

长沙力元新材料有限责任公司 Changsha LYRUN New Material Co., Ltd.

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(Please contact sales@lyrun.com about "Continuous Band-shaped Nickel Foam")

产品目录 **PRODUCT CATALOG**





COMPANY INTRODUCTION 公司简介



长沙力元新材料有限责任公司成立于1998年,是一家 以新型能源材料的研发和生产为主的高新技术企业。其主 导产品"连续化带状泡沫镍"先后被国家认定为"863"重 大攻关项目,"九五"重大项目,湖南首批"百亿工程"。 项目,被国家计委列入"国家高技术产业化示范工程"。 公司通过了ISO9001质量管理体系、ISO14001环境管理体 系和OHSA518001职业健康安全管理体系认证,公司建成 年处理30万吨的废水处理中心。2003年"力元新材"股票 成功上市,同年随着全资子公司常德力元的建成投产,公 司成为世界行业最大的泡沫镍制造商,市场份额占据全球 行业的三分之一。公司先后被评为"中国电池行业优秀出 口企业"、"国家重点技术创新企业"、"湖南省重点高 新技术企业"、"湖南省质量管理奖";"力元新材"品牌 被评为"湖南省客名商标";公司被长沙市委、市政府命名 为花园式企业。

2007年,力元新材适应市场需求,成立了特种泡沫材 料部,并于2010年扩大为研发中心,专注于开孔式泡沫金 属材料的研发工作。通过不断的研发和创新,结合10多年 常规泡沫镍产品的技术及生产力量,研发中心现已形成了 规格多样的**泡沫铁镍、泡沫铜、特种泡沫镍和泡沫金属合** 金等泡沫材料为主的产品线,被广泛的应用于工业及民用过 滤、传热换热、吸声降噪、电池电极、红外燃烧、布气、 吸能降磁、催化剂载体、建筑装饰、贵金属回收等领域和 行业。

作为泡沫金属材料行业的先行者及开拓者,我们将一 如既往的专注于泡沫金属材料的研发和制造。在人类可持 续发展使命下,在"湖南科力远新能源股份有限公司"的 带领下,不断拓展泡沫金属的应用领域,发展战略性新兴 产业,致力成为泡沫金属材料研发及应用专家。

Founded in 1998, Changsha LYRUN New Material Co., Ltd. (hereafter as LYRUN) is a high-tech manufacturing company specialized in the R&D of the new energy materials. Its conventional product -- Continuous Band-shaped Nickel Foam has been identified as "the 863 Major Research Project", "9th Five-Year Major Project", "First Batch of Tens of Billions of Hunan Engineering Project" and has been listed into the National High-tech Industrialization Demonstration Project by the State Development Planning Commission. LYRUN has also possessed the ISO9001, ISO14001 and OHSAS18001 certifications, and established the waste water treatment center processing 300,000 tons per year. In 2003. LYRUN share has sold on the stock market. With the establishment of the wholly owned subsidiary of Changde LYRUN in the same year, LYRUN became the largest nickel foam manufacturer in the world, occupying one-third of the world market share. During the decades' development, LYRUN has granted series of national and provincial awards such as"Outstanding export enterprise in Chinese battery field","National key technology innovation enterprise", "Highbatery indu , radium a key extension of the second enterprise in Hunan Province", "Rey High-Tech enterprise in Hunan Province", "Guality mangement award of Hunan province", "Famous brend/ in Hunan/ province", "Garden-like Enterprises"by Changsha Mithiéijal Party Committee and Government.

To meet the market growing demand, LYRUN has established the Special Porcus Metal Department in 2007 and developed into the Research Center, to focus on the R&D of OPEN-CELLED POROUS METAL FOAMS. With continuous R&D and innovation capacity, also combined with the technology and production experience of conventional nickel foam, the Research Centert, has formed the product line with Fe-NI Foam, Special Nickel Foam, Copper Foam and other Alloy Foams as its main products, which are widely used in the field of Industrial and civil filtration, heat exchanger, sound absorber, electrode, infrared burner, gas-distributor, electromagnetic shielding, catalyst carrier , architectural decoration and preclous metal recovery etc.

As the pioneer in the metal foam material industry, we will constantly commit to the R&D and production of metal foam materials. With the responsibility of human sustainable development and guild help of Hunan CORUN New Energy Co.,Ltd., LYRUN will continuously explore the application fields of metal foam materials and develop the strategic new industry, aiming to be the R&D expert and application promoter of the metal foam materials. <u>/の</u>カ元新材 LYRUN NEW MATERIAL



カ元新材 LYRUN NEW MATERIAL

Fe-Ni Foam 泡沫铁镍



基本参数 Basic Specification

孔 数 Number of pores per inch (PPI)	5~120
体密度 Density (g/cm³)	0.15~0.45
厚 度 Thickness (mm)	0.5~25
孔 隙 率 Porosity	90%~98%
常规尺寸 Standard size (mm)	≤500 * 500 (更大尺寸需提前沟通 larger size should be discussed in advance)

性能特点 Feature

- 1 耐高温700度以上, 耐酸碱等腐蚀 Stand high-temp over 700° and acid-base corrosion resistance capacities
- 2 通透性好, 孔腺结构均匀, 机械强度高 Good permeability, even porosity and excellent mechanical strength
- 3 容尘量高,有利于多层立体过滤 Good dust containing capacity for multilayers' and tridimensional filtration

应用领域Application

- 1) 柴油、汽油发动机的尾气过滤载体材料
- Off-gas cleaner carrier materials for diesel / patrol engines 2 冶金、化学工程以及工业废气过滤(如铝水过滤及工业油雾过
- 滤)、厨房油烟等民用过滤

Metallurgy, chemical engineering & industrial waste gas filtration (such as aluminium liquid filtration and industrial oil mist filtration); civill fitration such as kitchen and smoke filtration

3 各种工业及民用红外燃烧器的布气层材料 Gas distribution material on various industrial and civil infrared inflamer

Copper Foam 泡沫铜





基本参数 Basic Specification

孔 数 Number of pores per inch (PPI)	5~120					
体密度 Density (g/cm ³)	0.15~0.45					
厚度 Thickness (mm)	0.5~30					
孔隙率 Porosity	90%~98%					
常规尺寸 Standard size (mm)	<500 * 500, (4mm以下可制作成卷材,更大尺寸需提前沟通) (Thickness under 4mm can be made into roll shape. Other larger size should be discussed in advance)					

性能特点 Feature

- ① 机械性能及加工性能好 Excellent mechanical property and processability
- 2 具有优良的电及热传导性能 Extraordinary electricity and heat conductivity
- 3 材料内部具有大量的三维立体网状结构 Massive three-dimensional network structure
- ④ 兼具金属铜本身的耐碱腐蚀性 Excellent base & corrosion resistant ability
- ⑤ 较好的电磁屏蔽及消声减震性能 Magnificent electromagnetic shielding ability
- 6 较好的抗拉强度及延展性 Superior tensile strength and favorable ductility

应用领域 Application

- ① CPU、显卡及LED等电子元器件的传热、散热及热交换材料 Heat diffusion, dissipation and exchange materials for electronic components such as CPU, display card and LED etc.
- 2) 锂离子、镍氢电池或燃料电池电极材料 Electrode material for batteries, such as lithium ion battery, fuel cell, nickel-zinc battery and so on
- ❸ 电磁屏蔽材料 Electromagnetic shielding materials
- ④ 催化剂及其载体材料 Catalyst and its carrier material
- 6 各种初效、中效及亚微米级过滤材料 Various initial-efficiency, intermediate-efficiency and sub-micron filtration
- 6 建筑装饰材料 Decoration materials for construction

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カ元新材 LYRUN NEW MATERIAL

Special Nickel Foam 特种泡沫镍





基本参数 Basic Specification

孔 数 Number of pores per inch (PPI)	5~120				
体密度 Density (g/cm³)	0.15~0.45				
厚 度 Thickness (mm)	0.5~30				
孔 隙 率 Porosity	90%~-98%				
常规尺寸 Standard size (mm)	≤500 * 500 (更大尺寸需提前沟通 larger size should be discussed in advance)				

性能特点 Feature



2 通透性好、孔隙结构均匀 Good permeability and even porosity

应用领域 Application

- 1 贵金属回收 Precious metals recycling
- 2 新型二次电池的电极材料 Electrode material for new rechargeable batteries
- 3 工业油雾过滤、除臭、催化剂及其载体 Industrial oil mist filtration, deodorization, catalyst and its carrier



Electrical Conductive Foam





基本参数 Basic Specification

厚度 Thickness	基材 Base material	电阻 Electrical resistance	屏蔽效能 Shield effectiveness
1mm	聚氨酯海绵 Polyurethane foam	0.005~0.05 Ω/sq	60~80dB
1.5mm	聚氨酯海绵 Polyurethane foam	0.005~0.05 Ω/sq	60~80dB
2mm	聚氨酯海绵 Polyurethane foam	0.005~0.05 Ω/sq	60~80dB
3mm	聚氨酯海绵 Polyurethane foam	0.005~0.05 Ω/sq	60~80dB



双面镀膜 double-side membrane plating

金属底层 metallic plating layer 海绵 PU foam



应用领域 Application

号电布与导电海绵相结合,可以制作成各种的电磁密封衬垫,例如门的密封、面板与机壳、机柜工机箱间的密封以及与其它设备壳体间的密封

The structure combination of electric conductive cloth and electric conductive foam makes it can be produced to kinds of electromagnetic seal pad, such as sealing of the door, surface panel and between the casing shape, cabmet and mainframe-box, and other device shapes.

② 计算机、LCD显示器、激光打印机、高速复印机、通讯设备、移动电话、卫星通信、医疗设备、高压机测试、仪表仪器、垫片/隔板、插板电子产品、防震导电的包装

Packing materials for computer, LCD monitor, laser printer, high-speed copier, communication equipment, mobile phone, satellite communication equipment, high-pressured testing instrument, gasket / pad and flashboard electronics

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Other Metal Alloy Foams 其它泡沫金属合金材料





泡沫镍铁铬 / 泡沫镍铬 Fe-Ni-Cr foam / Ni-Cr foam

铁镍碳化硅 Fe-Ni-SiC foam

性能特点

- 1) 耐高温量高可达1000°以上,比表面积量高可达900万每立方米,抗压强度可达5Mpa Stand high temperature highest over 1000° with 9 million per cubic meter specific surface and compressive resistance over 5Mpa
- 2 耐强酸、强碱腐蚀

Acid-base corrosion resistances

- 3 通透性好,气阻低,孔隙结构均匀有利于布气
- Good permeability and low air-resistance, the even porosity structure for gas distribution
- 4 既保证通透性又能大面积的过滤
- Ensure the permeability and large area filtration
- 5 表面的微孔与介孔结构有利于催化剂附着
- The surface structure combined with millipore and mesopore is good for catalyst adhered
- 6 金属基材导热性能好,抗热震性能优良,机械强度高不易碎,使用寿命长

Heat conducting of the metallic base material, good heat-resistance and vibration-absorption capacity, breakage-proof and long performance life

应用领域Application

- 1 尾气净化器载体、颗粒捕集器 Off-gas clean carrier and particle catcher
- 2 工业高温、强腐蚀环境下的过滤 Filtration under of industrial high-temp and corrosion situation
- 3 红外燃烧器面板 Surface panel on the infrared flamer





泡沫镍钨 Ni-W foam 泡沫铜镍 Cu-Ni foam Continuous Band-shaped Nickel Foam 连续化带状泡沫镍



基本参数 | Basic Specification

孔 数 Number of pores per inch (PPI)	80~130					
面密度 Density (g/m²)	≥180					
厚 度 Thickness (mm)	≤2.5					
宽 度 Width (mm)	≤1000					
颜 色 Color	银白色 silvery white					
抗拉强度 Tensile strength (N/20mm)	纵向 longitudinal ≥30 横向 transverse ≥20					
延伸率Elongation (%)	纵向 longitudinal≥5 横向 transverse≥12					
电阻率Electric resistivity (mΩ/100mm*10mm)	纵向 longitudinal ≤65 横向 transverse ≤85					
包装规格 Package specification (m/roll)	100~300					
	铜Cu	碳C	硅Si	铁Fe	硫S	镍+钴Ni+Co
化学成分 Chemical composition (wt%)	≤0.010	≤0.020	≤0.005	≤0.010	≤0.005	余量 balance
备 注 Remarks	可根据客户要求提供产品 Customized products available					

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应用领域 Application

● 电池电极材料,特别用于Ni-MH电池,这种可充电电池广泛应用于手提电脑、手机、电动踏板车、电动自行车、混合动 力汽车、电动工具、高档玩具等

Battery electrode materials, particular for the Ni-MH battery which can be widely used in portable computers, mobile phones, electric scooter, electric bicycles, hybrid electric vehicles, electric tools and high-grade toys etc

Electro-catalyst for molten carbonate fuel cell; Bipolar plate modification materials for Proton Exchange Membrane Fuel Cell (PEMFC); Electrode relay feeder of Solid Oxide Fuel Cell (SOFC); electrode material in electrolytic (such as in the environment of water solution)

- 3 汽车催化剂转换器、催化燃烧、柴油车黑烟净化器的催化剂载体
- Catalyst carriers on the car catalyst converters, catalytic combustion and smoke purifier of diesel vehicle
- ④ 滤器材料,处理流体中磁性粒子的磁流导体
- Filter material, deal with magnetic flux conductor in the fluid particles
- 与其它应用于储氢媒介、热交换媒介等
- Hydrogen-storage medium, heat exchange medium and so on