Omat欧莱新材 股票代码 688530

广东欧莱新金属材料有限公司
Omat New Metal Materials(Guangdong)Co.,Ltd.

400-931-3109
cu@omat.com.cn
cu.omat.com.cn
乳源瑶族自治县乳城镇北环东路11号
No.11 North Ring East Road,Rucheng Town,
Ruyuan Yao Autonomous County,Shaoguan,Guangdong,China

广东欧莱高新材料股份有限公司
Omat Advanced Materials(Guangdong)Co.,Ltd.
广东省韶关市武江区创业路5号
No.5 Chuangye Road, Wujiang District, Shaoguan, Guangdong, China

东莞市欧莱溅射靶材有限公司
Omat Sputtering Targets(Dong Guan)Co.,Ltd.
广东省东莞市厚街镇汀山村汀山路121号
No.121,TingShan Road,TingShan Village,Houjie Town, Dongguan,Guangdong,China

合肥欧莱高新材料有限公司
Omat Advanced Materials (HeFei) Co.,Ltd.
安徽省合肥市新站区铜陵北路999号
No. 999 Tongling North Road, Xinzhan District, Hefei City,AnHui,China

广东欧莱高新材料股份有限公司深圳分公司
Omat Advanced Materials(Guangdong)Co.,Ltd.Shenzhen Branch
广东省深圳市南山区科技中三路国人大厦A栋505
505, Building A, Guoren Building, kejizhong Third Road, Nanshan District,Shenzhen,GuangDong, China

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欧莱铜
Omat Cu

高纯微晶磷铜球
High Purity Micro-grain Phosphor-copper Ball

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，除了生产高纯微晶磷铜球产品，还具有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、高纯无氧铜板等铜产品。

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 serves as Omat's production base for high-purity oxygen-free copper. In addition to manufacturing high purity micro-grain phosphor-copper balls, the facility is 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, and high-purity oxygen-free copper plates.

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.

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 Line

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.

地理优势 Geographical Advantages

靠近珠三角、长三角经济圈，可以更高效服务客户
Being close to the Pearl River Delta and Yangtze River Delta economic circles allows for more efficient customer service.

High Purity Micro-grain Phosphor-copper Ball
高纯微晶磷铜球

规划产能：3万吨/年
Capacity Planning：30,000 tons/year

微晶磷铜球是一种以铜和磷为主要成分的高性能电子材料，通过精密加工技术制成，具有微晶结构。其晶粒尺寸小于等于60微米，广泛应用于PCB高端电子制造、半导体封装、新能源汽车等领域。

Micro-grain phosphor-copper balls are high-performance electronic materials mainly composed of copper and phosphorus, made through precision processing technology and featuring a micro-crystalline structure. Its grain size is less than or equal to 60 μm, and it is widely used in high-end electronic manufacturing, semiconductor packaging, new energy vehicles and other fields.

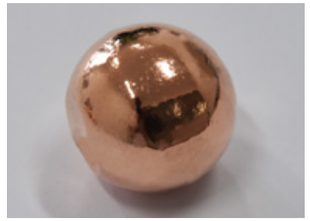
● 生产工序 Production Process

电解铜配磷熔炼 Melting → 大变形细晶 Large Deformation Fine Grain → 冷 镦 Cold Heading → 清洗烘干 Clean & Dry → 包 装 Packing

● 核心特性 Core Features

微晶磷铜球的晶粒细小且均匀分布（平均晶粒度≤60μm），通过大变形细晶、冷镦等工艺实现晶粒细化，显著提升材料的致密性和均匀性。

The grains of the micro-grain phosphor copper ball are fine and uniformly distributed (with an average grain size of ≤ 60μm). The grain refinement is achieved through processes such as large deformation fine grain and cold heading , significantly improving the compactness and uniformity of the material.



● 技术标准 Technology Standard

直径 Diameter	磷含量 Phosphorus Content	杂质氧 Impurity oxygen	硫 Sulphur	晶粒度 Grain Size	密度 Density
25mm	0.025%-0.055%	≤0.0020%	≤0.0030%	≤60μm	≥8.93 g/cm³

包装规格

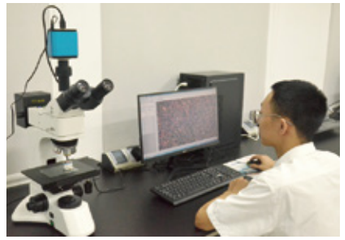
25kg/箱加厚纸箱，缠绕膜防护，托盘运输（1吨/托盘）。

Packing specification: 25kg/carton(thickened carton), with winding film protection, palletized transport(1 ton/pallet).

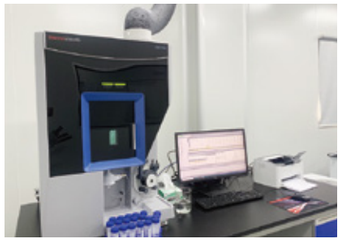
● 检测研发设备 Testing and R&D Equipment

扫描电镜
SEM: Scanning Electron Microscope

直读光谱
OES: Optical Emission Spectrometer



金相显微镜
Metallographic Microscope

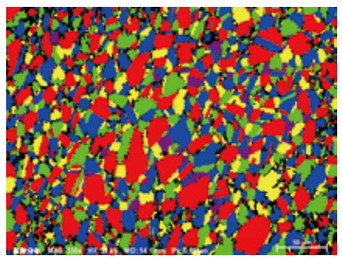


电感耦合等离子体发射光谱仪
iCAP PRO

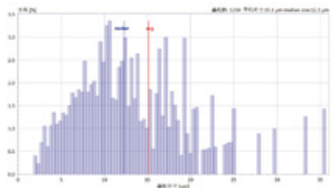
四探针电阻测量系统
Four Probe Resistance Measurement System

布鲁克台阶仪
Bruker Step Profiler

● 检测报告 Inspection Report

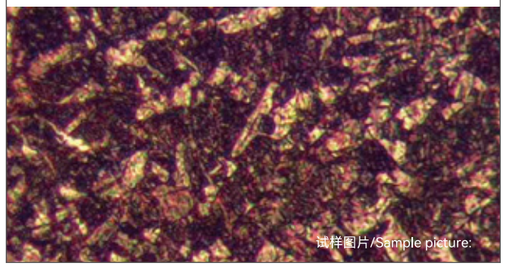


晶粒分布 The Distribution of Grains



晶粒尺寸 Grain Size

评定级别 Assessment Level
9.0级, 单位面积平均晶粒数nA：3968.00个/mm², 晶粒的平均面积a：0.0002520mm², 晶粒平均直径d：0.01590mm。 Grade 9.0, Average number of grains per unit area nA: 3968.00 grains/mm², Average area of grains a: 0.0002520 mm², Average diameter of grains d: 0.01590 mm.



● 铜球生产设备 Copper Ball Production Equipment

铜球生产设备
Copper Ball Production Equipment

铜球清洗设备
Copper Ball Cleaning Equipment

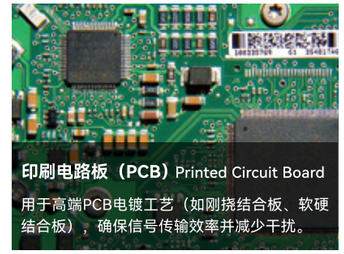
铜球包装设备
Copper Ball Packaging Equipment

半导体封装 Semiconductor Packaging

用于芯片封装，提高焊接点可靠性，适用于高密度互连（HDI）板、IC载板等。

It is used for chip packaging to improve the reliability of welding points, and is suitable for high-density interconnect (HDI) boards, IC carrier boards, etc.

应用领域 Application Fields



印刷电路板（PCB） Printed Circuit Board

用于高端PCB电镀工艺（如刚挠结合板、软硬结合板），确保信号传输效率并减少干扰。

It is used in high-end PCB electroplating processes (such as rigid-flex boards and rigid-flexible boards) to ensure signal transmission efficiency and reduce interference.

新能源汽车 New Energy Vehicle

应用于电池管理系统（BMS）和电机控制器，满足高效导电与耐高温需求。

It is applied to the Battery Management System (BMS) and motor controller, meeting the requirements of high-efficiency conductivity and high-temperature resistance.

其他领域 Other Fields

航空航天精密仪器、医疗器械、5G基站等对材料性能要求严苛的场景。

Scenarios with strict requirements for material properties, such as aerospace precision instruments, medical devices, and 5G base stations.