



股票代码 | 300345
Stock code

节能环保先锋 提质降耗专家

Energy saving and environmental protection pioneer
Quality improving and consumption reducing expert

湖南华民控股集团股份有限公司
HUNAN HUAMIN HOLDINGS CO., LTD

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Energy saving and environmental protection pioneer
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秉持“可持续发展理念”，
不断研发与推广先进的材料与技术，
共同实现资源节约与环境友好。

Upholding the concept of sustainable development,
we constantly develop and popularize advanced materials and technologies
to achieve resource conservation and environmental friendliness together.

中国节能耐磨材料第一股
国际领先的高效球磨综合节能技术解决方案服务商
国际领先的PIP可控离子渗入技术服务商

The first Energy-saving Wear-resistant Material IPO company in China
International leading service provider of high-efficiency ball mill comprehensive energy-saving technology solution
International leading programmable ion permeation technology service provider

球磨机高效球磨综合节能技术 行业唯一入选《国家重点节能低碳技术推广目录》

High-efficiency ball mill comprehensive energy-saving technology
Only one selected into the National Key Low-Carbon and Environmental Protection
Technology Promotion Catalog in the industry

《国家重点节能低碳技术推广目录》（2015年本 节能部分）

序号	技术名称	适用范围	主要技术内容	典型项目				目前推广比例 (%)	未来5年节能减碳潜力				
				适用的技术条件	建设规模	投资额 (万元)	节能量 (tce/a)		二氧化碳减排量 (tCO ₂ /a)	该技术在行业内的推广潜力 (%)	预计总投资额 (万元)	预计节能能力 (万 tce/a)	预计二氧化碳减排能力 (万 tCO ₂ /a)
40	球磨机高效球磨综合节能技术	电力、钢铁、有色金属、石油石化等行业	利用球磨机衬板优化设计技术,球磨机钢球级配优化设计技术,降低球磨机运行电耗,提高球磨机效率。	广泛适用于现有各种类型的球磨机	60t/h球磨机	145	1260	2746	10(火电行业) 5(大型矿山)	30(火电行业) 20(大型矿山)	300000	250	550



中华人民共和国国家发展和改革委员会

公告

2015年 第35号

为贯彻落实《中华人民共和国节约能源法》、《国务院关于印发“十二五”节能减排综合性工作方案的通知》(国发[2011]26号)和《国务院关于加强发展节能环保产业的意见》(国发[2013]30号),加快节能技术进步和推广,引导用能单位采用先进适用的节能新技术、新装备、新工艺,促进能源资源节约集约利用,缓解资源环境压力,依据发展改革委《节能低碳技术推广管理暂行办法》(发改环资[2014]19号),我委组织编制了《国家重点节能低碳技术推广目录(2015年本,节能部分)》(以下简称《目录》),涉及煤炭、电力、钢铁、有色、石油石化、化工、建材、机械、轻工、纺织、建筑、交通、通信等13个行业,共266项重点节能技术。

现将《目录》予以公告,在国家发展改革委网站(www.ndrc.gov.cn)上发布。《国家重点节能低碳技术推广目录(2014年本,节能部分)》自本公告发布之日起废止。

附件:1. 国家重点节能低碳技术推广目录(2015年本,节能部分)

2. 国家重点节能低碳技术推广目录(2015年本,节能部分)技术报告(略,详见国家发展改革委官方网站)

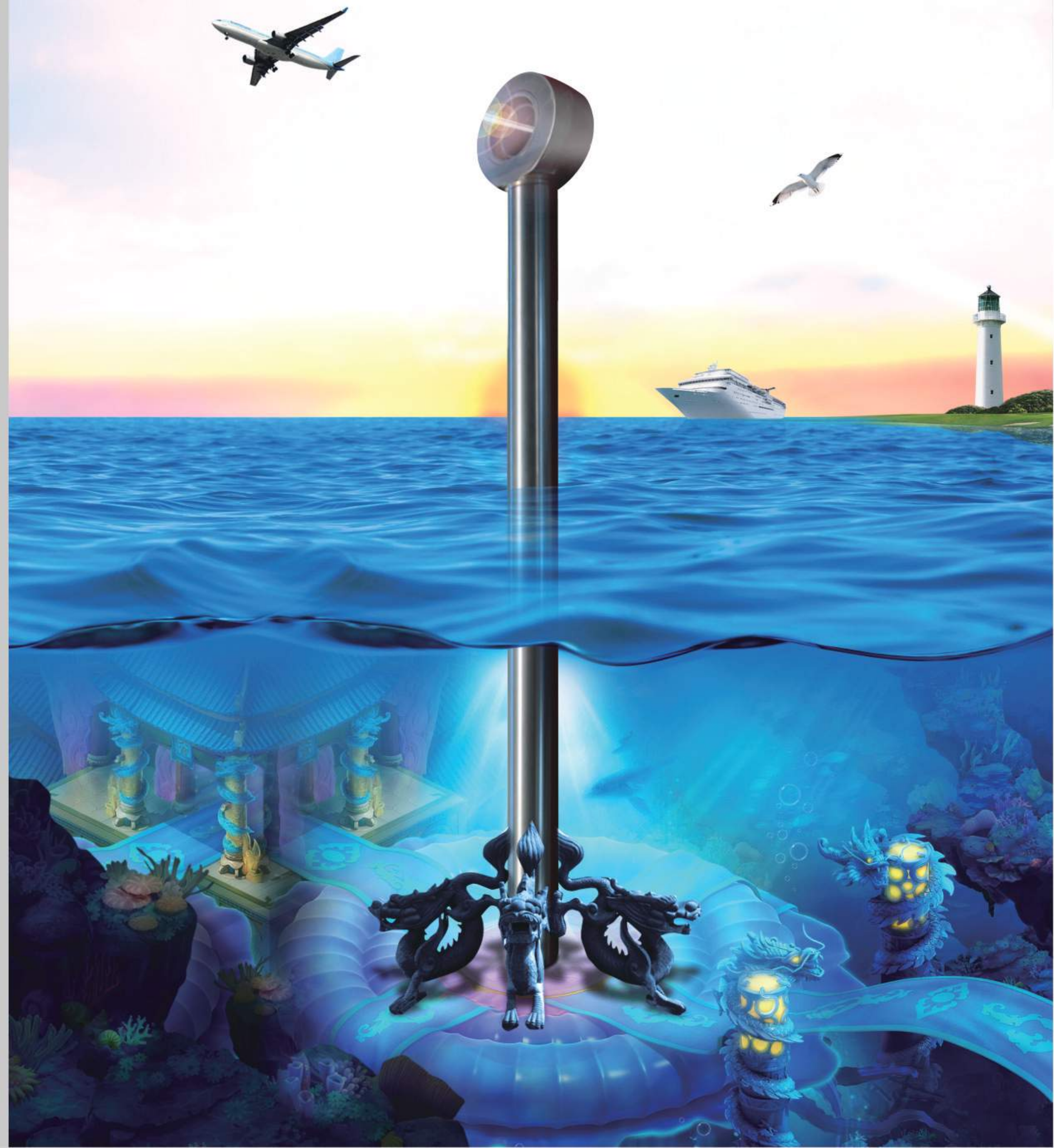


来源:全国人大办公厅、国务院办公厅、全国政协办公厅,各省、自治区、直辖市及计划单列市、副省级省会城市、新疆生产建设兵团、发展改革委、工业和信息化部、工业和信息化部、教育部、科技部、工业和信息化部、财政部、国土资源部、环境保护部、住房和城乡建设部、交通运输部、水利部、农业部、商务部、海关总署、税务总局、国务院、新华社总社、法制办、中宣公司等。

国家发展改革委办公厅 二〇一五年十二月三十一日印发

PIP™ 活塞杆的诞生, 标志着中国活塞杆首次领跑世界!

The birth of PIP piston rod marks that
China becomes the world leader in piston rod for the first time.





Catalogue

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企业简介 Company Introduction

湖南华民控股集团股份有限公司(股票代码SZ300345),成立于1995年,2012年在深圳证券交易所创业板上市。

公司秉持可持续发展理念,以绿色低碳为宗旨,专注于光伏新能源、耐磨铸件、金属表面改性技术(PIP技术)的研发和生产。在国家“双碳”战略目标的背景下,公司战略性布局高效N型单晶硅片、HJT电池专用硅片项目,将形成以硅片、电池组件及智慧电站为核心的光伏新能源产业链条。目前已先后在云南大理和安徽宣城投资建设“高效N型单晶硅棒、硅片项目”和“异质结电池专用单晶硅片项目”,形成以光伏新能源、耐磨新材料为核心的 一体两翼发展新格局。

公司始终保持旺盛的创新活力,站在行业前沿,引领行业进步,旨在用先进的技术和产品,致力成为全球卓越的新能源公司,为实现零碳未来贡献力量。

Hunan Huamin Holding Group Co., LTD. (stock code SZ300345), is founded in 1995 and listed on the Growth Enterprise Market of Shenzhen Stock Exchange in 2012.

Huamin Holdings adheres to the concept of sustainable development, with a focus on green and low-carbon principles. It is dedicated to the research and production of PV new energy, wear-resistant materials, and metal surface modification technology (PIP technology). In the context of the national "Dual Carbon" strategy, the company strategically lays out the high-efficiency N-type monocrystalline silicon wafer and HJT battery-specific silicon wafer projects, forming a PV new energy industry chain with silicon wafers, battery components, and smart power stations. The company has invested in the construction of "high-efficiency N-type monocrystalline silicon rod, silicon wafer project" in Dali of Yunnan Province, and "HJT battery-specific monocrystalline silicon wafer project" in Xuancheng of Anhui Province, aiming to create a new development pattern with PV new energy and wear-resistant materials as the core.

Huamin Holdings always maintains innovation and stands at the forefront of the industry. It aims to become a global outstanding new energy company, contributing to the realization of a better zero-carbon future.

发展历程 Development history

2002年

◎公司正式与中南大学建立产学研合作关系,并首次涉足耐磨新材料领域,开始研发生产铬锰钨系抗磨铸铁磨球专利产品。

◎ Formally establishing industry-university-research cooperation relationship with Central South University, the company made its first foray into wear-resistant new materials industry and started R&D and production of Cr-Mn-W series of abrasion resistant cast iron grinding ball patented product.

2010年

◎公司总部由湖南娄底搬迁至宁乡高新区;

◎公司研发团队完成台阶型筒体衬板的发明,首次形成了国内唯一的高效球磨综合节能技术解决方案。

◎ The company's headquarter was moved from Loudi, Hunan to Ningxiang High-tech Zone, Changsha, Hunan.

◎ The company's R&D team invented the stepped shell liner and developed the only high-efficiency ball mill comprehensive energy-saving technology solution in China.

2006年

◎公司引进中南大学技术股份和湘江产业风投资金,开始由传统产品制造型企业升级为技术服务型企业。

◎Established technical cooperation with Central South University and gained investment from CMXJ Industrial Investment, and began to upgrade from a traditional product manufacturer to a technical service provider.

2012年

◎公司正式在深圳证券交易所挂牌上市,成为中国节能耐磨新材料行业第一股,股票代码300345;

◎Went public on the Shenzhen Stock Exchange (stock code: 300345) and became the first listed company in China's energy-saving and wear-resistant new materials industry;

2015年

◎高效球磨综合节能技术入选《国家重点节能低碳技术推广目录》;

◎设立湖南红宇智能制造有限公司。

◎ The company's high-efficiency ball mill comprehensive energy-saving technology was selected into National Key Low-Carbon and Environmental Protection Technology Promotion Catalog.

◎ The company established Hunan Hongyu Intelligent Manufacturing Co., Ltd.

2016年

◎世界首条PIP可控离子渗入技术生产线在华民股份产业园建成投产;

◎The world's first Programmable Ion Permeate technology production line Built in Huamin Holdings industrial park;

2017年

◎成立四川红宇新材料科技有限公司;

◎“可控离子渗入技术(PIP)及其产业化”项目被鉴定为国际领先。

◎The establishment of the Sichuan Hongyu new Mstar Technology Ltd;

◎The "controllable ion penetration technology (PIP) and industrialization" project was identified as a leading international.

2020年

◎公司更名为湖南华民控股集团股份有限公司;

◎ The company renamed to be Hunan Huamin Holdings Co.,

2022年

◎收购鸿新新能源科技(云南)有限公司,布局光伏新能源业务;完成定向增发。

◎ Acquisition of Honsun Solar Technology (Yunnan) Co., Ltd., layout of solar business; Completed the private placement.

2023年

◎鸿新新能源光伏项目点火投产;成立鸿晖新能源,布局异质结电池专用单晶硅片项目。

◎ Honsun Solar "High-efficiency N-type monocrystalline silicon rod, silicon wafer project" put into production; Investment in the construction of heterojunction battery monocrystalline silicon wafer project.

产业布局 Industry layout



湖南长沙 Changsha, Hunan Province

华民股份管理总部; 鸿新新能源长沙运营中心;
宁乡业务中心“湖南省高效球磨及耐磨材料工程技术研究中心”及“耐磨材料生产基地”;
红宇智能PIP技术生产线

Huamin Holdings; Honsun Solar Changsha Operation Center; "
Hunan Engineering and Technology Research Center of High Efficient Ball Milling and Wear-Resistant Materials " in Nixiang; wear-resistant materials production base;
Hongyu intelligent PIP technology production line



四川攀枝花 Panzhihua, Sichuan Province

红宇科技耐磨材料生产基地
Hongyu Technology wear-resistant material production base



云南大理 Dali, Yunan Province

鸿新新能源“高效N型单晶硅棒、硅片项目”生产基地
Honsun Solar production base



山东东营 Dongying, Shandong Province

鸿新达海硅料生产基地
Honsun Dahai Silicon Production Base



安徽宣城 Xuancheng, Anhui Province

异质结电池专用单晶硅片项目
Heterojunction Battery Monocrystalline Silicon Wafer Project



江苏苏州 Suzhou, Jiangsu Province

鸿新新能源商务中心
Honsun Solar Business Center

人才汇 — 专家团队 Talent aggregation—Expert team

华民股份拥有数十项国家发明专利，先后与中南大学、清华大学、湖南大学、中国科学院等高校院所建立了长期紧密的产、学、研合作关系。

Huamin Holdings has dozens of national invention patents, and has established a long-term and close cooperation with Central South University, Tsinghua University, Hunan University, Chinese Academy of Science and so on.



邱冠周 院士

中国著名矿物工程学家，中国工程院院士，国家自然科学基金创新群体学术带头人。曾任中南大学副校长，现任中南大学教授、博士生导师，湖南华民控股集团股份有限公司院士工作站首席专家。

Academician Qiu Guanzhou is a renowned Chinese mineral engineering scientist, a member of the Chinese Academy of Engineering, a lead researcher of NSFC (Natural Science Foundation of China). He has served as the Vice-Chancellor of Central South University, and still serves as a Doctoral Tutor at present; meanwhile he is the chief expert of HUAMIN Academician workstation.



任立军 教授

中南大学材料学科带头人、硕士生导师。曾任中南大学抗磨材料研究所所长，高效球磨综合节能技术发明人，公司第一任总工程师、首席科学家。

Professor Ren Lijun was the Leader of material studies and Master Tutor in Central South University. He has served as Director of the Wear-resistant Institution in Central South University, High-efficiency Energy-saving technology for Ball Milling System. Chief Scientist and Chief Engineer of HUAMIN.



罗德福 教授

西华大学材料学科带头人、博士生导师，国务院特殊津贴专家。PIP可控离子渗入技术发明人。曾任国家精密工具工程中心主任，现任湖南红宇智能制造有限公司首席科学家。

Professor Luo Defu was the materials science leader and Doctoral supervisor of Xihua University, Special allowance expert of the State Council. He Once served as the Director of the National Precision Tool Engineering Center, and is currently the Chief Scientist of HunanHongyu Intelligent Manufacturing Co., Ltd.

高效球磨综合节能技术

High-efficiency Energy-saving technology for Ball Milling System

行业唯一入选《国家重点节能低碳技术推广目录》

The entire industry only selected
"national key energy saving low carbon technology promotion catalog"

公司以球磨系统全流程为视角，开展球磨设计理念创新，综合多项技术，首创了高效球磨综合节能技术解决方案，进一步助推矿山、水泥、火电、冶金等高能耗行业实现节能、降耗和提产。

The first efficient ball milling integrated energy saving technology solutions to help mine, cement, thermal power, metallurgy and other high energy consumption industries to achieve energy saving, consumption reduction and production.

应用行业 Application industry

火电行业磨煤机
The thermal power industry
coal grinding machine



水泥行业球磨机
Ball mill in cement industry

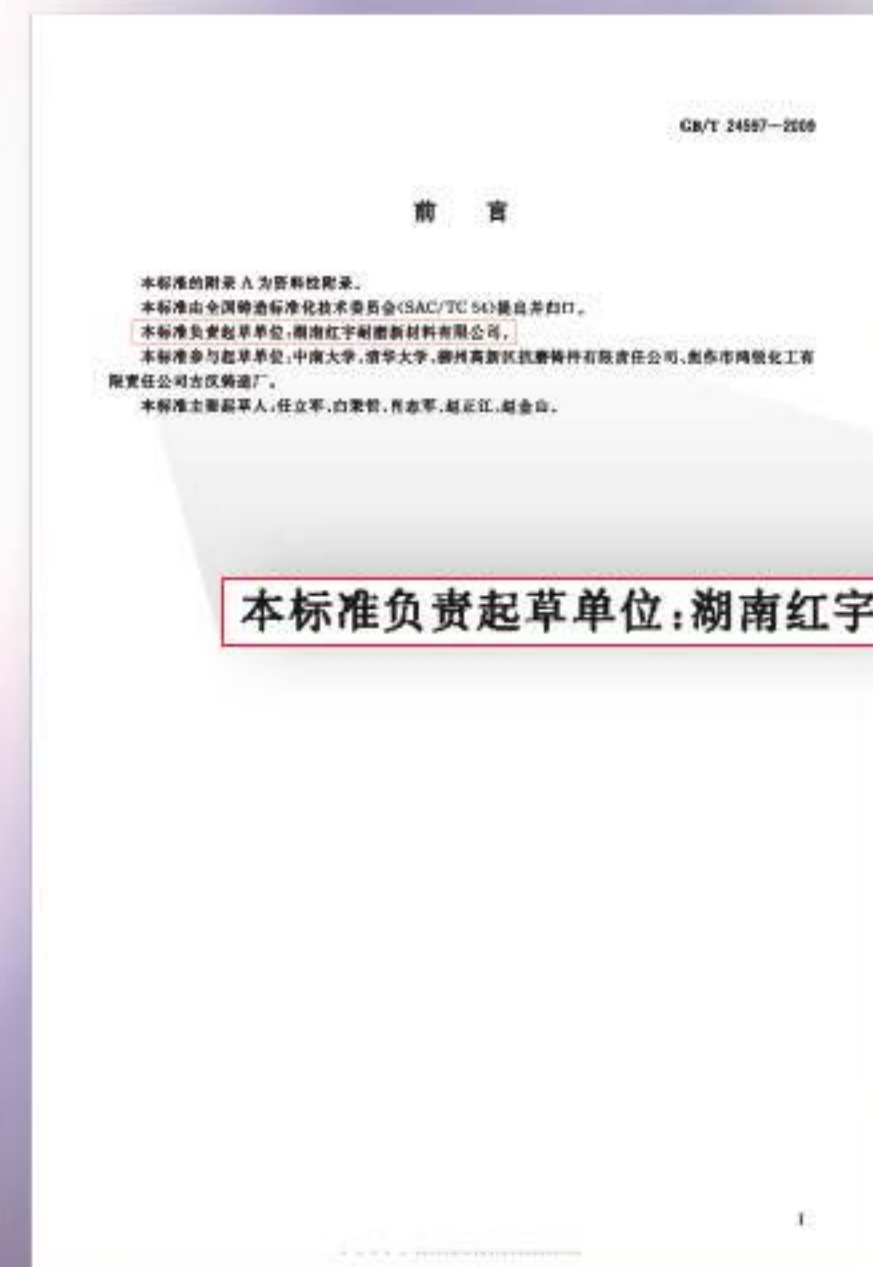
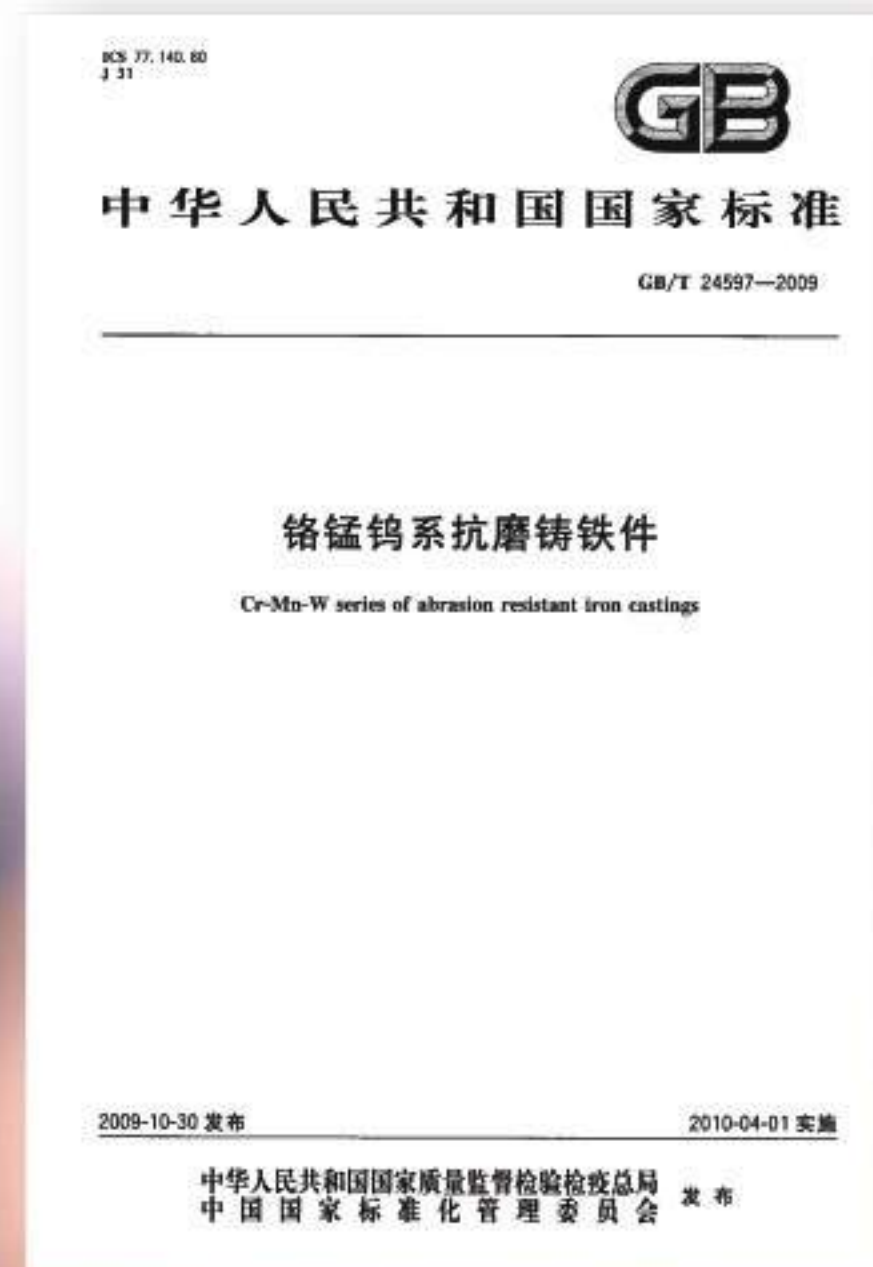


矿山行业球磨机
Ball mill of mine industry



铬锰钨系抗磨铸铁件国家标准起草单位

National standard setting unit of
Cr-Mn-W abrasion resistant iron castings

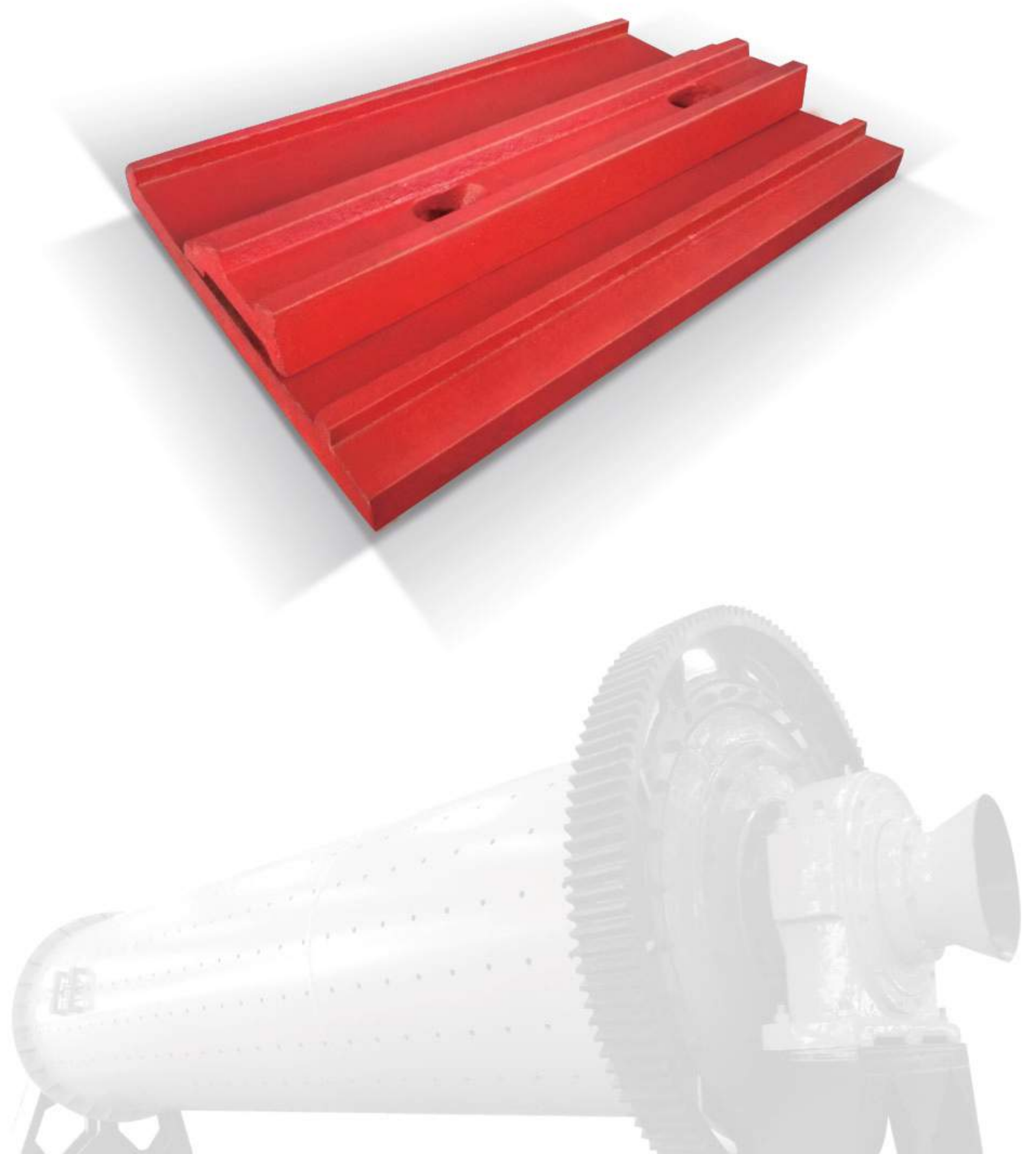


本标准负责起草单位：湖南红字耐磨新材料有限公司。



台阶形节能衬板 国家重点新产品 获国家发明专利

Energy-saving stepped liner
National key new products
National invention patent



核心技术 Core Technology

物料特性检测新技术 New testing technology for material properties

	特点	检测指标
我公司新技术	<p>我公司提出对物料新增研磨效率和破碎冲击功指标进行检测，设计开发了研磨效率测量仪、破碎冲击功检测仪，为级配和台阶形衬板结构设计提供全面、准确的依据。</p> <p>应用实际表明，技术成熟、效果显著。</p>	<p>检测指标4项（可磨性系数、普氏系数、研磨效率和破碎冲击功）</p> <p>独创研磨效率和破碎冲击功。</p>
传统技术	<p>用户对物料的检测比较重视，但通常仅检测可磨性系数和普氏系数</p> <p>耐磨铸钢供应商对物料不进行检测</p>	<p>检测指标2项（可磨性系数和普氏系数）</p>

磨球级配设计新技术 New design technology for grinding ball proportioning

	级配方案	产品提供方式
我公司新技术	<p>根据客户物料特性和独创的计算模型，进行个性化磨球级配设计，使装球量降低40-60%，从而达到提产、节电效果</p>	<p>物料检测 + 级配技术</p> <p>定制产品 + 技术服务</p> <p>根据客户工况定制磨球初装球级配和补球方案</p>
传统技术	<p>依靠经验配球，级配单一，以“不变应万变”装球量大，电力消耗高</p>	<p>产品</p> <p>只按用户要求的规格供应磨球</p>


衬板材料设计新技术 New design technology for liner materials

	特点
我公司新技术	<p>独创设计的锰硅铬钼低合金抗磨铸钢、锰钒钛新型抗磨铸钢、高分子耐磨材料用于衬板制作，耐磨性高、抗冲击、抗腐蚀、寿命长，对不同行业、不同的工况选用不同种类材料具有很强的适配性，寿命为普通高锰钢衬板1.3-2倍。</p>
传统技术	<p>普遍采用高锰钢材料进行衬板制作，耐磨性差，材料消耗多，寿命短，不同行业、工况适配性不强。</p>

磨球材料设计新技术 New design technology for grinding ball materials

开发出铬锰钨系抗磨铸铁磨球，获国家发明专利；起草了《铬锰钨系抗磨铸铁件》国家标准（GB/T24597-2009）

采用发明专利铬锰钨抗磨铸铁和独有生产工艺	是目前市场中的高端耐磨铸件产品	耐磨性大大提高 使用寿命增长	磨球失圆率大幅下降 减少球磨机装球量 提高球磨机研磨效率
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使用6000小时后失圆性比较	其他同类产品	我公司磨球 使用寿命提高倍数
	低铬铸铁磨球	2-4倍
	中锰贝氏体球墨铸铁磨球	1.5-2倍
	高铬铸铁磨球	1.5-2倍

衬板结构设计新技术 New design technology for liner structure

开发出台阶形筒体衬板，获国家发明专利，被评为2012年度国家重点新产品。

根据所需粉碎物料特性、磨球级配、球磨机转速、直径等多种因素，应用独有的数学模型，针对性地设计台阶高度和角度，最大程度发挥磨球研磨和破碎效果。	台阶形筒体衬板在球磨机运转过程中，带球高度、带球量明显优于波形衬板，提高球磨机研磨效率，减少球磨机装球量，从而提高产量，降低电耗。	首创可拆式台阶形衬板，降低了材料消耗。
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台阶形衬板



传统波形衬板

VS

主要产品 Key Products

	产品名称	产品特点
	磨球	突破原有的铬锰钨球材料设计理念，采用铬锰钨复合碳化物细化材料的碳化物晶粒，使材料磨损的均匀性及耐磨性得到显著改善，从而降低磨球的失圆率、稳定磨球级配、提高小直径磨球的利用率。
	整体式台阶形衬板	针对物料特性量身定做，可有效控制磨球落着点，大幅度提高球磨机的产量，降低球磨机电耗，改善球磨机的出料细度。
	分体式台阶形衬板	由新型抗磨材料铸造而成，抗磨性好，耐冲击，且底板与波峰独立生产，可自由拆卸，易安装，使用寿命长，波峰磨损后易更换。
	耐磨橡胶、耐磨铸钢组合式衬板	底板采用特殊耐磨橡胶制造，波峰采用耐磨金属材料制造，重量轻，高耐磨，耐腐蚀，耐冲击，易安装，低噪音，能有提高衬板使用寿命，并能降低球耗，降低磨机电耗。
	抗磨塑料、耐磨铸钢组合式衬板	底板采用抗磨塑料制造，波峰采用耐磨金属材料制造，密度小，重量更轻，抗冲击强度高，耐腐蚀，易安装，低噪音，能有提高衬板使用寿命，并能降低球耗，降低磨机电耗。

应用效果 Application effect

矿山行业 Mining industry

球磨机型号 Ball mill type	节电 Energy Saving	提产 Productivity Improvement	细度优化 Kuangfen finer	球耗降低 (与高铬球相比) Consumption Reduction Compared with high chromium ball
MQY5070	10-15%	5-10%	2-3%	50-60%
MQY4560	8-12%	5-10%	0-2%	/
MQY4067	8-12%	0-6%	0-2%	50-60%
MQY4060	10-18%	0-8%	0-2%	50-60%
ZTMG3245	10-15%	0-5%	1-5%	40-50%
MQG3660	25-30%	5-10%	1-3%	40-50%

水泥行业 Cement industry

球磨机型号 Ball mill type	节电 Energy Saving	提产 Productivity Improvement	细度优化 Kuangfen finer	球耗降低 (与高铬球相比) Consumption Reduction Compared with high chromium ball
φ 3.8×7+2.5m	12-25%	5-10%	0-2%	50-60%
φ 3.5×7m	23-26%	20-30%	2-4%	60-70%
φ 4.2×13m	4-12%	0-10%	0-2%	40-60%

火电行业 Thermal power industry

球磨机型号 Ball mill type	节电 Energy Saving	提产 Productivity Improvement	细度优化 Kuangfen finer	球耗降低 (与高铬球相比) Consumption Reduction Compared with high chromium ball
BBD4060	20-40%	0-30%	0-5%	40-60%
MGS4360	15-30%	0-30%	0-5%	40-60%
DTM3570	20-40%	0-30%	0-5%	40-60%

弯管、耐磨套材料设计新技术

New Design Technology of Elbow and Wear-Resistant Sleeve Materials

弯管、耐磨套材料设计新技术依托中南大学抗磨材料研究所,对传统弯管和耐磨套的材料、工艺进行了升级,开发出中南9#、中南20#新材料,相比现有弯管、耐磨套材料,具有淬透性好、耐磨性高、不易开裂等性能,其生产成本低,输送要求可达8万方以上,提高了工程机械备件的使用寿命和稳定性,降低使用成本。

The new design technology of elbow and wear-resistant sleeve materials relied on the Institute of Wear-resistant Materials of Central South University. The materials and technology of traditional elbow and wear-resistant sleeve were upgraded, and Zhongnan 9# and Zhongnan 20# new materials were developed. Compared with the existing elbow and wear-resistant sleeve materials, the new materials have good hardenability, high wear resistance, resistance to cracking and other properties, and their production cost is low. The transportation capacity can reach more than 80,000 cubic meters, which improves the service life and stability of spare parts of construction machinery and reduces the use cost.

主要产品 Main products



产品优势 Product advantage

1、经久耐用 品质稳定 Durable and stable quality

材料创新设计,通过成分配比调整和独特的热处理工艺,使产品拥有更高的耐磨性、抗冲击性,同时产品表面和芯部性能一致,产品有更高的稳定性,输送要求可达8万方以上。

With innovative material design, through the adjustment of composition ratio and unique heat treatment process, it endows the products with higher wear resistance and impact resistance. At the same time, the surface and core properties of products are consistent, so that the products have higher stability, and the transportation capacity can reach more than 80,000 cubic meters.

2、降低成本 性价比高 Low cost and high cost performance

独特的材料设计和生产工艺可保障产品拥有优异的性能,降低生产成本,使产品拥有更高的性价比。

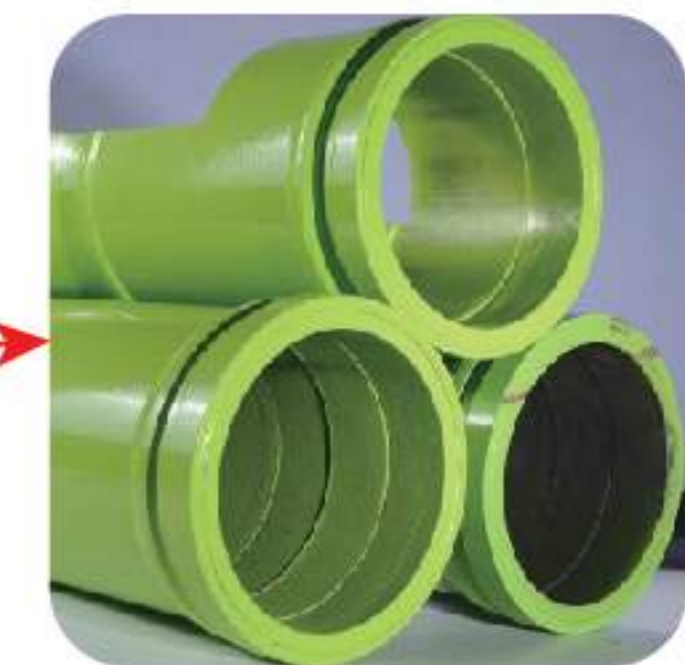
The unique material design and production technology can guarantee the excellent performance of products, reduce the production cost and enable products to enjoy higher cost performance.

3、定制研发 按需生产 Customized R&D and on-demand production

华民股份在材料设计、铸造工艺设计、热处理工艺设计等关键技术环节拥有完整技术体系和自主知识产权,可根据不同客户产品的使用环境、性能需求定制化开发产品,提供适配解决方案。

The Company has a complete technical system and independent intellectual property rights in key technical links such as material design, casting process design, and heat treatment process design, and it can customize products and provide adaptive solutions according to the use environment and performance requirements of different customers.

应用领域 Application area



工程机械泵车管道
Engineering machinery pump truck pipeline



“可控离子渗入技术 (PIP) 及其产业化”项目被鉴定为国际领先

"The programmable ion permeation technology (PIP) and its industrialization" project has been identified as an international leader



PIP™ 可控离子渗入技术

The programmable ion permeation technology



PIP™

提升机械工业竞争力

Enhance the Competitiveness of Machinery Industry

“替代镀铬的绿色环保可控离子渗入技术及工业应用”荣获“第八届绿色制造科学技术进步奖”一等奖

The "Green and Environment-friendly Programmable Ion Permeation Technology Alternative to Chromium Plating and Its Industrial Applications" won the first prize of the "8th Green Manufacturing Science and Technology Progress Award"



“军用地面雷达关键零部件长寿命 PIP 技术研究及应用”荣获“中国腐蚀与防护学会科学技术奖”一等奖

The "Research and Application of Long-life PIP Technology for Key Components of Military Ground Radar" won the first prize of "Science and Technology Award of China Corrosion and Protection Society"



“低温深层绿色可控离子渗入技术及其产业化”项目荣获“中国机械工业科学技术奖”科技进步奖三等奖

The "Low-temperature Deep Green Programmable Ion Permeation Technology and Its Industrialization" project won the third prize of Science and Technology Progress Award of "China Machinery Industry Science and Technology Award"



国际领先 International Leading Technology

PIP可控离子渗入技术是国际领先的金属表面处理技术，生产过程绿色环保，综合性能是国际同类先进技术的2.27倍，可大幅提升机械工业关键零部件的性能。

IP controlled ion permeation technology is a leading international metal surface treatment technology, green production process, comprehensive performance is 2.27 times the international advanced technology, can greatly improve the performance of the key parts of the machinery industry.

滑动磨损试验耐磨性对比 Comparison of wear resistance of sliding wear test

PIP相对磨损量: PIP Relative wear rate:	0.12	基材: 45#钢 检测标准: 试块滑动磨损试验(GB/T12444-2006) Substrate: 45# steel Test standard: test block sliding wear test (GB/T12444-2006)
电镀铬相对磨损量: Chrome plating Relative wear rate:	0.46	

中性盐雾试验抗腐蚀性对比 Comparison of corrosion resistance of neutral salt spray test

PIP活塞杆10级测试: PIP Start to rust time:	1000小时hours	检测标准: ASTM B117-09盐雾测试标准 Test standard: ASTM B117-09 salt spray test standard
电镀铬活塞杆10级测试: Chrome plating Start to rust time:	120小时hours	

绿色环保 Environmental-friendly

清洁生产 Cleaner production



PIP可控离子渗入技术，是非常清洁的生产工艺，没有重金属，实现资源节约和环境友好。

The programmable ion permeation technology. It does not contain any heavy metal and has realized zero discharge of waste water and exhaust gas.

污染物零排放 Zero emissions of pollutants



PIP技术是绿色环保技术，实现污染物零排放，环保监测证明：废水经处理后达到渔业类用水标准。

The programmable ion permeation technology is a green technology, has realized zero discharge of waste water and exhaust gas. After treatment, the wastewater can reach the standard of fishery water.

应用领域 Application area

工程机械

Construction machinery



活塞杆
Piston Rod

销轴
Pins

模具

Mould



模具
Mould

汽车零部件

Auto parts



齿轮
Wheel Gear

活塞环
Piston Ring

离合器片
Clutch Plate

军工

Military industry

轻武器
Light weapon

轨道交通

Rail way



芯轴
Core Shaft

刹车片钢背
Brake pads steel back



PIP活塞杆应用在挖机上
PIP Piston Rod
is used in digging machines



华民股份

为市场创造精品，为客户创造价值，
Create fine products for the market,
value for our customers,
为社会创造财富，为员工创造机会。
wealth for the society and opportu-
nities for employees.

主要客户 Major clients

耐磨铸件客户 Wear resistant castings customers



PIP客户 PIP customers

