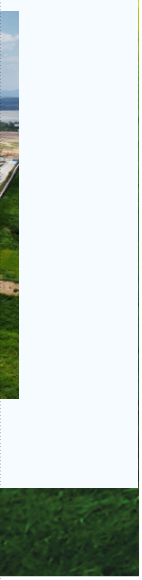
中国五矿

MCC 中硅高科

洛阳中硅高科技有限公司
China Silicon Corporation Ltd.

硅基材料制备技术国家工程研究中心
The state-level engineering and research center for silica-based material
silica-based material preparation technology

厂区鸟瞰图
Aerial View



诚信 / 创新
感恩 / 共赢
Integrity Innovation
Gratitude Win-win

洛阳中硅高科技有限公司
China Silicon Corporation Ltd.

洛阳中硅高科技有限公司（简称：中硅高科）成立于2003年，隶属于中国五矿集团有限公司，大股东为中国恩菲工程技术有限公司，主要生产、研发、销售新能源、光通信及集成电路用高端基础材料，并提供相关技术服务。拥有2个国家级创新平台、3个省级创新平台和1个博士后科研工作站，是国家高新技术企业、河南省创新龙头企业和专精特新企业。产品工艺技术指标和生产消耗指标居国际先进水平。

中硅高科拥有科研人员200余人，凝聚了国家百千万人才、中华杰出工程师、河南省优秀专家、河南省杰出专业技术人才、中原学者、中原科技创新领军人才、河南省科技创新杰出人才、河南省学术技术带头人等高层次人才。中硅高科先后承担实施国家863计划课题3项、国家科技支撑计划课题5项、国家工业强基工程1项、工信部电子信息产业发展基金项目3项、国家319专项1项、国家高技术产业化项目3项、国家产业振兴和技术改造项目1项，国家电子功能材料区域集聚试点专项2项以及省市科技攻关和技术改造项目260余项，申请专利近400项，其中授权专利200余项，制定国际标准、国家标准及行业标准等60余项，获得国家科技进步二等奖1项，中国专利金奖1项，河南省科技进步一等奖3项以及其他省部级以上重要荣誉及奖励40余项。

面对新时代的需求，中硅高科秉承新发展理念，确立了“打造国家前瞻性基础材料创新中心”的战略定位，形成具有自主知识产权的区熔多晶硅、硅基电子特气及前驱体、金属前驱体、先进功能材料、新能源电池材料五大领域关键技术，实现20种电子材料的产业化，并逐步向相关技术领域延伸，致力于成为世界一流高端基础材料发展商。

Established in 2003, China Silicon Corporation Ltd. (SINOSICO) is affiliated with China Minmetals Corporation, with its major shareholder being China ENFI Engineering Corporation. Its main business focuses on the production, research, development, and sales of high-end basic materials for new energy, optical communications and integrated circuits, as well as supply of related technical services. With two national innovation platforms, three provincial innovation platforms, and one postdoctoral scientific research workstation, SINOSICO is a national high-tech enterprise, a leading innovation enterprise in Henan Province, and a specialized and sophisticated enterprise that produces novel and unique products. The product's process technology and production consumption indicators are at the world's leading level.

SINOSICO has more than 200 researchers, including high-level talents from candidates of the National Hundred, Thousand, and Ten Thousand Talents Project, outstanding engineers in China, outstanding experts in Henan Province, outstanding professional and technical talents in Henan Province, central plains scholars, central plains science and technology innovation leading talents, outstanding talents for scientific and technological innovation in Henan Province, academic and technical leaders in Henan Province. It has undertaken three projects of National 863 Program Projects, five projects of the National Science and Technology Support Program, one project of the National Strong Foundation Project, three projects of Electronic Information Industry Development Fund Projects of the Ministry of Industry and Information Technology, one project of National 319 Special Projects, three projects of National High-Tech Industrialization Projects, one project of National Industrial Revitalization and Technological Transformation Projects, two projects of National Pilot Projects for Regional Agglomeration of Electronic Functional Materials, and 260-plus projects of provincial-level scientific problem tackling and technical transformation. It has applied for nearly 400 patents, of which more than 200 have been authorized patents. It has made more than 60 international, national, and industrial standards, and has won the second prize of National Sci-Tech Progress and National Patent Golden Prize once, the first prize of Henan Province Science and Technology Progress three times, and more than 40 rewards and honors at or above provincial level.

To address the needs in the new era, SINOSICO has adhered to a new development concept and established strategic positioning of "building a national forward-looking innovation center for basic materials". It has developed key technologies in five major fields: zone-melting polycrystalline silicon, silicon-based electronic gases and precursors, metal-based precursors, advanced functional materials, and new energy battery materials with independent intellectual property rights, realized the industrialization of 20 kinds of electronic materials, and gradually delved into related technical fields. It is committed to becoming a world-class high-end developer of basic materials.

发展历程 Development History

创业建设
Entrepreneurial Progress

2003年~2005年

From 2003 to 2005

打破国外技术封锁和市场垄断，建成国内首条年产300吨多晶硅生产线，成为民族多晶硅产业开拓者。

We broke the foreign technology blockade and market monopoly, built China's first polysilicon production line with an annual output of 300 tons, and became a pioneer in the national polysilicon industry.

技术主导
Technology Leadership

2005年~2009年

From 2005 to 2009

建成国内唯一的多晶硅材料制备技术国家工程实验室，依托科研平台，持续技术创新和成果转化。

We established the only national engineering laboratory for polysilicon material preparation technology in China and continuously carried out technological innovation and achievement transformation based on scientific research platforms.

乘势而上
Great Momentum for Advancement

2009年~2015年

From 2009 to 2015

多晶硅产能持续提升至年产2万吨规模，不断技术创新，能耗达到世界先进水平。谋划转型升级。

We expanded the production capacity of polysilicon to 20,000 tons per year, realized continuous technological innovation, and achieved world-leading energy consumption. We planned for transformation and upgrading.

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转型发展
Transformational Development

2016年~2019年

From 2016 to 2019

确定硅基材料转型战略，成功切入光通信和半导体领域，谋求产品多元化，6种产品进入市场。谋划“退城入园”。

We determined the transformation strategy of silicon-based materials, successfully entered the optical communication and semiconductor fields, sought product diversification, and launched six types of products to the market. We planned to "leave the urban area and enter industrial parks".

产业升级
Industrial Upgrading

2020年~2023年

From 2020 to 2023

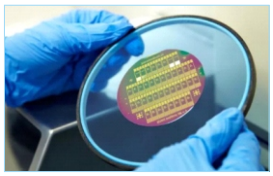
完成“退城入园”，构建复合型创新体系，19种产品成功推向市场，另有8种产品实现实验室技术突破，迈入高质量发展阶段。

We managed to "leave the urban area and enter industrial parks", established a compound innovation system, successfully launched 19 types of products to the market, and made laboratory technological breakthroughs in another eight types of products, thus entering a stage of high-quality development.

砥砺前行
Forging Ahead

2024年~

2024



持续推进新材料研发和产业发展，进行延链补链，扩大高端产品集群，形成产业链协同发展格局。

We continue to promote the research and development of new materials and industrial development, extend and supplement the industrial chain, and expand high-end product portfolios to create a pattern of coordinated industrial chain development.

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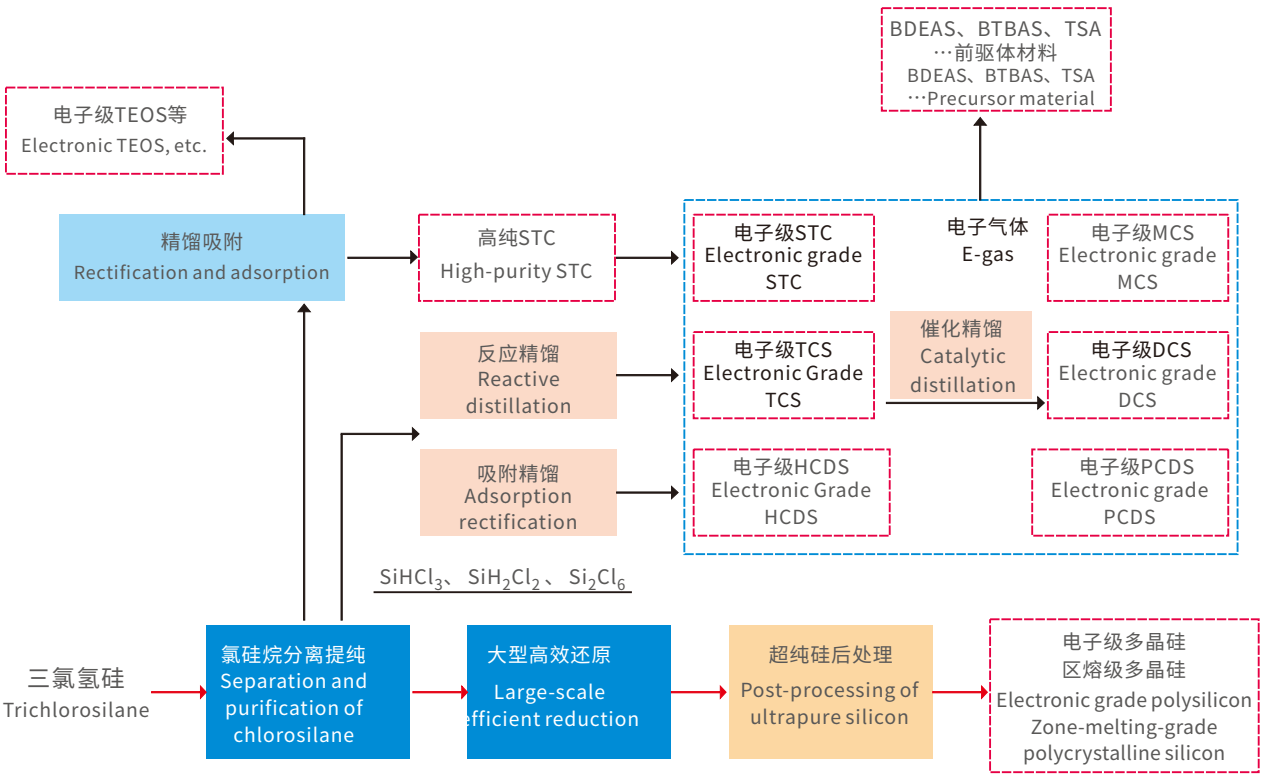
先进硅基材料
Advanced silicon–based materials

中硅高科瞄准信息技术与传统产业结合的机遇，依托硅基材料制备技术国家工程研究中心，已成功自主研发出多项硅基电子信息材料，包括高纯四氯化硅、电子级三氯氢硅、二氯二氢硅、六氯乙硅烷以及正硅酸乙酯等。产品服务于光通信及半导体行业，旨在实现产品国产化，助力国家信息技术产业发展。

By riding the wave of the IT industry that is integrating with the traditional industries, and the National Engineering and Research Center for the Technology of Silica-Based Material Production , SINOSICO has independently developed multiple silicon-based electronic information materials, including high-purity silicon tetrachloride (STC), electronic-grade trichlorosilane (TCS), dichlorosilane (DCS), hexachlorodisilane (HCDS), etc. These products are used in the optical fiber communication and the semi-conductor industries, aiming to help these products go local and develop the national IT industry.



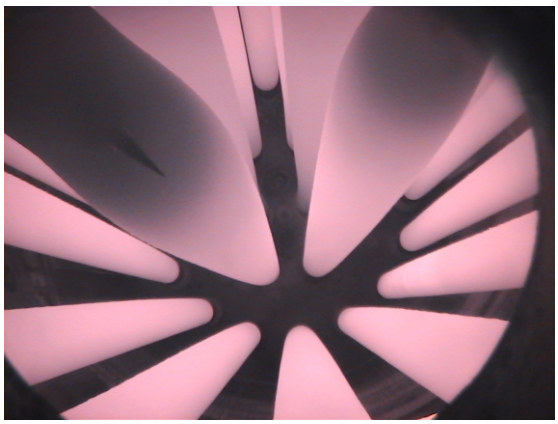
多晶硅
Polysilicon

多晶硅是一种超高纯材料，主要用于制造集成电路、电子器件和太阳能电池，是信息产业和新能源产业最主要、最基础的材料，被称为微电子大厦的基石。

中硅高科拥有国内第一条具有自主知识产权的多晶硅生产线，在行业内已具备了良好的品牌影响力。通过自主研发多晶硅生产工艺成功制备出电子级多晶硅，并陆续开发出应用于直拉法、区熔法和第三代半导体的电子级多晶硅材料，产品品质达到了9N-11N，能满足太阳能及集成电路电子产业的发展需要。

Polysilicon, an ultra-high purity material, is used to make the integrated circuit, electronic elements and solar energy batteries, and is the most important material in the information and new energy industries. In this regard, it is referred to as the foundation of micro-electronics.

SINOSICO's polysilicon production line not only is the first line with independent intellectual property rights in China but grows an influential brand in this industry. Based on independent research and development of polysilicon production, the company has successfully produced electronic-grade polysilicon, and electronic-grade polysilicon materials applied in the cinepulsing and zone melting method as well as the third-generation semiconductor. The product quality has meted 9N-11N, which speaks to that it can service the requirements that emerged in the solar energy and integrated circuit electronics industry.



高纯四氯化硅

High–purity silicon tetrachloride

高纯四氯化硅广泛应用于光通信行业中光纤预制棒的制备和半导体行业中外延和干法刻蚀工艺。我公司通过自主研发，成功攻克高纯四氯化硅的生产技术，建成了万吨光纤四氯化硅和百吨电子级四氯化硅生产线。其中光纤四氯化硅已在行业内实现进口替代，电子级已向半导体客户稳定供货。

High-purity silicon tetrachloride sees its wide application from the preparation of optical fiber preform in the optical communication industry to the epitaxial and dry etching processes in the semiconductor industry. SINOSICO has successfully mastered the technology of high-purity silicon tetrachloride production through independent research and development and built two production lines of ten thousand tons of optical fiber silicon tetrachloride and one hundred tons of electron-scale silicon tetrachloride. The silicon tetrachloride for optical fiber preform has substituted the imported counterparts, and the electronic-grade silicon tetrachloride has achieved a steady reply of semiconductors to customers.

电子级三氯氢硅

Electron–scale trichlorosilane

电子级三氯氢硅是制备电子级多晶硅的重要原料，同时也广泛用于生产半导体硅外延片。我公司开发反应精馏制备技术，实现电子级三氯氢硅产品规模化生产及销售。该产品指标均已满足半导体外延技术的要求，并且公司利用此产品已成功制备出电子级多晶硅。

Apart from being an important raw material for producing electron-scale polysilicon, electron-scale Trichlorosilane is widely used in producing epitaxial wafers of semiconductor silicon. SINOSICO has developed complex reaction distillation preparation technology to achieve the large-scale production and sales of the electron-scale trichlorosilane. All indicators of the electron-scale trichlorosilane products meet the requirement for semiconductor epitaxial silicon, and by using this product, the company has successfully produced electron-scale polysilicon.

电子级二氯二氢硅

Electron–scale dichlorosilane

电子级二氯二氢硅是半导体工业重要的电子特气，主要用于半导体芯片制造行业中硅的外延生长以及氧化硅、氮化硅、氮氧化硅、锗硅以及金属硅化物等薄膜的沉积工艺。我公司开发催化反应精馏技术制备出电子级DCS，产品质量满足半导体行业要求。

Electron-scale dichlorosilane (DCS), an important Electronic Speciality Gas in the semiconductor industry, is mainly used in silicon epitaxial growth and film deposition process of silicon oxide, silicon nitride, silicon oxynitride, germanium-silicon, metal silicide, etc. SINOSICO has developed catalytic reaction distillation technology to produce electron-scale DCS, which meets the requirement of the semiconductor industry.

电子级六氯乙硅烷

Electron-scale hexachlorodisilane

电子级六氯乙硅烷主要用于先进存储器和逻辑芯片制造中高品质氮化硅和氧化硅薄膜的低温化学气相沉积工艺。我公司开发吸附精馏技术，成功对六氯乙硅烷进行深度提纯，指标满足半导体客户的要求，产品远销海外。

Electron-scale hexachlorodisilane (HCDS) is mainly used in the low-temperature chemical vapor deposition of high-quality silicon nitride and silicon oxide films in making advanced memory and logic chips. SINOSICO has developed a technology for adsorbing rectification and achieved a deep purification of hexachloroethylsilane, meeting the needs of clients who purchase semiconductors and adding overseas sales.

电子级正硅酸乙酯

Electron-scale tetraethyl orthosilicate

电子级正硅酸乙酯，简称TEOS，主要用于先进集成电路芯片制造中高品质掺杂或非掺杂的氧化硅层间介质薄膜沉积、侧墙以及沟槽填充工艺中。正硅酸乙酯合成所需原料为我公司多晶硅系统的共生产品，通过反应精馏等工艺进行深度提纯精制，产品质量满足半导体行业要求。

Electron-scale tetraethyl orthosilicate (TEOS) is mainly used in the processes of dielectric film deposition, side wall and trench-filling between the layers of high-quality doped or un-doped silicon oxide in making advanced integrated circuit chips. The raw material for synthesizing TEOS is the co-product of SINOSICO's polysilicon production system, which sees a deep purification by processes involving reactive rectification, the product quality meeting the requirement of the semiconductor industry.

产业化、中试及在研产品

Industrialization, pilot and developing products

公司全面推进先进硅基电子特气及前驱体、金属基前驱体、功能材料和新能源材料产品的开发。其中，四甲基硅烷（4MS）、八甲基环四硅氧烷（OMCTS）、双（叔丁基胺基）硅烷（BTBAS）、双（二乙基胺基）硅烷（BDEAS）、三甲硅烷基胺（TSA）、二甲基二甲氧基硅烷（DMDMOS）、二碘硅烷（DIS）、一氯硅烷（MCS）、轴承/AMB基板用氮化硅等完成产业化，CMP用硅溶胶、硅碳负极材料、合成石英砂、光刻用硅基前驱体完成中试，实验室正在进行先进金属前驱体、纳米粉体材料的研发。逐步构建硅基材料网络，形成硅基材料产业集群，建立硅基材料品牌，提供客户多样化需求的一站式供应。

The Company comprehensively promotes the development of advanced silicon-based electronic gases and precursors, metal-based precursors, functional materials and new energy material products. Among them, tetramethylsilane (4MS), octamethylcyclotetrasiloxane (OMCTS), bis(tert-butylamino)silane (BTBAS), bis(diethylamino)silane (BDEAS), trimethylsilylamine (TSA), dimethyldimethoxysilane (DMDMOS), diiodosilane (DIS), monochlorosilane (MCS), silicon nitride for bearing/AMB substrate and others have been industrialized. CMP has completed the pilot test with silica sol, silicon carbon anode material, synthetic quartz sand and silicon-based precursor for lithography. The laboratory is conducting research and development of advanced metal precursors and nanometer powder materials. Gradually build a silicon-based material network, form an industrial cluster of silicon-based materials, establish silicon-based material brands, and provide a one-stop supply for the diversified needs of customers.

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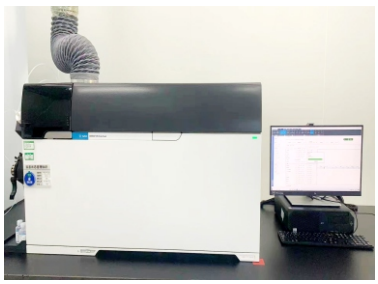
分析检测 Analysis and testing

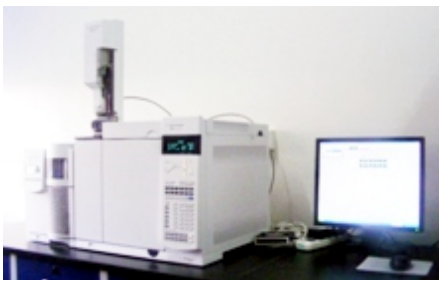
硅基材料制备技术国家工程研究中心设置的分析测试中心经过CNAS认可，中心配备了低温红外光谱检测仪，电感耦合等离子体质谱仪，气相色谱质谱联用仪，氦离子化色谱仪，X射线衍射仪，激光粒度分析仪，颗粒度测试仪等先进的检测仪器设备。产品经过四级检测和质量把控，从而保障产品质量持续稳定可靠。

The analysis and testing center set up by the National Engineering Research Center for Silicon-based Materials Preparation Technology has been approved by CNAS, the center is equipped with advanced testing instruments and equipment such as low temperature infrared spectrum detector, inductively coupled plasma mass spectrometer, gas chromatography-mass spectrometer, helium ionization chromatograph, X-ray diffractometer, laser particle size analyzer and particle size tester. The products are subject to four-level testing and quality control, thus ensuring the continuous stability and reliability of product quality.



电感耦合等离子体质谱仪
ICP-MS 8900

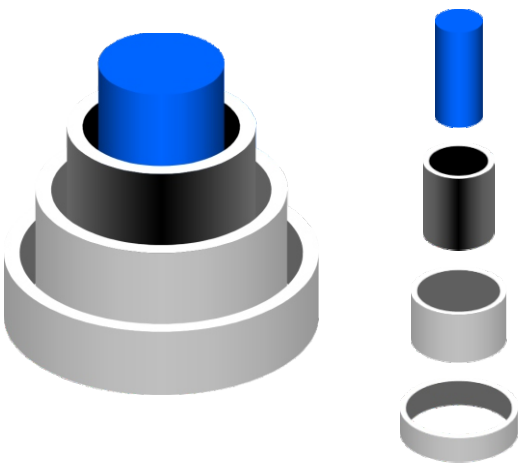
低温红外光谱检测仪
Low-temperature IR spectrometer



气相色谱质谱联用仪
Gas chromatography-mass spectrometer

产品检测系统采用四级检测，原料为第一级检测，过程产品为第二级检测，产品储罐为第三级检测，用户产品罐为第四级检测，产品经四级检测合格后出厂。

The product testing system experiences four levels of testing. Specifically, raw material is the first level of testing, process product the second level of testing, storage tank the third level of testing, and product tank for clients fourth level of testing. All Products are allowed to come out of the factory after passing the four levels of testing.



灌装后检测 Testing after tank filling

出货前检验，保证出厂合格率100%。

All products will be tested before selling to ensure that the ex-factory qualification rate is 100%.

产品储存罐检测 Testing for product storage tanks

产品大储存罐100%检测，保证生产批次稳定性。

All products in large storage tanks will be tested to ensure the stability of every batch.

过程塔产品检测 Testing for process tower products

过程塔产品定频检测，保证过程零差错。

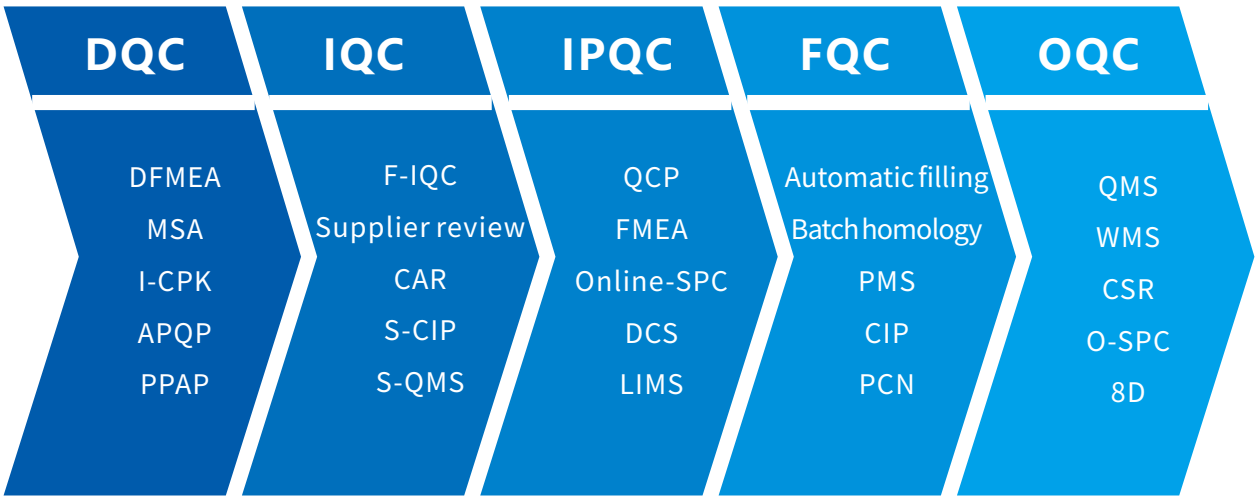
The fixed frequency testing is conducted for the process tower to ensure that the process is of zero error.

原料检测 Testing for raw materials

来料100%检测，保证源头质量稳定。

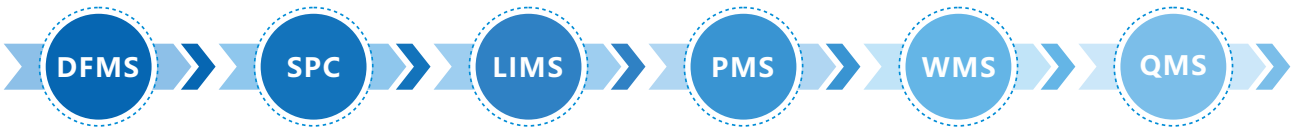
All supplied materials will be tested to ensure the quality from the source.

质量管控 Quality Control



按照ISO9001 、IATF16949标准体系的要求，建立从DQC、IQC、IPQC、FQC到OQC一套完善质量控制体系。通过QMS质量管理系统将DCS系统、APC系统、LIMS系统、SPC系统、PMS系统进行联动互控，实现全过程质量数据在线收集、智能判异、有效预警和闭环处理，持续CIP改善和PDCA永续循环，确保产品质量稳定可靠，满足集成电路行业应用要求。

According to the requirements of ISO 9001 and IATF 16949 standard systems, a complete quality control system from dynamic quality management (DQC), incoming quality control (IQC), input process quality control (IPQC), final quality control (FQC) to outgoing quality control (OQC) is established. The distributed control system (DCS), advanced process control (APC) system, laboratory information management system (LIMS), statistical process control (SPC) system and process management system (PMS) are linked and mutually controlled through the quality management system (QMS) to realize online collection, intelligent judgment, effective early warning and closed-loop processing of quality data, continuous improvement process (CIP) and PDCA cycle in the whole process, so as to ensure stable and reliable product quality and make the products meet the application requirements of the integrated circuit industry.



数字化工厂

集安全、生产、设备管理与一体的数字化工厂

Digital factory integrates safety, production, and equipment management.

SPC控制系统

符合IATF16949，满足质量稳定性要求

SPC control system conforms to IATF16949 and meets the requirements of quality stability.

LIMS系统

满足CNAS17025，实现数据信息化

LIMS system meets CNAS17025 and realizes data informatization.

PMS系统

实现包装物生命周期管理与产品出货管理

PMS system realizes life cycle management of packaging materials and product shipment management.

WMS系统

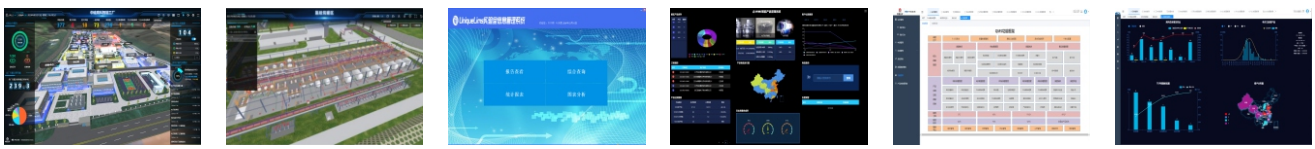
实现数字化仓储与运输智能化追踪

WMS system realizes digital warehousing and intelligent tracking of transportation.

QMS系统

实现质量控制智能化与一键式溯源

QMS system realizes intelligent quality control and one-click traceability.



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标准体系 Standard system

硅基材料标准体系（67）
Standard System of Silicon-based Materials

光伏多晶硅标准体系（43）
Standard System of Photovoltaic Polysilicon

质量标准（39）
Quality Standards

产品规范（8） Product Specification

《太阳能多晶硅》
《多晶硅用硅粉》
《多晶副产四氯化硅》等

Solar Energy Polysilicon
Silicon Powder for Polysilicon
Polysilicon By-product-Silicon Tetrachloride, etc.

能耗标准（1）
Energy Consumption Standard

《多晶硅单位产品能源消耗限额》
The Norm of Energy Consumption per Unit Products of Polysilicon

设计标准（2）
Design Standards

《多晶硅工厂设计规范》
Code for Design of Polysilicon Plant

安全标准（1）
Safety Standards

《多晶硅生产安全导则》
Safety Specification for Polysilicon Production

检测标准（31）
Testing Standards

- SEM标准《SEMI PV64-0715》
- SEM标准《SEMI PV59-0115》
- SEM标准《SEMI PV74-0216》
- SEMI PV 64-0715
- SEMI PV 59-0115
- SEMI Standard SEMLPV7A-0216

产品标准（6）
Product Standards

《硅外延用三氯氢硅》
《电子特气六氯乙硅烷》
《电子工业用二氯硅烷》
《电子工业用四氯化硅》
《多晶硅副产品六氯乙硅烷》

Trichlorosilane for Silicon Epitaxy
Electronic Speciality Gas Hexachlorosilane
Dichlorosilane for Electronic Industry
Silicon Tetrachloride for Electronic Industry
Polysilicon By-product-Hexachlorodisilane

硅基新材料标准体系（24）
Standard System for New Silicon-based Materials

集成电路标准（18）
Integrated Circuit Standards

测试标准（8）
Test Standards

《硅和锗体内少数载流子寿命的测定光电导衰减法》
《用区熔拉晶法和光谱分析法评价多晶硅棒的规程》
《氯硅烷中碳含量的测定气相色谱质谱联用法》
《六氯乙硅烷组分含量的测定气相色谱法》

Standard Test Methods for Minority Carrier Lifetime in Bulk Germanium and Silicon by Measurement of Photoconductivity Decay
Practice for Evaluating Polycrystalline Silicon Rods by Zone Fusion Pulling and Spectroscopic Analysis
Determination of Carbon Content in Chlorosilanes by Gas Chromatography-Mass Spectrometry
Determination of Hexachlorosilane Component Content-Gas Chromatography

通用规范（4）
General Specifications

《集成电路材料产品成熟度等级划分定义》
《绿色设计产品评价技术规范》
《集成电路材料产品分类》
《高纯气体采样通则》

Classification and Definition of Product Maturity Levels for Integrated Circuit Materials
Technical Specification for Green-design Product Assessment
Product Classification of Integrated Circuit Materials
General Rules for Sampling High-purity Gases

光通信标准（6）
Standards for Optical Communication Products

产品标准（4）
Product Standards

《光纤预制棒用四氯化硅》
《光纤预制棒用高纯氯》
《光纤激光器用掺铱光纤》
《短波长波分复用多模光纤》

Silicon Tetrachloride for Optical Fiber Preform
High Purity Chlorine for Optical Fiber Preform
Iridium-Doped Fibers for Fiber Laser Applications
Multimode Optical Fibers for Short Wavelength Division Multiplexing

罐装标准（2）
Filling Standards

《光纤预制棒用四氯化硅充装规范》
《光纤预制棒用四氯化硅容器清洗规范》

Specifications for Silicon Tetrachloride Filling for Optical Fiber Preform
Specifications for Cleaning of Silicon Tetrachloride Container for Optical Fiber Preform

安全环保
Safety and Environmental Conservation

中硅高科以实现可持续发展为己任，始终将安全环保工作放在首位，发展绿色能源，建设绿色中硅，实现与生态、社会和谐共赢。

Taking sustainable development as its mission, SINOSICO always puts safety and environmental protection in the first place. It develops green energy and builds an eco-friendly enterprise to achieve harmony and a win-win relationship with the ecological system and society.

中硅高科将安全融入企业文化之中，安全生产已形成一种思想共识，成为企业文化的精髓，员工已形成安全行为习惯。公司取得安全生产标准化二级企业证书。

As SINOSICO has integrated safety into its corporate culture, safety has become part of its employees' understanding and the core of the corporate culture, enabling its employee to develop a safety behavior and its company to obtain the second-level enterprise certificate for safety production standardization.

中硅高科秉承绿色发展理念，开展绿色清洁生产，促进生产与环境协调发展，实现节能、降耗、减排、增效。公司先后荣获"环保突出贡献奖"、"全国环保优质品牌企业"。

Keeping green development in mind, SINOSICO promotes clean production and the coordinated development between economy and environment in an attempt to reduce energy consumption and emissions, as well as enhance performance It has won the Environmental Protection Outstanding Contribution Prize and was awarded National Environmental Protection Quality Brand Enterprise.





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资质 Qualification

质量、环境、职业健康安全三位一体的管理体系长期有效运行，IATF16949质量管理体系认证顺利通过，实验室通过CNAS认可、具备第三方检测资质。

With the management system of quality, environment and occupational health and safety has been effectively operating for a long time, and the IATF16949 quality management system certification passed, the laboratory has gained recognition by China National Accreditation Service for Conformity Assessment (CNAS) with third-party testing qualifications.

人力资源优势 Human Resource Advantages

中硅高科坚持以人为本、创新兴企、人才强企的发展理念，立足硅基材料“卡脖子”技术，组建了一支勇于开拓的青年团队，研发人员200余人，拥有高级以上职称人员35人，硕士以上学历人员46人，团队由不同专业背景的成员组成，具备开展多专业、跨学科的科研攻关能力，先后被评为河南省科技型创新团队、中国有色金属创新争先计划团队、中国五矿和中冶集团科技创新团队。拥有国家百千万人才、中华杰出工程师、中华杰出青年工程师、河南省优秀专家、河南省政府特殊津贴专家、河南省杰出专业技术人才、中原学者、中国五矿集团首席科学家、中原科技创新领军人才、河南省科技创新杰出人才、河南省学术技术带头人、中冶集团专业技术领域首席专家、河南省质量工匠、洛阳市优秀专家、洛阳市学术带头人、河洛青年人才、河洛工匠等各类人才，同时与清华大学、浙江大学、天津大学等高校开展卓越工程师工程博士联合培养，进一步推动交叉学科团队的建设，目前已形成以领军人才为引领、技术骨干为支撑、青年后备为补充的“雁阵”人才梯队格局。

SINOSICO adheres to the development philosophy of putting people first, revitalizing the enterprise with innovation, and fortifying the enterprise with talents. With a focus on the "bottleneck" technology in silicon-based materials, it has formed a bold and pioneering young team. Its research and development team consists of over 200 personnel, including 35 senior-level professionals and 46 individuals with a master's degree or higher. The team is composed of members with diverse professional backgrounds, enabling it to conduct multidisciplinary research and tackle scientific research challenges. It has been recognized as the Henan Provincial Sci-tech Innovation Team, China Nonferrous Metal Innovation and Leading Program Team, and China Minmetals and MCC Group Sci-tech Innovation Team. It possesses various types of talents including the National Hundred, Thousand, and Ten Thousand Talents, Outstanding Engineers of China, Outstanding Young Engineers of China, Excellent Experts of Henan Province, Experts Granted Special Allowances by the People's Government of Henan Province, Outstanding Professional and Technical Talent of Henan Province, Central Plains Scholars, Chief Scientists of China Minmetals, Leading Talents in Sci-tech Innovation of Central Plains, Outstanding Talents in Sci-tech Innovation of Henan Province, Academic and Technical Leaders of Henan Province, Chief Experts in the Field of Metallurgy of MCC Group, Quality Artisans of Henan Province, Excellent Experts of Luoyang, Academic Leaders of Luoyang, Talents of Heluo Region, and Craftsmen of Heluo Region. Simultaneously, it has collaborated with top universities such as Tsinghua University, Zhejiang University, and Tianjin University to carry out joint training programs for outstanding engineers with doctoral degrees, further promoting the construction of interdisciplinary teams. Currently, the talent structure has taken shape, with leading talents taking the lead, technical backbones providing support, and young reserves as supplements, forming a talent echelon pattern.


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科研平台 Research platform

依托中硅高科建设了硅基材料制备技术国家工程研究中心、河南省超高纯硅材料工程研究中心、河南省多晶硅工程技术研究中心、河南省产业技术基础公共服务平台、洛阳市先进硅基材料中试基地和产业研究院，设立了博士后科研工作站，共建国家能源金属与新材料重点实验室。硅基材料制备技术国家工程研究中心设立了6个研发平台和一个分析测试中心，平台开放，为行业提供公共技术研究、分析测试和人才培养，推动行业技术革新与产业升级。

SINOSICO has built the National Engineering Research Center for Silicon-based Materials Preparation Technology, the Engineering Research Center for Ultra-high Purity Silicon Materials of Henan, the Polysilicon Engineering Technology Research Center of Henan, the Public Service Platform for Industrial Technology Foundation of Henan, the Advanced Silicon-based Materials Pilot Base and Industry Research Institute of Luoyang, and a postdoctoral scientific research workstation. It has also cooperated to establish the National Key Laboratory of Energy Metal Resources and New Materials. The National Engineering Research Center for Silicon-based Materials Preparation Technology comes with six R&D platforms and an analysis and testing center. These platforms are all open and aim to provide the industry with public technology research, analysis and testing, and talent training to promote industrial technological innovation and upgrading.

硅基材料制备技术
国家工程研究中心
National Engineering and Research Center for the Technology of Silica-Based Material Production

国家能源金属资源与新材料
重点实验室
The National Key Laboratory of Energy Metal Resources and New Materials

博士后科研工作站
Post-doctoral research center

河南省超高纯硅材料工程研究中心
Henan Ultra-High Purity Silicon Materials Engineering Research Center

河南省多晶硅工程技术研究中心
Henan Polysilicon Engineering Technology Research Center

河南省产业技术基础公共服务平台
The Public Service Platform for Industrial Technology Foundation of Henan

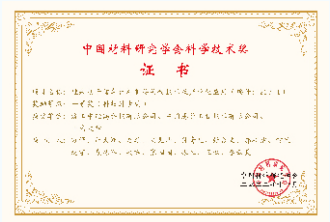
洛阳市先进硅基材料产业研究院
Luoyang Advanced Silicon-Based Materials Industry Research Institute

洛阳市先进硅基材料中试基地
The Advanced Silicon-based Materials Pilot Base of Luoyang

科技创新 Technology innovation

中硅高科高度重视科技创新工作，面向集成电路、光通信、新能源关键基础材料，立足核心技术和产业化供应自主可控，先后承担国家及省部级重点任务40余项，申请专利近400项，其中授权专利200余项，形成科技成果15项，多项成果填补国内空白，其中3项成果达到国际领先水平，构建了高端硅基材料技术、测试分析方法和核心装备谱系，培育了先进硅基电子材料产品集群。先后获得国家科技进步二等奖、中国专利金奖、中国专利银奖、中国工业大奖提名奖、河南省科技进步一等奖、河南省科技进步二等奖、中国有色金属工业科学技术奖一等奖等重要的科技奖励及荣誉40余项；发表论文70余篇，制订国际、国家和行业标准60余项，形成全产业链标准管理体系。中硅高科依靠自主研发并将科技成果及时应用到生产线上，形成了产学研一体化的科技创新之路，确保了中硅高科始终处于行业领先位置。

SINOSICO attaches great importance to sci-tech innovation, focusing on key foundational materials for integrated circuits, optical communications, and new energy. Striving for independent and controllable core technologies and industrial supply, it has undertaken over 40 national, provincial and ministerial key tasks and applied for nearly 400 patents, with over 200 patents granted and 15 sci-tech outcomes, many of which have filled domestic gaps. Among them, three outcomes have reached international leading levels. It has developed high-end silicon-based materials technologies, testing and analysis methods, and a core equipment system, cultivating an advanced cluster of silicon-based electronic materials products. It has received more than 40 important sci-tech awards and honors, including the Second Prize of National Science and Technology Progress Award, Gold Medal of China Patent for Invention, Silver Medal of China Patent for Invention, China Industry Grand Award Nomination, First Prize of Henan Provincial Science and Technology Progress Award, Second Prize of Henan Provincial Science and Technology Progress Award, and First Prize of China Nonferrous Metal Industry Science and Technology Award. It has published over 70 papers and formulated over 60 international, national, and industry standards, forming a comprehensive standard management system for the entire industry chain. SINOSICO has relied on independent research and development and promptly applied sci-tech outcomes to the production line, forming an integrated approach to sci-tech innovation that combines industry, university, and research. This ensures that SINOSICO always maintains a leading position in the industry.



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企业文化 Corporate culture

在企业发展过程中，中硅高科形成了以“致力于成为世界一流高端基础材料发展商”为愿景的企业文化，是企业的核心竞争力的重要因素。它将全体中硅人凝聚在一起，目标一致，实现了员工与企业共同发展，企业与客户合作共赢，企业与社会和谐共进。

As the company moves forward, SINOSICO has developed a corporate culture: striving to be the leading developer of high-end basic materials, which plays a pivotal role in the company's core competitiveness. The culture brings all SINOSICO employees together toward a common goal, which has realized the joint development of both employees and the company, the win-win cooperation of the company and its clients, and the harmonious development of the company and society.

企业使命 Corporate mission

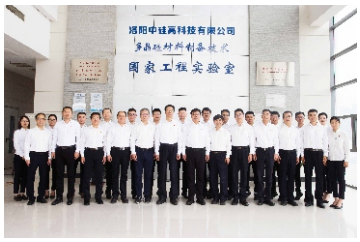
担国家责任 补行业短板
Improve Weak Links in Basic Materials for a Better Future of China

企业职责 Corporate responsibilities

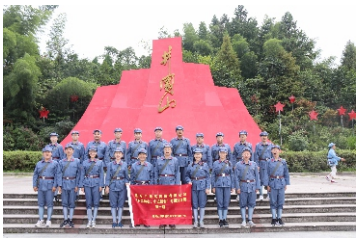
成就客户 回报股东 幸福员工
Achieving client's success, returning to shareholders and making employees happy

企业愿景 Corporate Vision

致力于成为世界一流高端基础材料发展商
Striving to be the leading developer of high-end basic materials





洛阳中硅高科技有限公司

China Silicon Corporation Ltd.

科技精粹、至纯致远

Elaborately Extract the Essense of Science and Technology ,
Purify asFurther as can be Reached.

中国五矿

MCC 中硅高科

洛阳中硅高科技有限公司

China Silicon Corporation Ltd.

地　　址：中国·洛阳市孟津区先进制造业开发区华夏大道101号

Add：No.101 Huaxia Avenue, Advanced Manufacturing Development Zone, Mengjin District, Luoyang City, China

邮　　编：471100　　Post：471100

电　　话：0379-68608168　　Tel：+86-379-68608168

营销专线：0379-68608079　68608078　　Marketing Tel：+86-379-68608079　68608078

传　　真：0379-68608163　　Fax：+86-379-68608163

网　　址：www.sinosico.com　　Website：www.sinosico.com