

Omat 欧莱新材 股票代码
688530

欧莱铜
Omat Cu



铜及铜合金管材

Copper and Copper Alloy Tubes

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Company Profile 企业简介

广东欧莱新金属材料有限公司 是广东欧莱高新材料股份有限公司全资子公司，位于广东韶关乳源瑶族自治县，为欧莱新材高纯无氧铜生产基地，具有5500吨挤压机（中国同行业最大的挤压机之一），可以生产大尺寸铜及铜镍合金管材，另有无氧铜杆、高导铜排、微晶磷铜球、高纯无氧铜板、铜零部件等铜产品。

Guangdong Omat New Metal Materials Co., Ltd. is a wholly-owned subsidiary of Omat Advanced Materials (Guangdong) Co., Ltd., located in Ruyuan Yao Autonomous County, Shaoguan, Guangdong. It is the high-purity oxygen-free copper production base of Omat, equipped with a 5,500-ton extrusion press (one of the largest extrusion presses in the same industry in China), capable of producing large-sized copper and copper-nickel alloy tubes. Other copper products include oxygen-free copper rods, high-conductivity copper busbars, microcrystalline phosphor copper balls, high-purity oxygen-free copper plates, and copper components.



Our Advantages 我们的优势

原料优质 High-quality Raw Materials

高纯A级电解铜原料品质的保证。
High-purity Grade A electrolytic copper raw materials ensure quality.

地理优势 Geographical Advantages

靠近珠三角经济圈，可以更高效服务客户
Close to the Pearl River Delta economic circle, we can serve customers more efficiently.

精确检测 Precise Detection

先进的检测设备确保检测更准确。
Advanced testing equipment ensures more accurate detection.

高效产线 High-efficiency Production Lines

自动化生产线，更高效，更稳定。
Automated production lines are more efficient and stable.

品牌信誉 Brand Reputation

上市公司，合作更放心。
Listed company offers more reassuring cooperation.



Product Introduction

产品介绍

本公司铜管材产品涵盖无氧铜管、紫铜管、白铜管三大类，凭借先进的冶炼与加工工艺，可满足电子、制冷、海洋工程、化工等多领域对铜材性能的差异化需求。所有产品均通过严格的质量检测，符合GB、ASTM、EN等国内外标准，为客户提供稳定可靠的材料解决方案。

Our company's copper tube products cover three major categories: oxygen-free copper tubes, copper tubes, and cupronickel tubes. Relying on advanced smelting and processing technologies, they can meet the differentiated performance requirements for copper materials in various fields such as electronics, refrigeration, marine engineering, and chemical industry. All products have passed strict quality inspections and comply with domestic and international standards such as GB, ASTM, and EN, providing customers with stable and reliable material solutions.

无氧铜管

Oxygen-free Copper Tube



● 材质特性 Material Properties

无氧铜（TU00、TU1、TU2）纯度 $\geq 99.95\%$ ，氧含量 $\leq 0.003\%$ ，导电率 $\geq 98\%$ IACS，导热系数 $\geq 390\text{W}/(\text{m}\cdot\text{K})$ 。其组织均匀致密，无气孔、夹杂等缺陷，冷加工性能优异。

Oxygen-free copper (TU00, TU1, TU2) has a purity of $\geq 99.95\%$, an oxygen content of $\leq 0.003\%$, a conductivity of $\geq 98\%$ IACS, and a thermal conductivity of $\geq 390\text{W}/(\text{m}\cdot\text{K})$. Its structure is uniform and dense, free from defects such as pores and inclusions, and it has excellent cold working performance.

● 核心优势 Core Advantages

极低的杂质含量确保优异的导电性和导热性，适用于高频电流传输场景；
无氧化夹杂，在高温真空环境中不释放气体，满足精密电子器件的洁净度要求。

Extremely low impurity content ensures excellent electrical and thermal conductivity, making it suitable for high-frequency current transmission scenarios;

The absence of oxidized inclusions and no gas release in high-temperature vacuum environments meet the cleanliness requirements of precision electronic devices.

● 典型应用 Typical Applications

电子行业：真空开关管外壳、射频电缆内导体；
仪器仪表：精密压力表波纹管、热电偶保护套管；
航空航天：真空系统管路、燃料电池氢气输送管。

Electronics industry: vacuum switch tube housings, inner conductors of radio frequency cables;

Instrumentation: bellows for precision pressure gauges, thermocouple protection sleeves;

Aerospace: vacuum system pipelines, hydrogen delivery pipes for fuel cells.



紫铜管 Copper Tubes

● 材质特性 Material Properties

紫铜（T1、T2、TP2等）含铜量 $\geq 99.90\%$ ，添加微量磷（TP2 含磷 0.015-0.040%）可提升耐蚀性。其塑性极佳，延伸率 $\geq 40\%$ ，能承受弯曲、扩口、压扁等复杂加工，性能稳定。

Copper Tubes (such as T1, T2, TP2) has a copper content of $\geq 99.90\%$. The addition of a small amount of phosphorus (TP2 contains 0.015-0.040% phosphorus) can improve its corrosion resistance. It has excellent plasticity with an elongation of $\geq 40\%$, and can withstand complex processing such as bending, flaring, and flattening, with stable performance.

● 核心优势 Core Advantages

性价比高，兼顾导电、导热与加工性能；

TP2 磷脱氧铜抗脱锌腐蚀能力优于普通紫铜，在饮用水、冷媒环境中使用寿命延长 30% 以上。

It offers high cost performance, balancing electrical conductivity, thermal conductivity and processability;

TP2 phosphorus-deoxidized copper has better resistance to dezincification corrosion than ordinary red copper, and its service life is extended by more than 30% in drinking water and refrigerant environments.

● 典型应用 Typical Applications

制冷空调：空调内外机连接管、冰箱蒸发器管路（ $\phi 6-19\text{mm}$ 常见规格）；

给排水：建筑用热水管、医用纯净水管（符合 GB/T 18033卫生标准）；

换热设备：冷凝器、散热器翅片管（可定制齿形、波纹管结构）；

电力供电：高压输电铜管。

Refrigeration and air conditioning: connecting pipes for internal and external units of air conditioners, evaporator pipelines of refrigerators (common specifications of $\phi 6-19\text{mm}$);

Water supply and drainage: hot water pipes for construction, medical pure water pipes (complying with GB/T 18033 hygiene standards);

Heat exchange equipment: condensers, finned tubes for radiators (customizable tooth-shaped and corrugated tube structures);

Electric Power Supply: High-Voltage Transmission Copper Tubes.

白铜管 Cupronickel Tubes



● 材质特性 Material Properties

白铜管以铜镍合金为基，涵盖BFe10-1-1（铁白铜）、BZn15-20（锌白铜）等牌号。其中铁白铜含镍9-11%、铁1-1.5%，具有优异的耐海水腐蚀性能（年腐蚀速率 $\leq 0.02\text{mm}$ ），且强度高（抗拉强度380-500MPa）、抗冲刷能力强。

Cupronickel tubes are based on copper-nickel alloys, covering grades such as BFe10-1-1 (iron cupronickel) and BZn15-20 (zinc cupronickel). Among them, iron cupronickel contains 9-11% nickel and 1-1.5% iron, featuring excellent seawater corrosion resistance (annual corrosion rate $\leq 0.02\text{mm}$), high strength (tensile strength 380-500MPa), and strong erosion resistance.

● 核心优势 Core Advantages

耐腐蚀性突出：在海水、氯化物、硫化氢等介质中表现远超黄铜和 316 不锈钢；

抗生物附着：铜元素可抑制海洋微生物滋生，减少管道堵塞风险。

Outstanding corrosion resistance: It performs far better than brass and 316 stainless steel in media such as seawater, chlorides, and hydrogen sulfide;

Anti-biological adhesion: Copper can inhibit the growth of marine microorganisms and reduce the risk of pipeline blockage.

● 典型应用 Typical Applications

- **海洋工程：**船舶冷凝器管路、海水淡化设备换热管、海洋平台输水管；
- **化工行业：**氯碱工业管道、含硫天然气输送管；
- **精密制造：**仪器仪表耐蚀接头、高端手表表壳管材（BZn15-20 因银白色外观兼具装饰性）。

- **Marine engineering:** condenser pipelines for ships, heat exchange tubes for seawater desalination equipment, water transmission pipes for offshore platforms;
- **Chemical industry:** pipelines for chlor-alkali industry, transmission pipes for sulfur-containing natural gas;
- **Precision manufacturing:** corrosion-resistant joints for instruments and meters, tube materials for high-end watch cases (BZn15-20 has decorative properties due to its silvery-white appearance).

Product Advantages

产品优势

● 全规格定制能力 Full Specification Customization Capability

公司配备55MN双动挤压机，具备大规格、超长铜管挤压生产能力，产品单重可达1吨以上。可生产外径 $\phi 0.5-400\text{mm}$ 、壁厚 $0.05-50\text{mm}$ 的管材，满足不同场景的尺寸需求（如微小孔径电子管、大直径化工管道）。

The company is equipped with a 55MN double-acting extrusion press, which has the capability to produce large-specification and extra-long copper tubes with a single weight of over 1 ton. It can manufacture tubes with an outer diameter of $\phi 0.5-400\text{mm}$ and a wall thickness of $0.05-50\text{mm}$, meeting the size requirements of different scenarios (such as small-bore electronic tubes and large-diameter chemical pipelines).



● 严格的质量管控 Strict Quality Control

每批次产品均进行：

- 化学成分分析（光谱仪检测，精度达 0.0001% ）；
- 力学性能测试（拉伸、硬度、弯曲试验）；
- 无损检测（涡流探伤、水压试验，确保无泄漏风险）。

Each batch of products undergoes the following inspections:

- Chemical composition analysis (detected by a spectrometer with an accuracy of 0.0001%);
- Mechanical property tests (tensile, hardness and bending tests);
- Non-destructive testing (eddy current flaw detection and water pressure test to ensure no leakage risk).

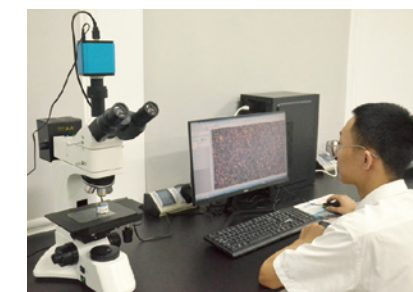
● 先进的检测研发设备 Advanced Testing and R&D Equipments



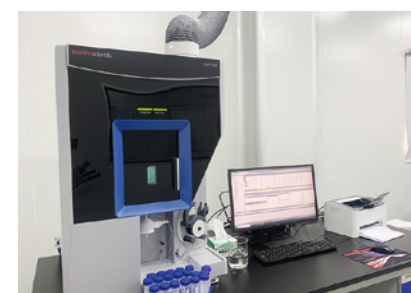
扫描电镜
SEM: Scanning Electron Microscope



直读光谱
OES: Optical Emission Spectrometer



金相显微镜
Metallographic Microscope



电感耦合等离子体发射光谱仪
iCAP PRO



四探针电阻测量系统
Four Probe Resistance Measurement System



布鲁克台阶仪
Bruker Step Profiler