conjunction with a dam that supplies the water. Water is directed to the power plant, where it is converted into electric current.

Distribution of electric current

Copper products from Aurubis Bars & Profiles can be found in electrical substations, trunking systems, switchgear and conductor systems. In this phase, electric current is directed to the place where it will be transformed into usable energy.

Consumption of electric current

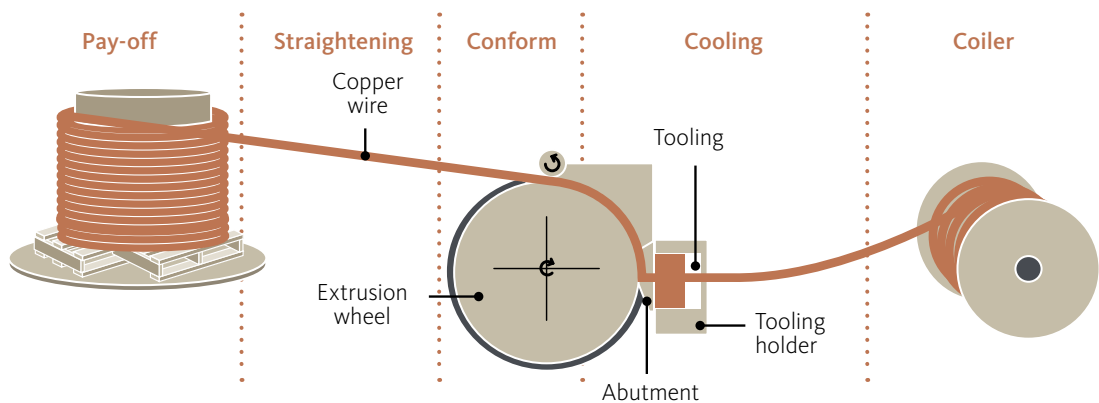
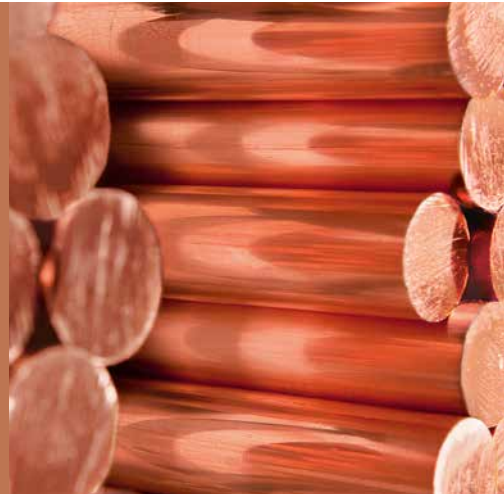
Aurubis Bars & Profiles provides copper products for

- » medical systems and different areas of research that use electrical energy to create a magnetic field
- » AC and DC motors
- » induction furnaces where the magnetic field is used for metal smelting

When it arrives at its destination, electric current is converted into mechanical energy, used for lighting or converted into heat.

Process technology at its best

Wire rod is transformed in the rotary process from a solid to a plastic state by friction and shear deformation. In the plastic state the copper flows through the die to form a homogenous product due to the constant and continuous process parameters.



State-of-the-art production

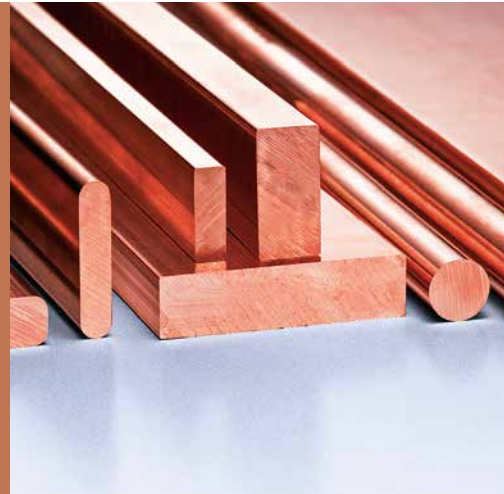
21,000 t of Aurubis Bars & Profiles capacity are installed in Olen. Aurubis started producing bars and profiles in 2006 using one of the most advanced technologies, the continuous extrusion process. Three state-of-the-art production lines strategically placed in Belgium, in the center of Europe, produce excellent and high-quality profiles.

The production lines have been developed and modified to improve efficiency. We are continually developing the process to push the boundaries and improve product quality. Regardless of their complexity or size, all profiles undergo a thorough risk analysis to ensure that our customers' expectations are entirely satisfied.

We have our own tooling design & manufacture department which reduces lead time and allows us to tailor our profiles to meet our customers' specifications. We undertake joint development projects for the electrical engineering industry, ensuring that our customers stay one step ahead of their competitors.

Bars & Profiles that meet your needs

Aurubis provides a wide range of bars and profiles to fulfill customized needs: flat bars, round bars, segments, profiles and hollow profiles.



Flat bars

Aurubis provides a wide range of flat copper bars for many applications in the electrical engineering industry.

Conditioning:

Our flat bars up to 10 m can be delivered in various finished conditions according to our customers' requirements.

Alloys:

Cu-ETP, CuAg0.04 OF, CuAg0.1 OF

Round bars

Aurubis Belgium provides a variety of round bars for the main OEMs in Europe and overseas.

Dimension range:

4 mm to 50 mm in diameter, lengths up to 10 m

Conditioning:

We offer several packaging solutions for round bars in order to fulfill all of our customers' requirements precisely.

Alloys:

Cu-ETP

Segments

Aurubis Belgium supplies a broad portfolio of copper segments in simple and complex designs for use in manufacturing commutators:

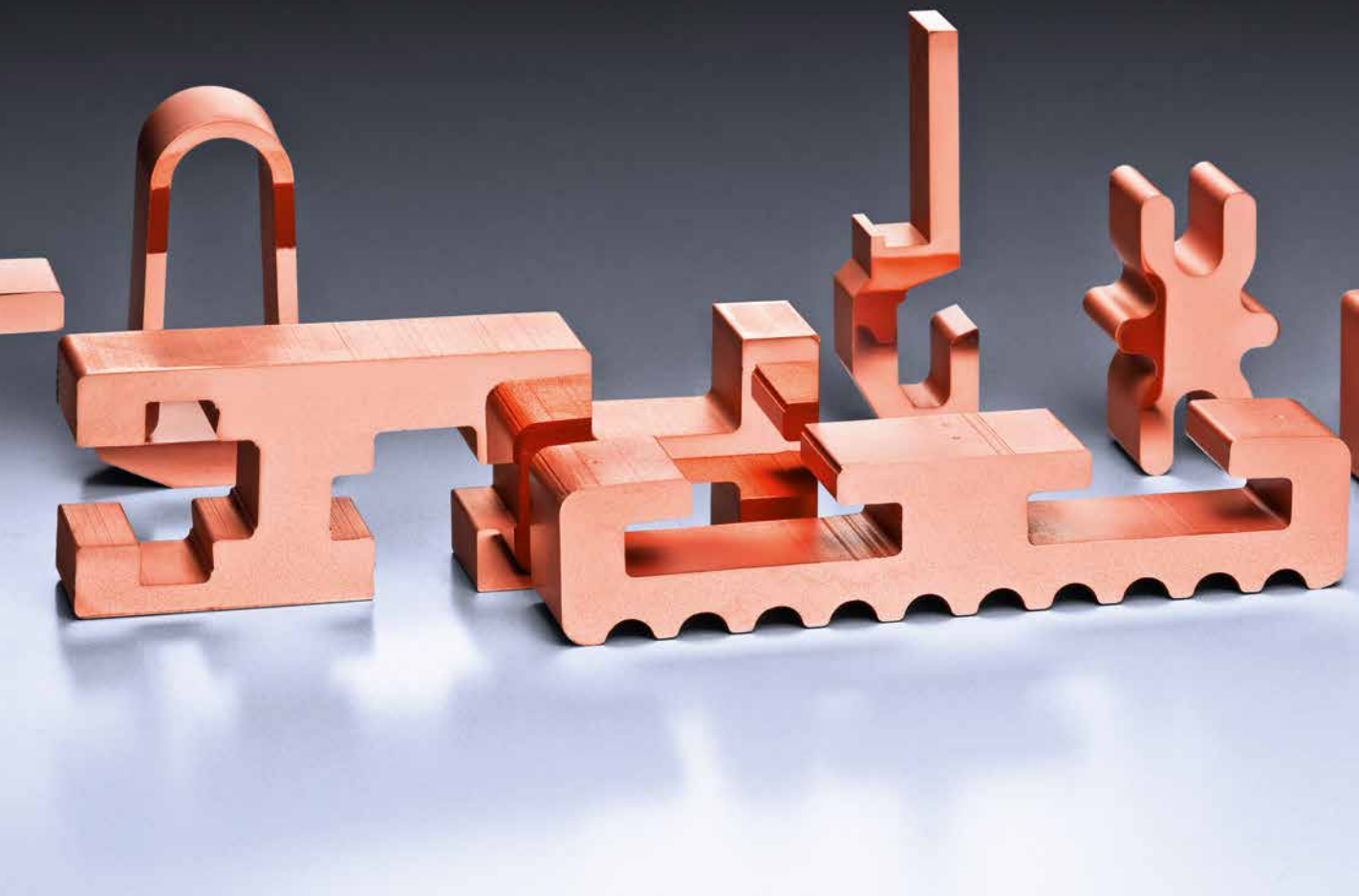
- » AC motors
- » DC motors
- » Generators

Conditioning:

Our copper segments can be delivered in various finished conditions.

Alloys:

Cu-ETP; for increased thermal stability: CuAg0.04, CuAg0.1



Profiles

Over the last nine years, Aurubis Belgium has designed and manufactured about 2,000 different profiles for renowned OEMs mainly based in Europe and overseas.

Aurubis Belgium provides profiles from simple to more complex forms according to customer specifications.

Cross-sections:

from 50 mm² to 3,000 mm² (450 g/m to 27 kg/m)

Conditioning:

Our profiles can be delivered in various finished conditions.

- » Straight lengths up to 10 m
- » Coiled on drums up to 2,000 kg
- » Loose coils up to 1,000 kg

Alloys:

Cu-ETP, CuAg

Hollow profiles

Aurubis Belgium is able to supply hollow profiles for the following applications:

- » Induction systems
- » Generators

Conditioning:

Our hollow profiles can be delivered in various finished conditions such as bars up to 9 m, in loose coils or on drums up to 1,500 kg.

Alloys:

Cu-ETP; for increased thermal stability: CuAg0.04, CuAg0.1



Rectangular with round hole

External form 10 mm to 25 mm, hole from 6 mm to 15 mm in diameter, wall thickness > 2 mm



Rectangular with rectangular hole

External form 10 mm to 25 mm, wall thickness > 2 mm



Asymmetric

External form 10 mm to 25 mm, wall thickness > 2 mm

Bars & Profiles for multiple applications

Over the last several years, Aurubis Belgium has developed a broad range of copper bars and profiles for customers in the electrical engineering industry. These products are used in various applications such as switchgear, trunking systems and circuit breakers. Bars and profiles made of Aurubis copper in the electronics industry are also needed in various applications such as rotating machines and refinery systems.

Switchgear

Bars and profiles from Aurubis copper are used in low and medium-voltage applications worldwide. About half of our 2,000 different profiles today are destined for use in switchgear applications – and it is still a growing market.

As switchgear enclosures become more complicated by using profiles, the electrical properties change, resistance increases and energy losses increase. Due to the high conductivity of Aurubis copper, the losses are partially compensated.

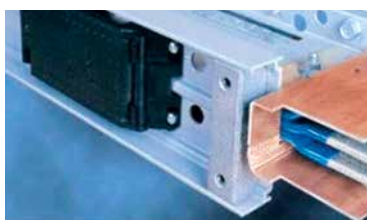
Trunking systems

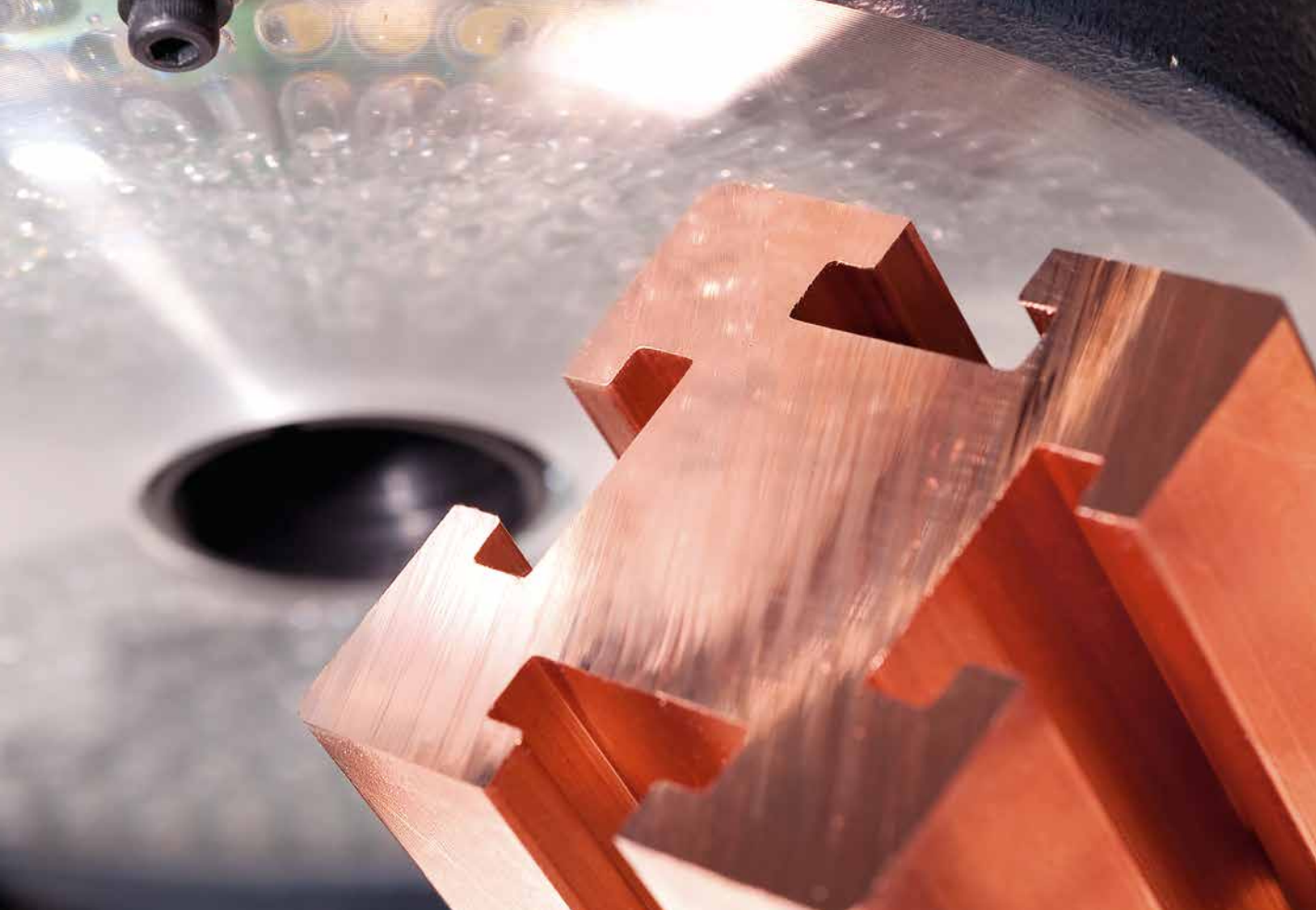
Bars and profiles made of Aurubis copper are also used for trunking systems. The combination of high conductivity and durability make Aurubis copper the preferred choice where there are size restrictions and high current demands.

An added benefit due to the superior conductivity is reduced energy losses, which lead to a reduced lifecycle cost of the installation.

Circuit breakers

Profiles from Aurubis copper are used in many different types of circuit breakers. There is little or no standardization, generally a short lifetime and high demands for compactness of the unit results in a dynamic market. The Aurubis Group, which has over a century of experience, is ideally placed technically and logistically to meet these needs in a very efficient and professional manner.





Rotating machines

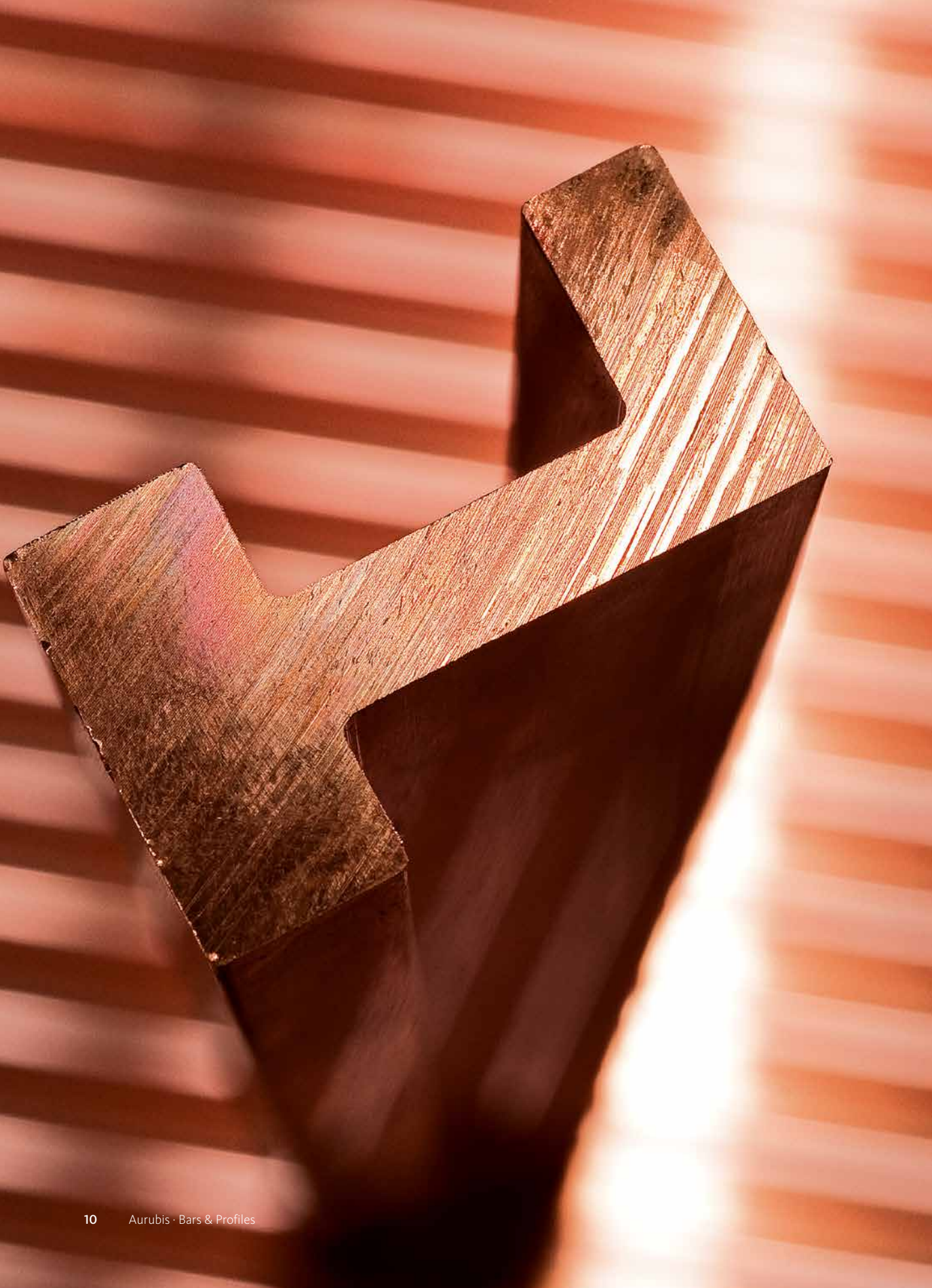
Aurubis copper lamés are used in AC and DC motors throughout the world. Various applications include automobiles, railways, industrial motors and white goods. Due to the high running demands at elevated temperatures, our range of copper-silver alloys is perfectly suited to these applications. The components that are used demand very tight and repeatable dimensional tolerances. This is only made possible by our superior knowledge of the tooling and manufacturing process.



Refinery systems

Aurubis copper is used in over 35 % of the refinery systems in Europe. We supply the complete set, the equipotential bars and the hanger bars for the anode and the cathode. The combination of high conductivity and mechanical strength make Aurubis copper the preferred choice in the market. Combined with our excellent in-house knowledge and experience in refining, we are the number one choice in Europe.





A customer-oriented partner

Aurubis Bars & Profiles provides our customers with a full package of value – tailored to their needs.



Aurubis copper

- » High conductivity
- » Copper content >99.99 %
- » Flat, smooth surfaces, superior conductivity
- » Improved thermal distribution
- » Easy to bend and coat

Packaging solutions

In order to protect your products during transport and optimize storage at your plant, we have various packaging solutions available.

Scrap recycling

As a copper processing company, we can offer scrap recycling options which help our customers and contribute to sustainability.

A tailored package of value

Creating the conditions for manufacturing products of excellent quality is at the heart of our commitment. We have a unique and transparent business model working with our sales channels and direct customers.



New product development

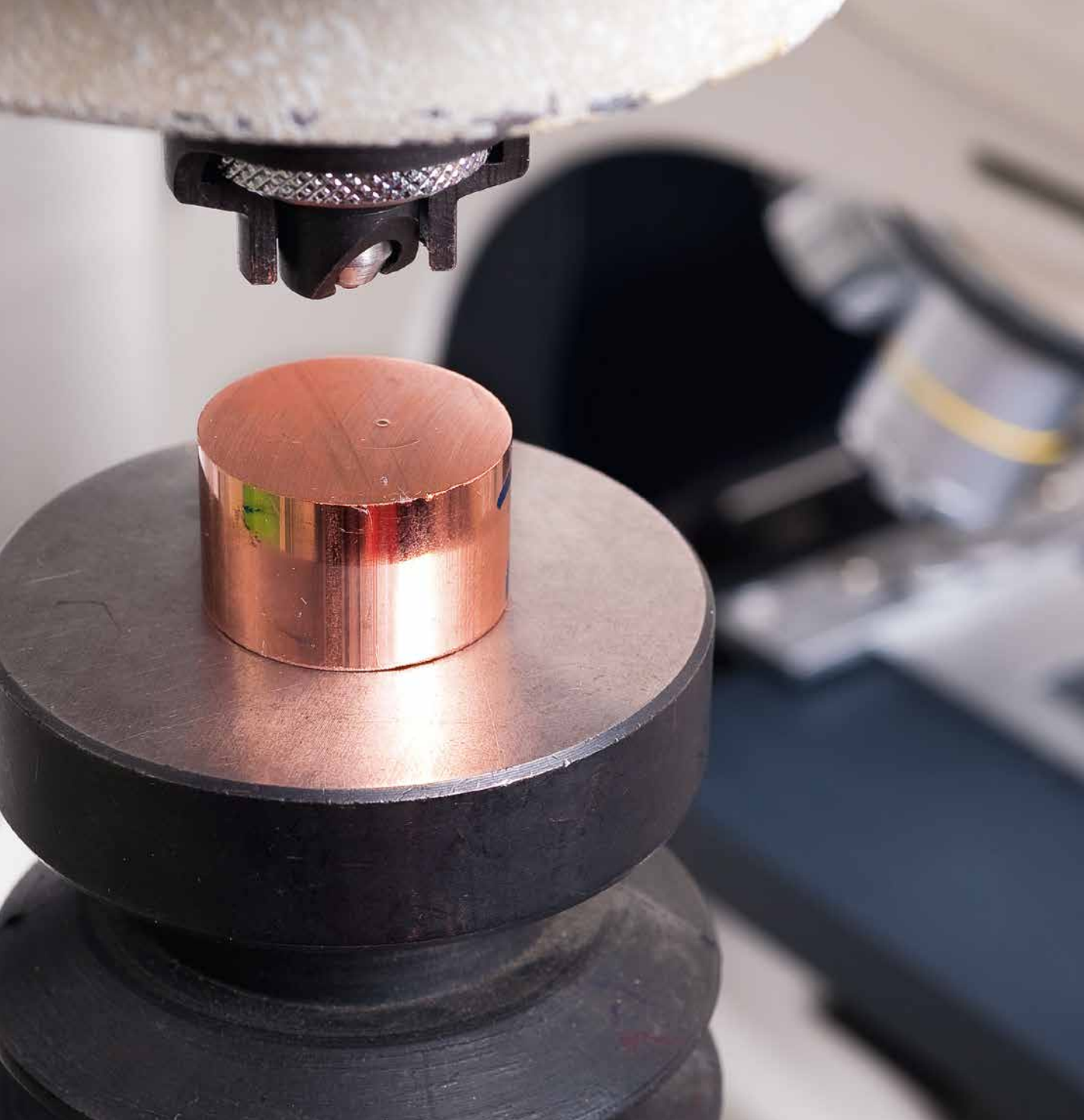
Our deep knowledge of metals and manufacturing processes guarantees the transformation of your ideas into the optimal solution for your customers. We support you in the design of your profiles by providing you with the information you require to fit the copper components into the system you sell to your customers. We constantly update our technical knowledge through our contact with the electrical engineering industry in order to be at the forefront of new product development.

Tooling

Aurubis Bars & Profiles produces the majority of its tools within the company itself. These tools cover a wide range, from standard products to complex profiles. This gives us a level of flexibility that you will certainly appreciate. By mastering the production of our tools, we have the possibility of sharpening the tolerances. Our precision is our guarantee that Aurubis offers you the advantages of our well developed and far-reaching customer services.

Consistent quality

The quality of our products is controlled at each stage of the production process. All the measurements are carried out using modern machines. In addition to our extensive knowledge of profile design, we can offer a large number of quality measurements spanning all aspects of your needs, from metallurgical product analysis to electrical product performance.



Just-in-time delivery

We have short and reliable lead times with a stable product quality, thanks to our Supply Chain Concept.

Financial guarantees

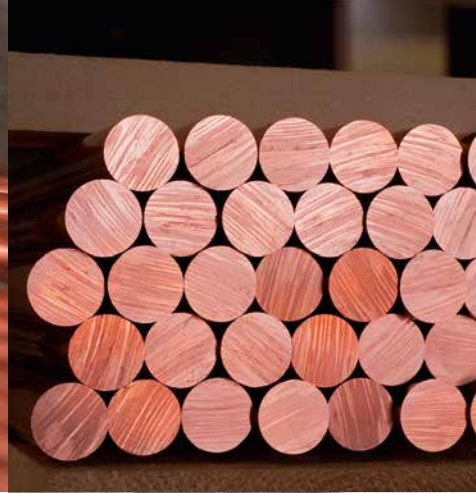
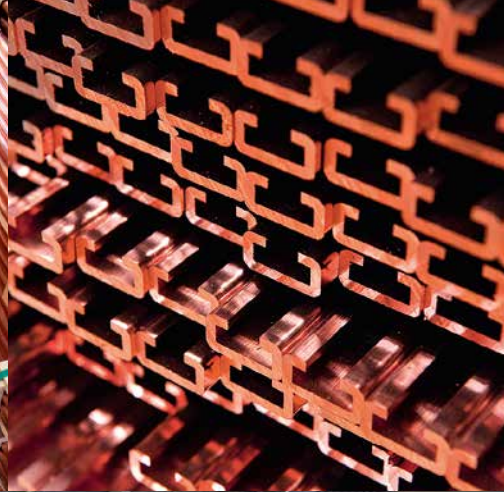
The Aurubis Group is a financially healthy and long-term copper supplier.

Hedging solutions

We have hedging services available that will enable you to secure your metal purchases according to your needs over time. We fix the cost of your metal so that you get the best price.

Focused business relations

We have a clear and unambiguous business model focusing on semi-finished copper products while maintaining professional and transparent long-term relationships with resellers, subcontractors and machining companies.



Please contact us if you
have any questions.

Sales & Marketing contact

Phone +41 79 758 58 30
r.hauselmann@aurubis.com

Aurubis Belgium SA/NV

Production Site


Watertorenstraat, 35
B-2250 Olen
Belgium
info-olen@aurubis.com
www.aurubis.com/belgium

Photos
PR Aurubis AG

Layout
domin kommunikationsdesign

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Our Copper for your Life

Aurubis AG
Hovestrasse 50
D-20539 Hamburg
Phone +49 40 7883-0
Fax +49 40 7883-2255
info@aurubis.com