



High-purity copper applications
Sputtering targets, anodes and pellets

LUVATA
SPECIAL PRODUCTS



Precision without compromise

Luvata Special Products is a specialist in the refining and fabrication of high-purity copper for PVD and electrochemical deposition. Our products include semi-finished plates, sputter targets, anodes, ingots and pellets. When we work with our customers to create solutions, we help them hit their technical and cost targets with pin-point precision, every time.

Our customers range from the giants of the semiconductor world to smaller specialists in the electronics industry. Our targets and anodes are instrumental in the creation of everyday electronics from mainframe computers to hand-held gaming devices; LCD screens, touch-screens, mobile telephones and solar panels.

High-purity copper for the best results

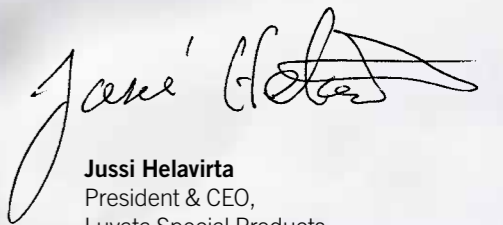
We have the flexibility to produce targets in shapes and sizes, and we never compromise in the purity of our raw materials. Our finished and semi-finished targets and our anodes are all made from the very highest purity of copper.

We produce our own proprietary oxygen-free copper from only the best quality cathodes. This vertical integration gives us complete control over the quality and supply of our raw materials.



“In the world today there are many applications where copper is used but is practically invisible. The finest film can be found in semiconductors and inside items that we have come to rely on every day, such as processors, memory chips, smart phones, wide screen televisions and computer screens. Depositing these ultra-thin films is a delicate business and requires significant expertise as well as the very finest materials. At Luvata Special Products we know that our targets and anodes are the best they can be because we use only the very purest copper, from our own factories.”

Whether it is semi-finished products or the targets themselves, whether it is standard anodes or a bespoke, one-off solution, we believe in working together with our customers to design the best solution for every single construction. It can be a strange idea that the products you make bear no actual resemblance to the finished product they will ultimately be turned into, but we feel no differently about them for that. Every product we produce comes with the high standards you've come to expect from Luvata Special Products.”


Jussi Helavirta
President & CEO,
Luvata Special Products

Custom-built solutions for many different applications



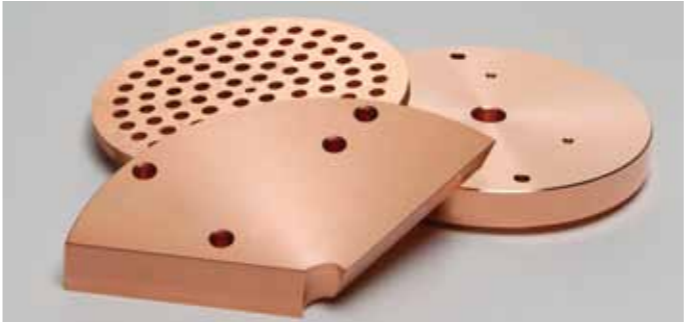
Many of our customers come to us with their own unique requirements and our specialist designers and engineers work with them to develop custom-made solutions using a truly collaborative approach. We are happy to work from even the most basic initial brief, even a rudimentary hand-drawn sketch.



Our sputtering targets, anodes and pellets are used to coat electronic components and electronic instruments. This includes the electromagnetic shielding you find inside a mobile phone shell as well as processors and memory chips. They are also commonly used in producing copper components in touch-screen TV and computer monitors and in the very largest LCD screens, which use

the highly conductive copper components as an alternative to the less conductive aluminium components used on smaller screens.

They are also used to create decorative glass coating. These are often seen on skyscrapers, where the glass has a dramatic, metallic colour and can be adjusted to reflect the light in different ways.



Semi-finished products

Luvata Special Products is also a leading manufacturer of semi-finished products for all kinds of applications where high-quality copper is essential. We can produce customer-specific semi-finished products in all shapes and sizes, including bars, sheets, tubes and machined components. We can also supply ingots in all the high-purity copper grades.

Our range cover also many copper based alloys such as copper phosphorous (CuP).

High-Purity Copper Grades

- Oxygen-Free Copper - 4N 99.99%
- Oxygen-Free Copper - 4N5 99.995%
- Oxygen-Free Copper - 5N 99.999%
- Oxygen-Free Copper - 5N5 99.9995%
- Oxygen-Free Copper - 6N 99.9999%



About Luvata Special Products

What does Luvata Special Products see for the future?

We will use our unique technology know-how to influence the development of a sustainable modern world. We have always aimed to improve our customers' products and processes, and to help them increase the efficiency of their businesses. But our vision is bigger than that. If human society is going to maintain the lifestyle that we all enjoy today AND offer it to emerging societies, we will all need to become much more efficient and to take much less from the planet. We are helping companies to make their products, processes and production more sustainable: do more, waste less, and pollute less.

What's Luvata Special Products' plan for getting there?

Luvata Special Products looks to build on its distinct strengths, bringing expertise and dedication to high growth regions and adjacent markets around the world. We are stepping into niche and specialist markets with our high-value, engineered solutions, and we

are developing new solutions in partnership with our customers to conquer challenges at the front end of market demand.

How does Luvata Special Products behave?

In doing all this, we resolve to be the partner of choice for our customers, the employer of choice for our staff, and to be a positive and responsible friend to everyone else. We strive to be open-minded and focused on getting results; and when we promise, we deliver.

Where in the world are we?

Our global footprint stretches across America, Europe and Asia. Our diversity of locations, cultures and markets gives us access to a wealth of knowledge and expertise that simply keeps growing. It means that we are local to our customers, wherever in the world they are and can be responsive to their needs, including fast local delivery straight to the door.

1300 employees, 12 locations, 7 countries



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About Luvata Special Products

Luvata Special Products is a world leader in metal solutions manufacturing and related engineering services to industries such as renewable energy, automotive, healthcare, and power generation and distribution. The company's continued success is attributed to its longevity, technological excellence and strategy of building partnerships beyond metals. Employing over 1,300 staff in 7 countries, Luvata Special Products works in partnership with customers such as ABB, CERN, Siemens and Toyota. Luvata Special Products is a group company of Mitsubishi Materials Corporation.



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