High performance copper alloys
We focus on copper alloys
MORE THAN 200 YEARS WORKING WITH COPPER

La Farga is a family holding Group, with more than 200 years of history that manufactures and commercialises semi-finished copper products in sectors such as electrical, wiring and its alloys, metallic packaging, railways, the automobile industry, pipe distribution, among others.

Thanks to its human capital of more than 300 people and its philosophy of constantly innovating and investing to improve, La Farga is a world leader in copper recycling, as well as being the benchmark technology company in the sector.

WE ARE A CERTIFIED COMPANY

Within the framework of our Quality System, certified by AENOR since 1993 according to the ISO 9001 model, the entire organisation is geared towards quality, which we guarantee by ensuring we comply with the requisites demanded by our clients and controlling the processes, in order to reach the ultimate objective: the total satisfaction of the clients with both the product and the service provide to them.

WE ARE A RESPONSIBLE COMPANY

Our focus on sustainability forms an integral part in La Farga’s management strategy, in order to achieve the social, environmental and economic balance of its activities, and with the ultimate aim of creating value for all our stakeholders.
WE FOCUS ON COPPER ALLOYS

Copper has always been considered the best industrial conductor. New performance levels for copper are required in order to fulfil the demands of new applications where better mechanical and thermal properties are required without impairing conductivity.

As a result of its active policy of innovation and collaboration with universities and technological centres, La Farga produces and develops high mechanical and electrical performance alloys with a high copper content for a variety of applications.

Our integrated production process is backed by an exhaustive and thorough control of the quality of our products.

Materials development

► Development of new copper alloys.
► Development of new heat treatment procedures.
► Characterisation of materials.
► Technology development for existing and newly developed materials.

COPPER ENGINEERED MATERIALS

La Farga has its own technology for casting alloys, continuous casting & rolling and Up-cast processes. Thermal treatment also allows us to adjust the properties of the alloys to suit customer requirements.

We have an induction furnace (30 kg) for casting copper alloys under development. In addition we can analyse the properties at «micro» levels using SEM (Scanning electronic microscopy) and the thermal properties using DSC (Differential Scanning Calorimetry).
WE PRODUCE A WIDE RANGE OF COPPER ALLOYS

Our knowledge of integrated production processes allows us to supply a wide range of environmentally friendly copper alloy wires competitively, guaranteeing high quality and precision and complying with EN 2083, ASTM B624, ISO 6722 and UNE-EN 50149 Standards for the aerospace, automotive, electronic and railway sector and other strict mechanical requirements.

Materials
- CuOF
- CuETP
- FRHC
- CuAg 0.1
- CuSn 0.2
- CuMg 0.5
- CuMg 0.2
- CuSn 2.0

Range
- Class 1 wires from 0.15 to 28 mm
- Class 2 from 0.4 to 1.000 mm²
- Class 5 from 0.13 to 1.000 mm²
- Profiles (plates, contact wire...)

Our materials comply with the RoHS Standard. The RoHS Standard is European Directive 2002/95/EC and amendment 2005/618/EC. It identifies substances that may not be incorporated into electrical/electronic components.

TECHNICAL PROPERTIES IN HARD CONDITIONS

<table>
<thead>
<tr>
<th>Materials (Units)</th>
<th>Annealing temperature (°C)</th>
<th>Conductivity (% IACS)</th>
<th>Half-Hard Conditions*</th>
<th>Hard Conditions*</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>Tensile strength (MPa)</td>
<td>Elongation (% A200)</td>
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<tr>
<td>CuETP</td>
<td>180</td>
<td>99.0</td>
<td>360</td>
<td>6</td>
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<tr>
<td>CuOF</td>
<td>220</td>
<td>99.5</td>
<td>360</td>
<td>6</td>
</tr>
<tr>
<td>CuFRHC</td>
<td>300</td>
<td>99.0</td>
<td>360</td>
<td>6</td>
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<tr>
<td>CuAg 0.1</td>
<td>330</td>
<td>99.0</td>
<td>375</td>
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<tr>
<td>CuMg 0.2</td>
<td>400</td>
<td>80.0</td>
<td>460</td>
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<tr>
<td>CuMg 0.5</td>
<td>410</td>
<td>66.0</td>
<td>530</td>
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<tr>
<td>CuSn 0.2</td>
<td>360</td>
<td>82.0</td>
<td>445</td>
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</tbody>
</table>

*Cold deformation

Creep test according EN 10291, 70% cold deformation, 17.5 kg/mm², 160 °C

Wearing resistance (Pin on disc)

*94% cold deformation EN, 2.6 Kvm², 150 °C, 1,000 m
WIRE ENGINEERED FOR EXCELLENCE

In accordance with the strict mechanical and elongation properties required by ASTM B624 and EN 2083 for the aerospace, electronic and power sectors, essential for ensuring the proper operation of the cable in extreme conditions of heat, cold, wind, vibration and handling, without impairing its main property: conductivity.

Our high performance copper alloy wire is available in very fine sizes for reducing weight and saving space in aircraft.

For the automotive market we also comply with Standard ISO 6722, and for the railway market, Standard UNE-EN 50149.

WIRE ENGINEERED COPPER SOLUTIONS

<table>
<thead>
<tr>
<th>Requirements</th>
<th>CuOF</th>
<th>CuETP</th>
<th>FRHC</th>
<th>CuAg</th>
<th>CuSn 0.2</th>
<th>CuMg 0.5</th>
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<tr>
<td>Conductivity</td>
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<tr>
<td>Tensile strength, temperature and conductivity</td>
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<td>Tensile strength, resistance to wear</td>
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<td>Elongation and conductivity</td>
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<td>Conductivity and tensile strength</td>
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<td>Bending resistance and conductivity</td>
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<td>Elongation and tensile strength</td>
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<td>Tensile strength and fatigue resistance</td>
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<td>Conductivity and fatigue resistance</td>
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<td>Tensile strength, conductivity, resistance to wear</td>
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<tr>
<td>Environmentally friendly</td>
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<td>Hydrogen embrittlement Resistance</td>
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<td>Electrical signal attenuation</td>
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WIRE APPLICATIONS AND SECTORS

The most common applications currently focus on aerospace cables, fatigue-resistant cables, cables for the automotive industry, micro-coaxial cables and cables for electronics, among other sectors.

In this context the cable's useful service life and safety take precedent over any other characteristic.

- High performance conductors
- Medical and electrical equipment
- Military and commercial aerospace conductors
- Welding wire
- Connecting wire
- Harness wire
- Netting wire
- Stranded wire resistant to fatigue
- Strong magnet wire
- Aerospace
- Defence
- Automotive
- Automation/robotics
- Speciality electronics
- Railway
La Farga offers personalised attention to the client, attending to their orders and/or consultations quickly and efficiently, with the aim of ensuring excellent and responsible service. We offer a technical assessment service on the clients premises.