
GLOSSARY OF TECHNICAL TERMS

This glossary of technical terms contains explanations of certain technical terms used in this document in connection with our Company and our business. Such terminology and meanings may not correspond to standard industry meanings or usages of those terms.

“AIDC”	artificial intelligence data center, a specialized facility equipped with high-performance computing resources and infrastructure specifically designed to handle the intensive computational demands of artificial intelligence applications, including model training and inference
“annealing”	a heat treatment process used in copper processing in which the metal is heated to a controlled temperature and then cooled at a controlled rate to reduce hardness, relieve internal stresses and restore ductility for subsequent forming and fabrication
“ant-nest corrosion”	a localized corrosion phenomenon in air-conditioning copper tubes occurring in environments where water (H ₂ O), oxygen (O ₂) and carboxylate ions (COOH ⁻) coexist, in which corrosion propagates irregularly in multiple directions over time, potentially penetrating the tube and forming ant-nest-like pinhole structures inside the tube
“anti-oxidation”	the property of copper or copper alloy products that enables them to resist the formation of oxide layers when exposed to oxygen, elevated temperatures, moisture or corrosive environments, thereby preserving surface quality, electrical and thermal conductivity, and overall mechanical performance
“billets”	semi-finished cylindrical copper castings used as starting material for further processing, such as extrusion or rolling
“CAGR”	the compound annual growth rate, meaning the average year-over-year rate at which a value grows over a period assuming the growth is compounded each year
“cathode drum”	a large, rotating titanium cylindrical component that serves as the cathode in the electrolytic copper foil production process, enabling continuous electrodeposition of copper ions from the electrolyte solution onto its polished surface to form a thin, uniform copper foil that is subsequently peeled off for further processing
“cold drawing”	a cold working process whereby a copper or copper alloy workpiece (such as a tube, rod, bar or wire) is pulled through a die at ambient temperature to reduce its cross-sectional area, elongate the material, and achieve improved dimensional accuracy, enhanced mechanical properties, including higher tensile strength and hardness, and superior surface finish without the application of heat

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“cold plates”	direct-to-chip liquid cooling components, typically made from high-thermal-conductivity copper or copper alloys, that mount directly onto processors, including GPUs, CPUs and AI accelerators, in high-performance servers to efficiently dissipate heat via circulating coolant in dense AI infrastructure
“continuous casting”	a metallurgical process whereby molten copper or copper alloy is continuously poured into a water-cooled mold to solidify into a semi-finished strand, such as a billet, slab or rod, which is withdrawn at a controlled rate, enabling efficient high-volume production of material with uniform microstructure and superior internal quality for subsequent hot or cold working
“CRM”	customer relationship management, the system and processes used to manage interactions with current and potential customers
“CTRM”	commodity trading and risk management, the system used to manage trading, hedging and risk exposure for commodities such as copper
“cupronickel alloys”	a family of copper-based alloys containing nickel (typically 10-30%) as the primary alloying element, often with small additions of iron and manganese for enhanced properties, that are characterized by outstanding corrosion resistance, high strength, good ductility, thermal stability and inherent antimicrobial characteristics, making them widely used in marine engineering, heat exchangers, condensers, desalination plants, offshore platforms, coinage and piping systems
“die”	a precision-engineered tool, typically made of hardened steel, tungsten carbide or diamond, with a conical or specifically shaped aperture through which copper or copper alloy material is pulled or forced during drawing or extrusion processes to reduce cross-sectional area, achieve accurate dimensions, enhance mechanical properties, and impart a superior surface finish
“electrodeposition”	an electrochemical process whereby metal ions in an electrolyte solution are reduced and deposited as a uniform metallic layer onto a conductive cathode substrate through the application of an electric current, enabling the production of high-purity metal coatings, foils or components with controlled thickness and properties
“electrolyte”	aqueous solution that acts as the conductive medium in electrochemical processes such as copper refining or electrolytic copper foil production, enabling the migration and deposition of copper ions onto the cathode

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“ERP”	enterprise resource planning, the integrated software system used to manage core business processes including finance, procurement and production
“extrusion”	the process of forcing a copper or copper alloy billet under high pressure through a shaped die to produce continuous seamless tubes, rods, busbars or profiles with uniform cross-sections, precise dimensional tolerances, enhanced mechanical properties and superior surface finish
“GHG”	atmospheric gases, primarily carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), and fluorinated gases, that absorb and emit infrared radiation, trapping heat in the Earth’s atmosphere and contributing to the greenhouse effect and global climate change
“heat pipe”	a highly efficient passive heat transfer device consisting of a sealed copper tube containing a wick structure and a small amount of working fluid that transfers heat over long distances through repeated evaporation and condensation cycles, widely used in thermal management for electronics, AI servers and high-performance computing systems
“HVAC”	Heating, Ventilation, and Air Conditioning, referring to the integrated systems and technologies used to regulate indoor environmental comfort in residential, commercial, and industrial buildings by controlling temperature, humidity, air quality and airflow, commonly utilizing copper tubes, coils, and fittings for efficient refrigerant circulation and heat exchange in air conditioning and refrigeration applications
“HVLP”	Hyper Very Low Profile copper foil, copper foils with an exceptionally smooth surface, typically used in high-speed or high-frequency printed circuit boards to help reduce signal loss while still allowing the foil to bond reliably to the insulating substrate
“IATF 16949”	an internationally recognized quality management system standard for the automotive industry
“ISO 14001”	an internationally recognized environmental management system standard that sets requirements for an organization to identify, manage and continually improve how it controls its environmental impacts and meets applicable environmental requirements
“ISO 27001”	an internationally recognized information security management system standard that sets requirements for an organization to manage and protect its information and data

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“ISO 45001”	an internationally recognized occupational health and safety management system standard that sets requirements for an organization to identify and control workplace safety risks and continually improve worker health and safety performance
“ISO 9001”	an internationally recognized quality management system standard
“liquid cooling”	cooling method that pumps a heat-absorbing liquid, such as water or a glycol mixture, through channels, pipes, or cold plates to remove heat from equipment more efficiently than air cooling
“lithium battery”	a rechargeable battery that stores and delivers electrical energy through the movement of lithium ions between the positive and negative electrodes during charging and discharging
“MES”	manufacturing execution system, the software used to monitor and control production processes on the factory floor
“micro-alloyed”	metal, such as copper, that has been intentionally modified by adding very small amounts of other elements to improve performance such as strength and resistance to softening while keeping the base metal essentially the same
“mother tube”	a semi-finished, thick-walled intermediate copper pipe or hollow billet, typically produced through continuous casting or extrusion processes, which are subsequently subjected to multiple stages of processing, including planetary rolling, cold-drawing, and annealing, to reduce their diameter and wall thickness and enhance their mechanical properties, ultimately resulting in finished products
“negative electrode current collector”	conductive materials, typically copper foil, that support the battery’s negative electrode and provide a low-resistance path for electric current to flow between the electrode and the external circuit
“NEVs”	new energy vehicles, including battery electric vehicles and plug-in hybrids that utilize copper-intensive components
“OA”	office automation, the digital platform used for managing internal business and management workflows, approvals and document circulation
“OBM”	original brand manufacturer, a business model where the company designs, manufactures and sells products under its own brand

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“oxygen-free copper”	copper that contains neither cuprous oxide nor any residual deoxidizing agents, and is characterized by high purity and a low oxygen content
“passivation”	a surface treatment that creates a thin protective layer on a metal, such as copper, to make it less reactive and more resistant to corrosion
“PCBs”	printed circuit boards, flat boards made of insulating material with patterned copper circuits that support and electrically connect electronic components
“raw foil”	the untreated electrolytic copper foil produced directly from the electrodeposition process before surface treatment or slitting
“rolling”	a metalworking process that reduces thickness and shapes copper or other metals by passing them through rotating rollers to produce sheet, strip, or foil with controlled dimensions and properties
“RTF”	a type of copper foil for printed circuit boards in which the surface treatment is applied to the smooth side of the foil so the bonding side adheres well to the substrate while the exposed side remains smoother for finer circuit patterns and improved signal performance
“signal integrity”	the ability of an electrical signal to travel through a circuit or printed circuit board trace without excessive loss, distortion, or interference so that data is transmitted accurately and reliably
“skin effect”	the tendency in which alternating current tends to flow near the surface of a conductor at higher frequencies, reducing the effective cross-sectional area and increasing resistance and signal loss
“slitting”	cutting process that divides wide copper strip, sheet, or foil into narrower coils or rolls with specified widths and edge quality
“solid-state batteries”	rechargeable batteries that use a solid material instead of a liquid electrolyte to move lithium ions between electrodes, which may improve safety and enable higher energy density
“SRM”	supplier relationship management, the system and processes for managing interactions with suppliers
“vapor chamber”	a flat, sealed heat spreader, often made of copper, that uses a small amount of fluid that evaporates and condenses inside the chamber to quickly spread heat away from a hot spot

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“wrought structure”

the grain structure of a metal that has been shaped by mechanical working such as rolling or forging rather than cast, typically producing refined, directionally aligned grains that provide more uniform strength and performance

“μm”

micrometer