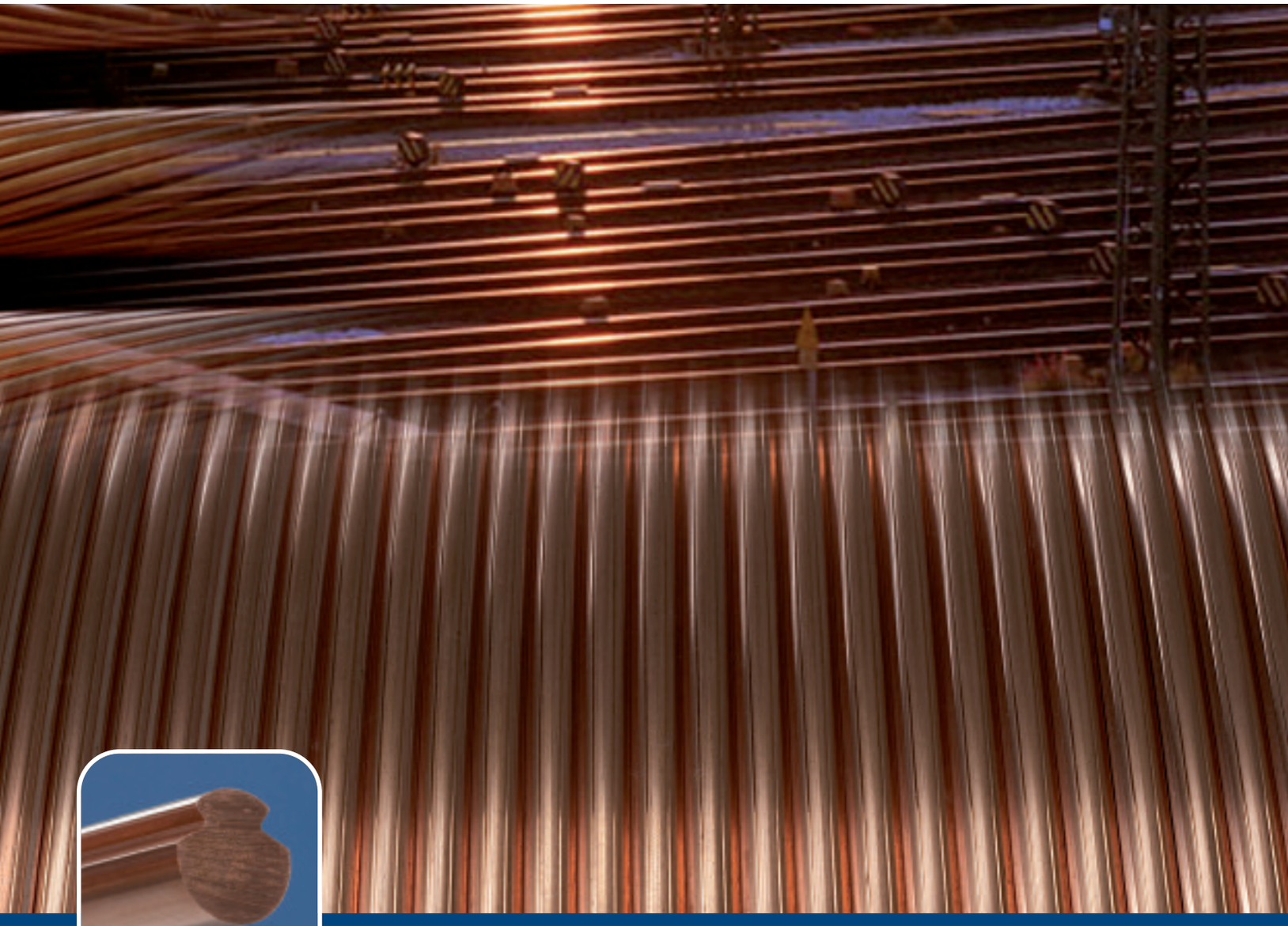
LAMIFIL



Catenary wires

History

1929

Lamifil is founded as "Société Franco-Belge des Laminoirs et Tréfileries d´Anvers s.a." with production sites in Hemiksem in Belgium and Chauny in France. In the 20th century Lamifil will become an internationally known manufacturer of copper rod and a wide range of copper wires for various applications.

1959

Lamifil expands its business activities. Aluminium wire rod, drawn wire and conductors become a core activity. The advantages of aluminium over copper for use in electrical grids are the higher conductivity to weight ratio and the lower overall cost.

1997

Koramic Investment Group, an industrial investor, takes control of Lamitref Industries, the former holding company of Lamifil. Today Koramic Investment Group is still the reference shareholder of Lamifil and is giving to the company the freedom to further expand its business activities.

1998

The production site in Hemiksem is given a new name: Lamitref becomes Lamifil. Production of copper wire moves to a sister company. A continuous casting system is commissioned and production of copper alloys is started.

2001

Lamifil redefines its mission and focuses on two core activities. One is the production of aluminium and aluminium alloy wires for both electrical and mechanical applications. The other is the production of copper and copper alloy wires for railway electrification and special applications.

2005

A continuous investment programme is initiated to allow Lamifil to continue its growth. Among the investments are an additional vertical upcaster for the production of copper alloys, increased annealing capacity and stranding machines for both aluminium and copper wires as well as a conform machine for the production of solid aluminium conductors used in underground cables.

Today

Today Lamifil's core business is the production of wire and conductors in aluminium, aluminium alloys, copper and copper alloys.

Lamifil designs, makes and sells quality products for a wide range of global markets ranging from electrical transmission and distribution to manufacturing of nails, fencings and food clips in the aluminium division and from railway electrification to aviation and automotive in the copper division.

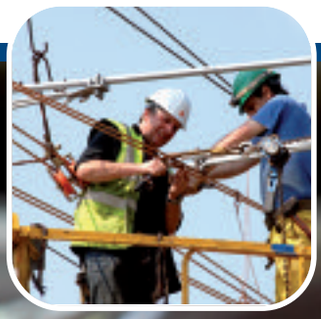
Lamifil has an annual production capacity of 44 000 tonnes of aluminium and 5 000 tonnes of copper.

Lamifil transforms aluminium and copper into a wide variety of semi-finished or finished products:

- Solid and stranded aluminium conductors used as core for underground cables
- Overhead conductors ranging from conventional designs up to Ultra High Conductivity AAAC or High Temperature Low Sag ACCC and GAP conductors as well as other advanced designs for transmission and distribution of electricity
- Aluminium alloy wires for mechanical applications such as fencings, nails, needles, rivets and clips and staples for the food industry
- Aluminium wire rod used for steel de-oxidation
- Aluminium alloy wires for optical ground and phase wire
- Copper alloy wire to produce special cables for automotive, electronics and aviation
- Copper and copper alloy wires and conductors for railway electrification

Lamifil is located between Brussels, the capital of the European Union, and Antwerp, one of the largest harbours in the world and an important logistical nerve centre. This central location allows us to easily ship our products to customers all over Europe and around the world.

The powerful combination of innovative technology, abundant experience and advanced know-how made Lamifil one of Europe's largest, independent producers in this field.



Railway Products

For more than 50 years Lamifil has been manufacturing a comprehensive range of overhead wire for railway electrification. From urban transport systems up to high speed networks, Lamifil supplies the right catenary wires. The products, which Lamifil manufactures cover the entire spectrum of bare wires used in electrically operated railway infrastructure.

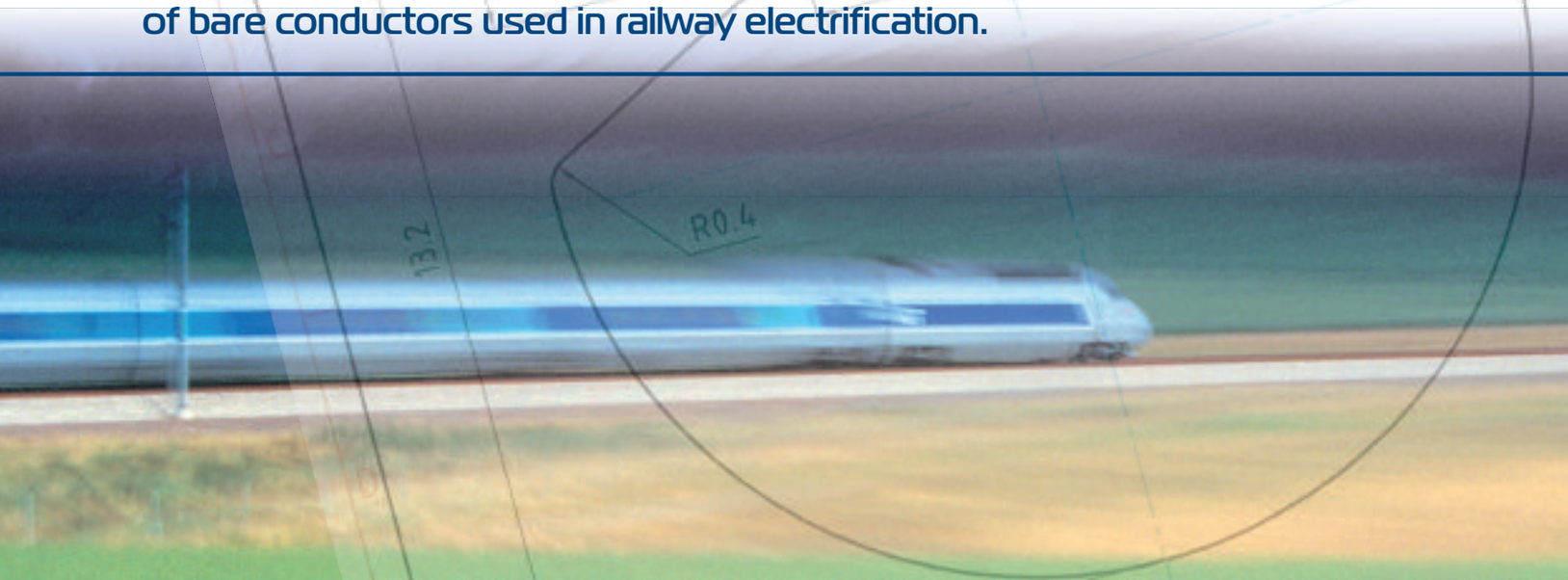
- Contact wire
- Messenger wire
- Feeder cable
- Dropper wire

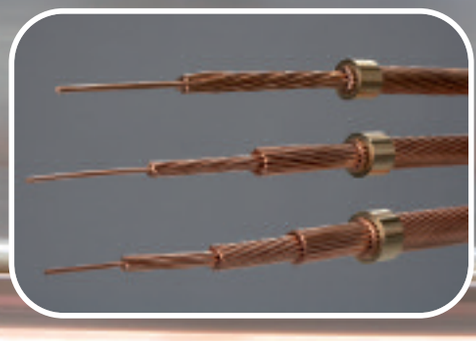
Lamifil is probably the only manufacturer able to manufacture catenary wires in accordance with the most stringent, recognised standards in both copper as well as a complete range of copper alloys.

- Electrolytic copper (ETP Cu)
- Copper silver (CuAg)
- Bronze: copper magnesium (CuMg), copper tin (CuSn) and copper cadmium (CuCd)

To complete the picture Lamifil manufactures a wide range of aluminium and aluminium alloy conductors.

Lamifil, your "one stop shop" for a complete range of bare conductors used in railway electrification.



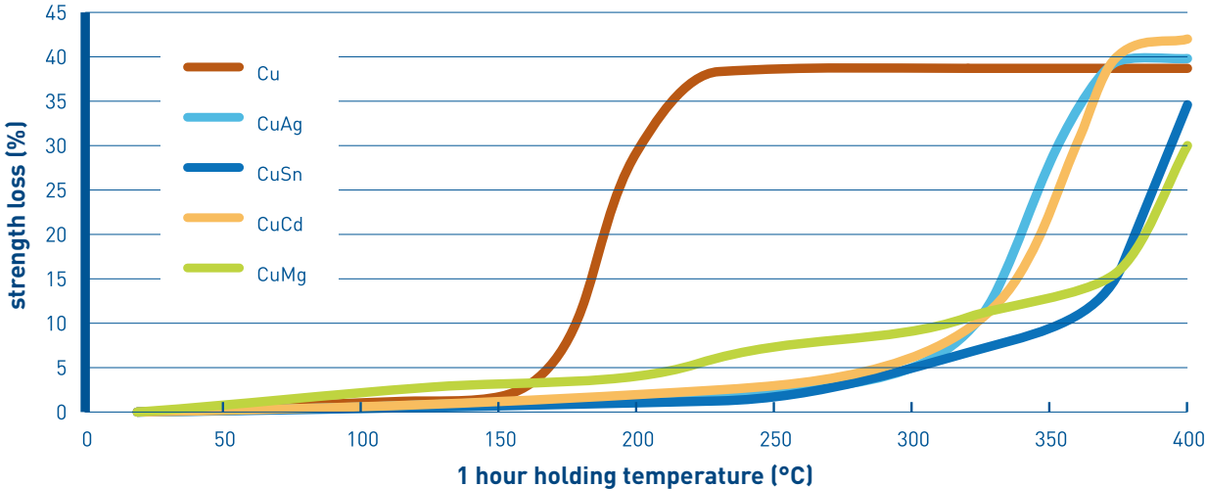


Contact wire

Trolley or contact wire in accordance with internationally recognised standards such as EN, DIN, NF, UIC, ASTM or BS as well as customer specifications.

- Sections from 65 mm² up to 150 mm² and above
- Full range of profiles
- Produced in copper, copper silver, copper magnesium, copper tin and copper cadmium

The section and alloy will be selected depending on the type of traffic and the kind of power supply.



Messenger, feeder and dropper wire

Bare conductors in accordance with internationally recognised standards such as IEC, DIN, NF, ASTM or BS as well as customer specifications.

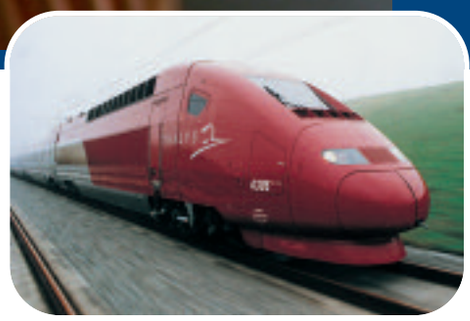
- Sections ranging from 10mm² up to 1400 mm²
- Messenger wire, feeder cable, dropper wire and flexible strands
- Produced in copper, copper silver, copper magnesium, copper tin and copper cadmium

To complete this range Lamifil manufactures a wide range of aluminium and aluminium alloy conductors.

Wire rod and drawn wire

For some markets Lamifil supplies wire rod or drawn wire required to produce catenary wires in copper alloys. The diameter and the characteristics of the delivered product are defined so that the end product will meet the required standards.

Copper alloys



Lamifil is a vertically integrated manufacturer.

Lamifil casts copper alloys itself, making the full benefit of its metal know-how available to its customers. On its upcasters Lamifil produces a series of copper alloys that are mainly used in wires for overhead electrification of railway tracks. Other applications can be found where high strength and good conductivity have to be combined with excellent flex life: aerospace, automotive, audio and electronics.

CuMg

Copper magnesium was developed as an environmental friendly alternative to copper cadmium.
The wave on the contact wire caused by the pantograph needs to propagate at a higher speed than the speed of the train. Therefore the contact wire on high speed lines should be installed under sufficiently high tensions. CuMg can resist these tensions. As high speed lines are supplied by AC systems at higher voltages than conventional lines, the lower current carrying capacity is not a big issue. CuMg can be used for speeds well above 300km/h.

CuCd

For certain applications copper cadmium is still required because of its superior characteristics. CuCd combines high strength with good conductivity. The alloy has unsurpassed flex life, it is therefore still used for certain, critical applications or where it can't become a threat to the environment.

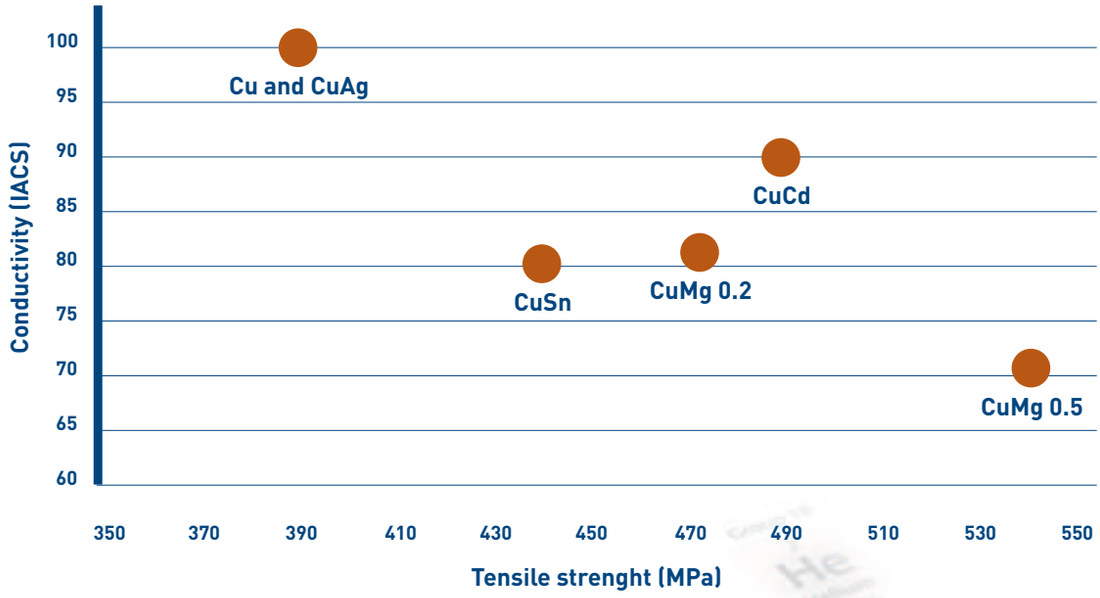
CuSn

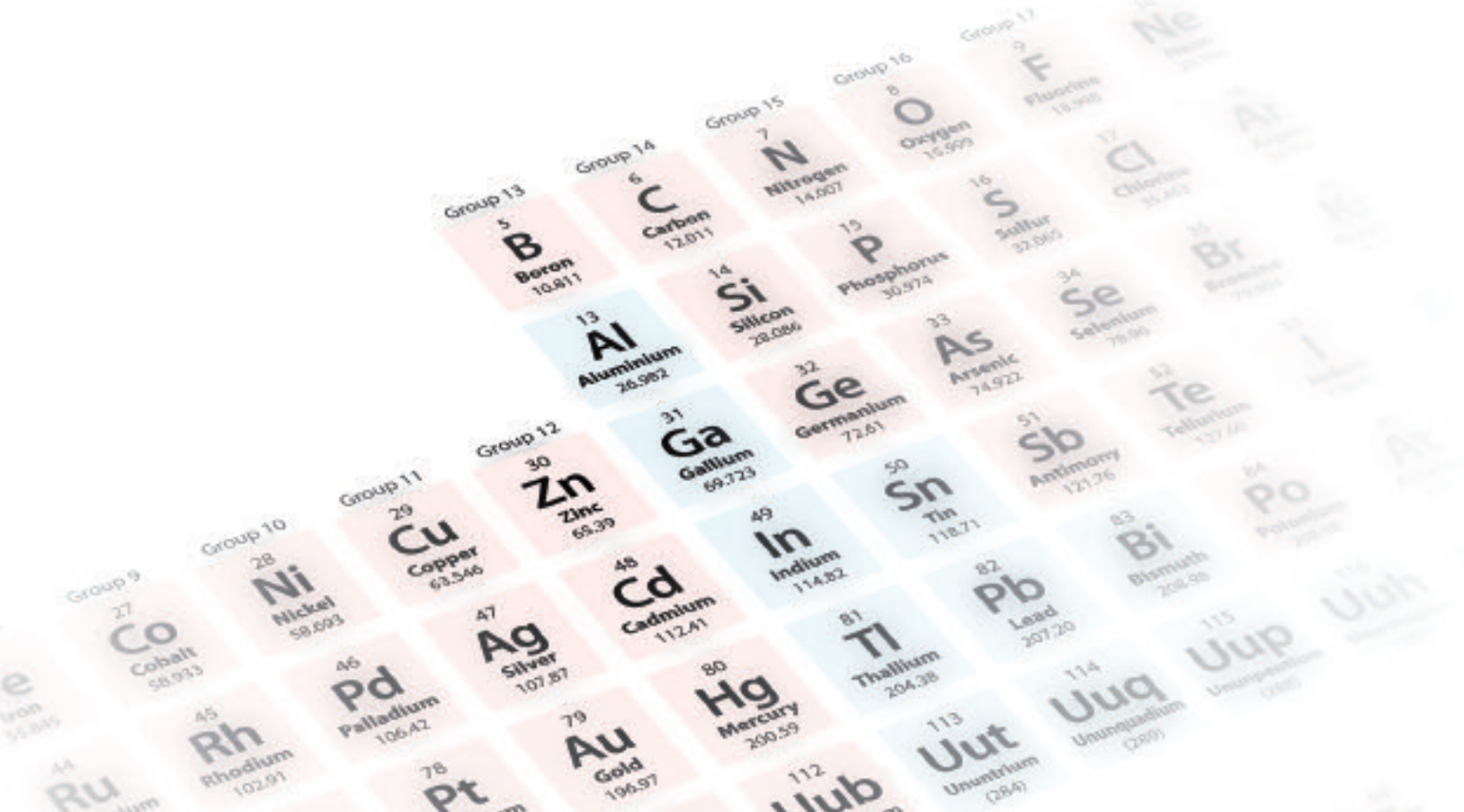
Where the strength of CuMg is not required, copper tin may be an alternative. It can be used as an alternative to CuMg on high speed lines supplied by AC power. CuSn is relatively easy to install and has a good conductivity.

Cu - CuAg

On DC systems conductivity is of prime importance. Electrolytic copper and copper silver contact wires are widely used. CuAg has virtually the same electrical and mechanical characteristics as ETP copper. The benefit is a better thermal stability, which is due to the higher recrystalisation temperature. This allows higher overcurrents without increasing the wear on the contact wire.

Depending on whether strength or electrical conductivity is the most important, the appropriate alloy will be chosen. This choice will reflect mechanical design parameters of the catenary system and the electrical power supply. It is up to the system designer to select the right alloy taking into account factors such as speed, traffic frequency, required lifetime, maintenance and power supply.





Quality

Lamifil has made a name for itself as a renowned supplier and is approved by several major railway companies. Among its customers are many of the best known, most respected industrial customers in the railway electrification business.

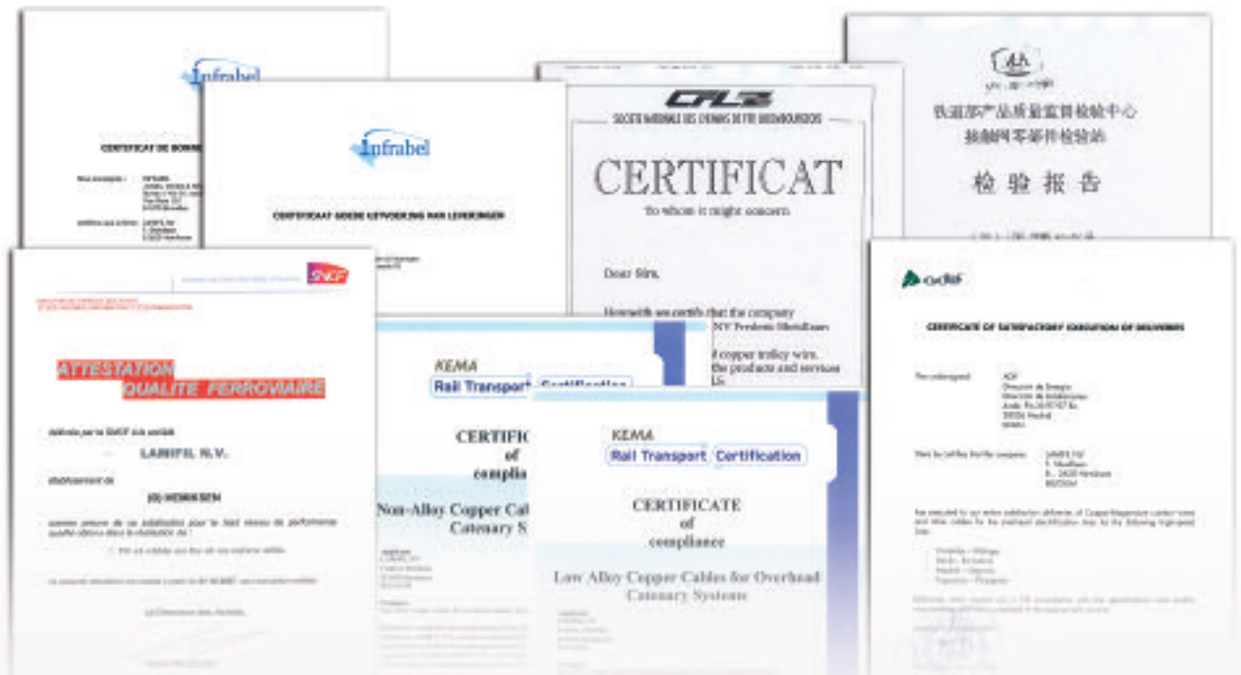
Lamifil is committed to one overriding goal: providing total customer satisfaction. To achieve this, Lamifil has implemented a quality management system based on the ISO 9001:2000 standard. Wherever possible Lamifil aims to develop close partnerships with its customers. Through data analysis and permanent dialogue, Lamifil puts "continuous improvement" into praxis.

The whole manufacturing process is subjected to stringent quality controls, which involve checks on the state of the machinery, the manufacturing parameters and the product features. Highly developed control technology and test equipment for all the relevant features are available for this work.

All these efforts have allowed Lamifil to build up its reputation as a quality supplier. This reputation is built upon a consistent quality policy that encompasses all business processes and motivates Lamifil to continually find ways to introduce further improvements.

Lamifil pursues a policy of continuous environmental improvement and has appointed an environmental coordinator who reports to the Managing Director. Lamifil is convinced that the quality of our environment determines the quality of our future.

Lamifil, a name synonymous with high-quality products and sustainability.



References

Today, Lamifil is exporting to five continents.

Among its Customers around the globe are renowned railway infrastructure operators as well as leading international contractors. Lamifil supplies the whole spectrum of catenary wires to companies providing railway transport solutions from mass transit for suburban areas to cross-border high-speed lines.

Numerous tram, trolley bus and train overhead electrification systems rely on Lamifil catenary wires for their power supply. Below are some of the high speed lines where Lamifil catenary wires are installed.

- Brussels – France
- Brussels – Germany
- Brussels – The Netherlands
- Lyon – Nice, France
- Channel Tunnel Rail Link, United Kingdom
- Córdoba – Málaga, Spain
- Lleída – Barcelona, Spain
- Figueras – Perpignan, Spain
- Madrid – Segovia, Spain
- Ankara – Istanbul, Turkey
- Seoul – Pusang, Korea

With our railway products we are active in:

Algeria	Australia	Belgium	France
Greece	Hong Kong	Ireland	Italy
Korea	Kroatia	Luxemburg	Malaysia
Morocco	The Netherlands	New-Zealand	Philippines
Poland	Slovenia	Spain	Czech Republic
Turkey	United Kingdom	United States	

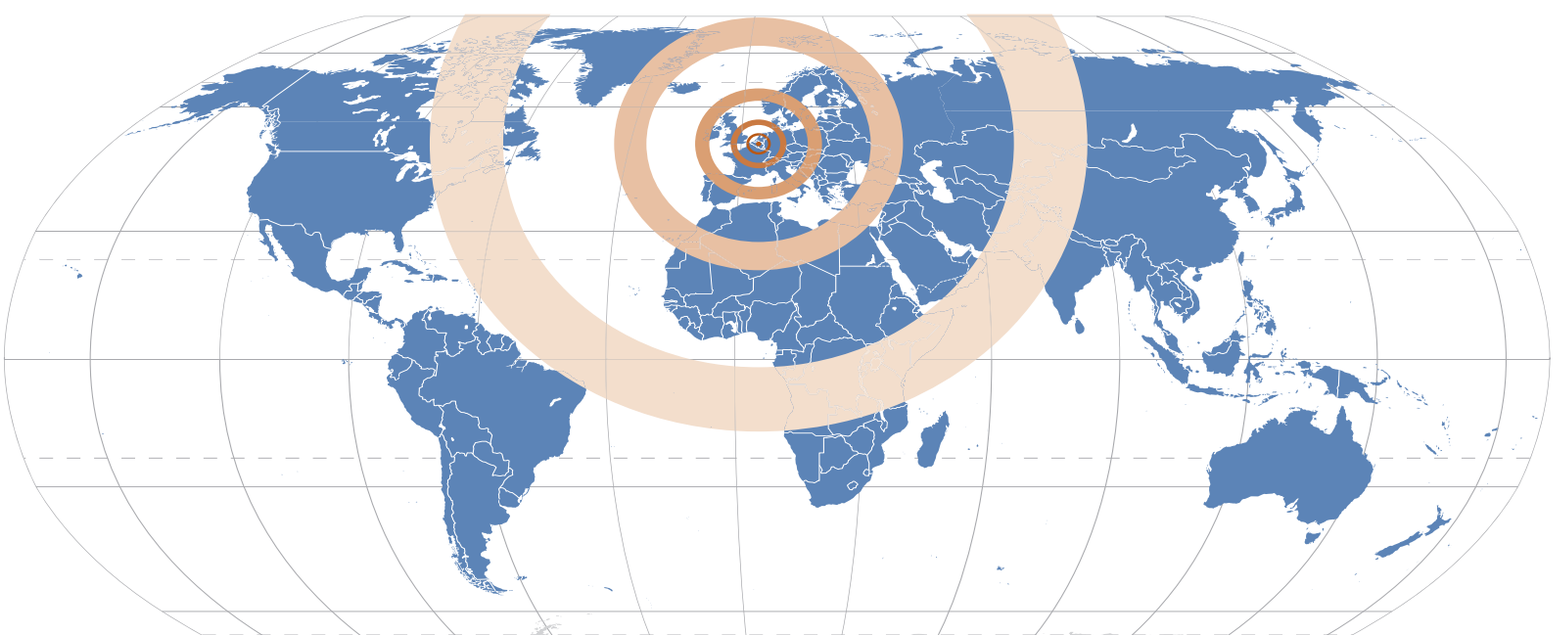


Photo credits NMBS/SNCB Group:
p4 (top l+r), p5 (top), p5 (bottom), p8 (top), p9 (top), p10 (top), p12 (both), p16

LAMIFIL

Lamifil nv

Frederic Sheidlaan
2620 Hemiksem
Belgium

phone: +32 3 870 06 11
fax: +32 3 870 06 74
email: lamifil@lamifil.be

www.lamifil.be

LAMIFIL

Lamifil nv

Frederic Sheidlaan

2620 Hemiksem

Belgium

phone : +32 3 870 06 11

fax : +32 3 870 06 74

email : lamifil@lamifil.be

www.lamifil.be

07080 - 09/2008-2

The Driving Force for Your Business