



磨料整体解决方案供应商

TOTAL SOLUTION PROVIDER FOR STEEL ABRASIVES

ZX METAL



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山东中兴金属制品有限公司
SHANDONG ZHONGXING METAL PRODUCTS CO., LTD

ABOUT US

关于我们

专注

Concentration

专注磨料行业 40 余年
Focus on abrasive industry for more than 40 years

专业

Professional

严格执行磨料产品相关标准: ISO SAE JIS DIN
Strictly implement abrasive industry standards: ISO & SAE

卓越

Excellence

因为细节所以卓越
Excellence comes from the accumulation of details

共赢

Mutual benefits

合作共赢是长期发展的主旋律
The collaboration is the source of power

创新

Innovation

提升产品技术核心竞争力
Improve the core competitiveness of manufacturing technology

诚信

Honesty

诚信经营共建文明
Practice honesty and Mutual trust



ABOUT US 关于我们

40年+

企业生产历史
40+ Years of
Manufacturing Experience

6万m²+

工厂占地面积
60,000+m²
Production Facility

20万吨+

年生产能力
200,000+ Tons Annual
Production Capacity

50+

多个国家 + 地区
50+ Countries and
Regions Served

120+

公司员工
120+ Employees

16家

国内分公司
16 Domestic Branches

5家

海外分公司
5 Overseas Branches

500+

全球客户
500+ Global Customers

山东中兴金属制品有限公司始创于 20 世纪 80 年代，2004 年正式成立，是一家集研发、生产、销售与技术服务于一体的专业金属磨料制造企业，致力于为全球客户提供高品质金属磨料产品及喷抛丸整体解决方案。

公司长期专注于金属磨料领域，主要产品涵盖钢丸、钢砂、轴承钢砂、钢丝切丸、不锈钢切丸、研磨丸以及铝丸、锌丸、铜丸等有色金属磨料，产品广泛应用于船舶制造、铸造、汽车制造、钢结构、机械装备、航空航天、石油化工及表面处理等行业。

凭借持续的技术创新和研发投入，公司建立了完善的生产制造体系，拥有先进自动化生产设备和专业研发团队，并积极开展产学研合作，在金属磨料材料、生产工艺优化及应用技术提升等领域持续探索与创新。

公司坚持“专注、专业、创新、服务”的发展理念，以客户需求为导向，通过严格的质量管理体系和持续的工艺改进，为客户提供稳定、高效、定制化的磨料解决方案。

目前，公司产品已出口至欧美、日本、韩国、澳洲、巴西、俄罗斯等 50 多个国家和地区，并与众多国内外知名企业建立长期合作关系。

未来，山东中兴金属将持续推动金属磨料行业技术升级，以创新驱动发展，为全球制造业提供更加高效、环保、可靠的表面处理解决方案。



Shandong Zhongxing Metal Products Co., Ltd. was incorporated in 2004, with its predecessor originating from a steel shot factory founded in 1982. The company integrates R&D, manufacturing, sales and technical services, focusing on providing high-quality metal abrasives and complete shot blasting solutions for global customers.

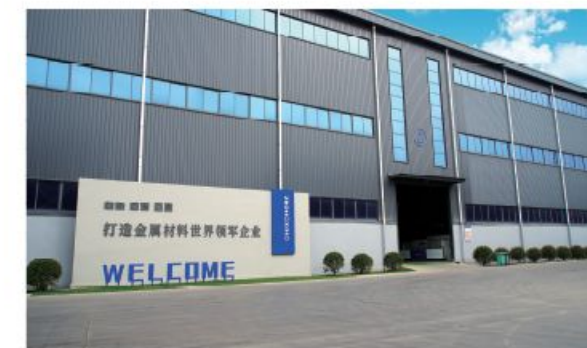
With years of experience in the metal abrasive industry, Zhongxing Metal specializes in a comprehensive range of products, including steel shot, steel grit, bearing steel grit, cut wire shot, stainless steel cut wire shot, conditioned cut wire shot, aluminum shot, zinc shot and copper shot. These products are widely used in industries such as shipbuilding, foundry, automotive manufacturing, steel structures, machinery, aerospace, petrochemical and surface treatment.

Driven by continuous technological innovation and investment in R&D, the company has established a comprehensive manufacturing system equipped with advanced production facilities and professional technical teams. Zhongxing Metal actively cooperates with universities and research institutions, continuously improving abrasive materials, manufacturing processes and application technologies.

Following the philosophy of "Focus, Professionalism, Innovation and Service", Zhongxing Metal is committed to providing customers with stable, efficient and customized abrasive solutions through strict quality control and continuous process improvement.

Today, Zhongxing Metal's products are exported to more than 50 countries and regions, including Europe, America, Japan, Korea, Australia, Brazil and etc. and the company has established long-term partnerships with many well-known domestic and international enterprises.

Looking forward, Zhongxing Metal will continue to promote technological advancement in the metallic abrasive industry and provide global manufacturing industries with more efficient, environmentally friendly and reliable surface treatment solutions.



CORPORATE HONORS

企业荣誉

我们始终坚信不经历巨大的困难定不会有伟大的事业，所以我们历经了无数风霜成就今日的傲骨寒梅，我们一步一个脚印走向辉煌，成为了行业的领军者。我们已经收获了多项荣誉奖项。

We always firmly believe that without enduring great hardships, there can be no great achievements. Thus, through countless trials, we have forged the proud and resilient plum blossom of today. We have strived step by step toward glory and become leaders in the industry. We have already won numerous honors and awards.



INNOVATION LEADS QUALITY FIRSTS

创新引领 品质当先

山东中兴金属制品有限公司始终坚持技术创新与产品研发，致力于推动金属磨料行业的技术升级与应用发展。公司先后获得国家高新技术企业、专精特新企业等荣誉资质，建立了完善的研发创新体系，并持续投入于金属磨料产品、生产工艺及智能制造技术的研发。

公司拥有多项自主知识产权及技术专利，研发方向涵盖钢丸、钢砂、钢丝切丸、不锈钢切丸等金属磨料产品的生产装备优化、制造工艺改进及性能提升。

同时，公司积极开展产学研合作，与相关高校及科研机构保持技术交流，在金属磨料材料研发、表面处理技术及应用工艺优化等领域持续探索。

凭借先进的生产技术、严格的质量管理体系以及持续创新能力，公司不断提升产品性能和应用价值，为铸造、汽车、船舶、钢结构、机械制造及高端表面处理行业客户提供更加高效、稳定的磨料解决方案。

目前，公司已建立完善的国际质量管理体系，通过 ISO 9001 质量管理体系认证、ISO 14001 环境管理体系认证、ISO 45001 职业健康安全管理体系认证，产品远销全球多个国家和地区。

Shandong Zhongxing Metal Products Co., Ltd. is committed to technological innovation, product development and the advancement of metallic abrasive technologies.

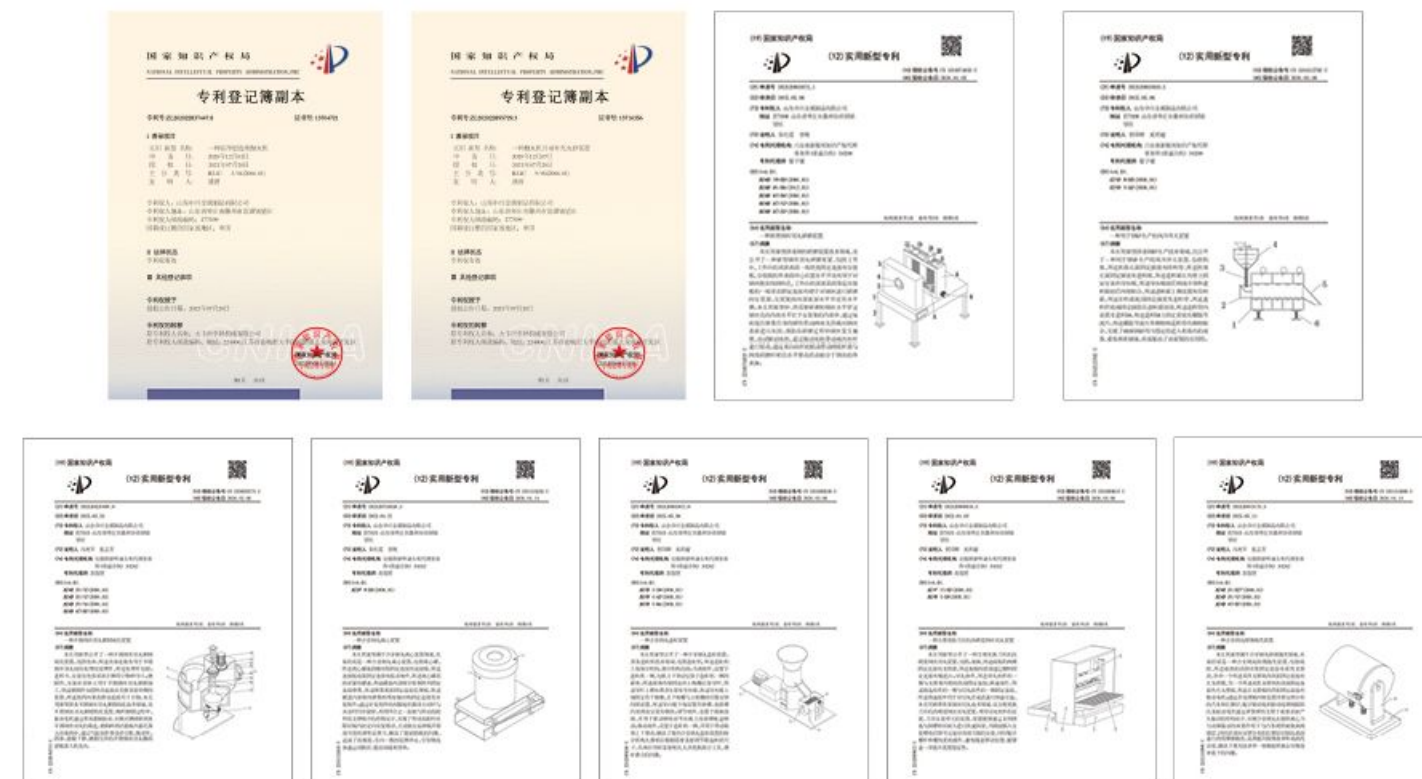
The company has been recognized as a National High-Tech Enterprise and Specialized & Innovative Enterprise, with a comprehensive R&D system focusing on metallic abrasive products, manufacturing processes and intelligent production technologies.

Zhongxing Metal owns multiple independent intellectual property rights and technical patents, covering areas including production equipment optimization, manufacturing process improvement and performance enhancement of steel shot, steel grit, cut wire shot and stainless steel abrasives.

The company actively promotes industry-academia-research cooperation and maintains technical communication with universities and research institutions, continuously exploring innovations in abrasive materials, surface treatment technologies and application processes.

With advanced manufacturing capabilities, strict quality management systems and continuous innovation, Zhongxing Metal improves product performance and provides efficient and reliable abrasive solutions for industries including foundry, automotive, shipbuilding, steel structures, machinery manufacturing and advanced surface treatment.

The company has established comprehensive international quality management systems and obtained ISO 9001 Quality Management System Certification, ISO 14001 Environmental Management System Certification and ISO 45001 Occupational Health and Safety Management System Certification. Its products are exported to multiple countries and regions worldwide.



PRODUCTION PROCESS

生产工艺与装备

山东中兴金属采用严格控制的生产工艺，从原材料选择到成品包装，全流程保障产品质量稳定和性能一致。

Shandong Zhongxing Metal applies strict manufacturing processes from raw material selection to final packaging, ensuring stable quality and consistent product performance.



原材料 | Raw Materials

精选优质钢材及合金原材料，并进行严格检测，确保化学成分稳定，为高性能金属磨料生产提供可靠基础。

High-quality steel and alloy materials are carefully selected and strictly inspected to ensure stable chemical composition and reliable performance.



熔炼 | Melting

采用先进熔炼工艺，对原材料进行高温熔炼并精准控制合金元素比例，确保产品性能稳定。

Advanced melting technology is applied with precise control of alloy composition to ensure stable product performance.



造粒 | Granulation

通过离心雾化工艺将钢液形成均匀颗粒，获得良好的球形度一致的粒形基础。

Molten steel is transformed into uniform particles through centrifugal atomization, providing excellent roundness and consistent particle formation.



筛分 | Selection

通过多级筛分和分类处理，控制产品粒度分布，确保规格精准统一。

Multi-stage screening and classification are used to control particle size distribution and remove defect.



二次淬火 | Double Quenching

采用二次淬火工艺优化材料组织，提高产品硬度、韧性及抗冲击性能。

Double quenching technology optimizes the microstructure and improves hardness, toughness and impact resistance.



回火 | Tempering

通过回火处理调整内部组织结构，使产品获得良好的强度与韧性平衡，提升循环使用寿命。

Tempering treatment improves the internal structure, achieving an optimal balance between strength, toughness and service life.



破碎 | Crushing

针对钢砂等棱角型磨料，通过精准破碎工艺形成符合要求的颗粒形状。

For angular abrasives such as steel grit, controlled crushing processes are applied to achieve the required particle shape.



精筛 | Screening

采用精细筛分技术，进一步控制粒度范围和颗粒一致性，保证产品满足客户应用要求。

Precision screening further controls particle size range and consistency to meet global standard and specific customer requirements.



包装 | Packaging

根据客户需求提供多种包装方式，确保产品在储存和运输过程中的安全性和完整性。

Various packaging options are available to ensure safe storage and transportation.

SMART& GREEN

智能制造与绿色可持续发展

智能制造 / Smart Manufacturing

山东中兴金属持续优化生产工艺，引入智能化生产设备，实现生产过程的精细化控制。

公司采用先进风冷工艺，减少水资源消耗和废水产生，同时提升产品性能稳定性，实现更加环保、高效的制造过程。

Shandong Zhongxing Metal continuously improves production processes with advanced manufacturing equipment and precise process control. By adopting air-cooling technology, we reduce water consumption and wastewater generation while improving production efficiency and product.



绿色可持续发展 / Green Sustainability

中兴金属致力于提供高寿命、低消耗的金属磨料产品。

通过优化材料配方和生产工艺，钢丸具有优异的耐磨性和抗冲击性能，可在抛丸过程中多次循环使用，减少磨料消耗，帮助客户降低生产成本，实现更加绿色、可持续的表面处理。

We provide high-performance metal with long service life and low consumption. Through optimized materials and manufacturing processes, our steel shot offers excellent wear resistance and impact strength, enabling multiple recycling cycles during blasting operations, reducing abrasive consumption and supporting sustainable surface treatment.



QUALITY CONTROL
质量控制

质量是山东中兴金属长期发展的核心。公司建立严格的全过程质量控制体系，从原材料到成品出厂，对每一道关键工序进行检测与追踪，确保每批产品具有稳定的性能和一致的品质。

Quality is the foundation of Shandong Zhongxing Metal's long-term development. We have established a strict full-process quality control system, inspecting and monitoring every critical stage from raw materials to finished products to ensure stable performance and consistent quality.



光谱仪
Spectrometer



红外碳硫分析仪
Infrared carbon and sulfur analyzer



硬度 | Hardness test

通过硬度检测控制产品硬度范围，确保磨料具有：稳定冲击性能、良好耐磨性、优异循环使用寿命

Hardness testing ensures controlled hardness levels, providing Stable impact performance Excellent wear resistance Long service life



显微组织 | Microstructure

通过金相显微镜分析内部组织结构，确保：组织均匀、无异常缺陷、性能稳定

Metallographic analysis is performed to ensure: Uniform microstructure Reduced internal defects Stable mechanical performance



粒度分布 | Size distribution

通过精密筛分检测粒径分布，确保：规格精准 粒度均匀、喷丸效果稳定

Precision screening is used to control particle size distribution, ensuring: Accurate sizing Uniform particles Stable blasting performance



疲劳寿命 | LifeSpan test

通过专业寿命测试设备评估产品循环使用性能，确保磨料在长期冲击过程中保持：良好的抗破碎能力、稳定性能输出、较长使用寿命

Fatigue life testing evaluates abrasive durability under repeated impact conditions, ensuring: Excellent fracture resistance Stable performance Extended service life

全流程质量追溯
Full Batch Traceability

通过完善的数据记录体系，实现：
原材料可追溯
生产过程可追溯
检测数据可追溯
产品批次可追溯
确保每批产品满足全球客户对于稳定性、一致性和可靠性的要求。

Through comprehensive data management, we achieve:
Raw material traceability
Production process traceability
Inspection data traceability
Batch traceability
ensuring every shipment meets global customers' requirements for reliability, consistency and performance.

SIZE DISTRIBUTION BY GRADE
分级筛选规范 - 累计保留百分比

钢丸 / steel shot

Mesh	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
SAE	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.300	0.180	0.125
S780	All Pass		>85	>97												
S660		All Pass		>85	>97											
S550			All Pass		>85	>97										
S460			All Pass	<5		>85	>96									
S390				All Pass	<5		>85	>96								
S330					All Pass	<5		>85	>96							
S280						All Pass	<5		>85	>96						
S230							All Pass	<10		>85	>97					
S170								All Pass	<10		>85	>97				
S130									All Pass	<10			>85	>97		
S110										All Pass	<10		>80	>90		
S70												All Pass	<10		>80	>90

钢砂 / steel grit

Mesh	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
SAE	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.300	0.180	0.125	0.075
G10	All Pass		>80	>90													
G12		All Pass		>80	>90												
G14			All Pass		>80	>90											
G16				All Pass		>75	>85										
G18					All Pass		>75		>85								
G25						All Pass	<30		>70			>80					
G40							All Pass	<30				>70		>80			
G50								All Pass						>65	>75		
G80												All Pass			>65	>75	
G120														All Pass		>60	>70

PRODUCT

产品介绍

钢丸 / Steel Shot

钢丸是一种高性能球形金属磨料，广泛应用于抛丸清理、表面预处理、除氧化皮、铸件清理及喷丸强化等领域。山东中兴金属采用优质合金钢原料，通过先进熔炼、热处理及筛分工艺生产钢丸产品。凭借均匀的颗粒形状、稳定的硬度和优异的抗冲击性能，为客户提供高效、稳定、低消耗的表面处理解决方案。

Steel shot is a spherical metallic abrasive widely used for shot blasting, surface cleaning, descaling, and shot peening. Shandong Zhongxing Metal produces high-quality steel shot through advanced melting, heat treatment, and screening processes. With uniform shape, stable hardness, and excellent impact resistance, our steel shot delivers efficient blasting performance and long service life.

产品优势：

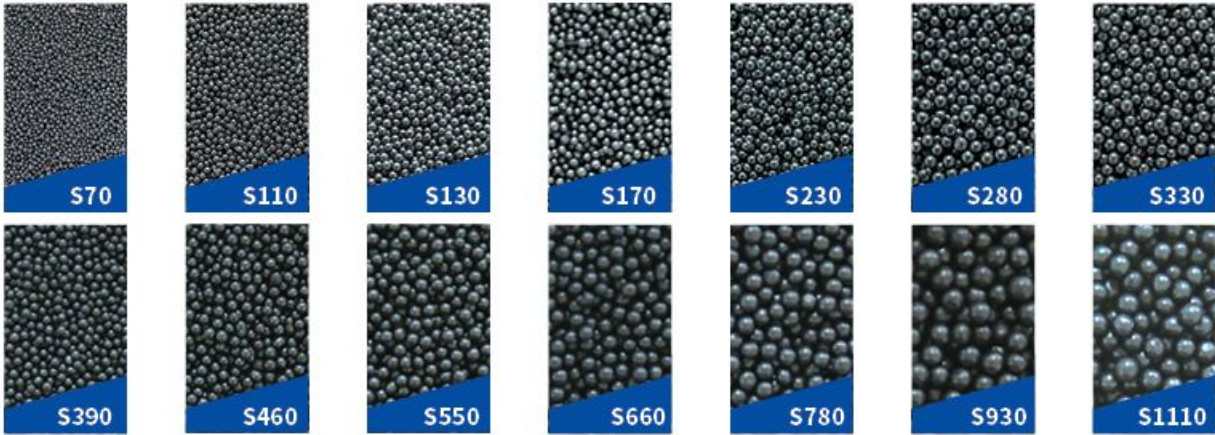
高效清理能力：有效去除型砂、氧化皮、铁锈及表面杂质，提高生产效率。
长使用寿命：优化化学成分及热处理工艺，具有良好的耐磨性和抗冲击性能，降低磨料消耗。
稳定表面效果：均匀粒度分布和稳定硬度，确保一致的表面处理质量。
降低设备磨损：优良球形结构减少过度切削，延长抛丸设备使用寿命。

Product Advantages:

High Cleaning Efficiency: Effectively removes rust, scale, sand, and surface contaminants.
Long Service Life: Excellent wear resistance and impact strength reduce abrasive consumption.
Stable Surface Finish: Uniform size distribution ensures consistent blasting results.
Low Equipment Wear: Spherical particles reduce cutting action and extend equipment life.

主要应用：铸造 | 钢结构 | 船舶制造 | 汽车零部件 | 机械制造 | 表面处理

Main applications: Foundry | Shipbuilding | Steel Structure | Automotive Parts | Machinery | Surface Treatment



产品规格 / Product Specifications

项目 (Item)		高碳钢丸 High Carbon Steel Shot	
		标准要求 Standard Specification	中兴控制标准 Zhongxing Control Standard
化学成分 (Chemical Composition)	碳 / C	0.80-1.20%	0.80-1.20%
	锰 / Mn	0.60-1.20%	0.60-1.20%
	硅 / Si	0.4% min	0.5% min
	硫 / S	0.05% max	0.035% max
	磷 / P	0.05% max	0.035% max
密度 Density (g/cm³)		7.0Min	7.3Min
硬度 Hardness (HRC)		通常 HRC 40-51, 可根据需求定制 (Commonly HRC 40-51, customizable upon request)	
金相组织 (Microstructure)		回火马氏体 (Tempered martensite)	
形状 (Shape)		圆形 / 球形 (Round / Spherical)	
定制 (Customization)		可根据需求提供尺寸、硬度及包装定制 (Size, hardness and packaging available upon request)	

PRODUCT

产品介绍

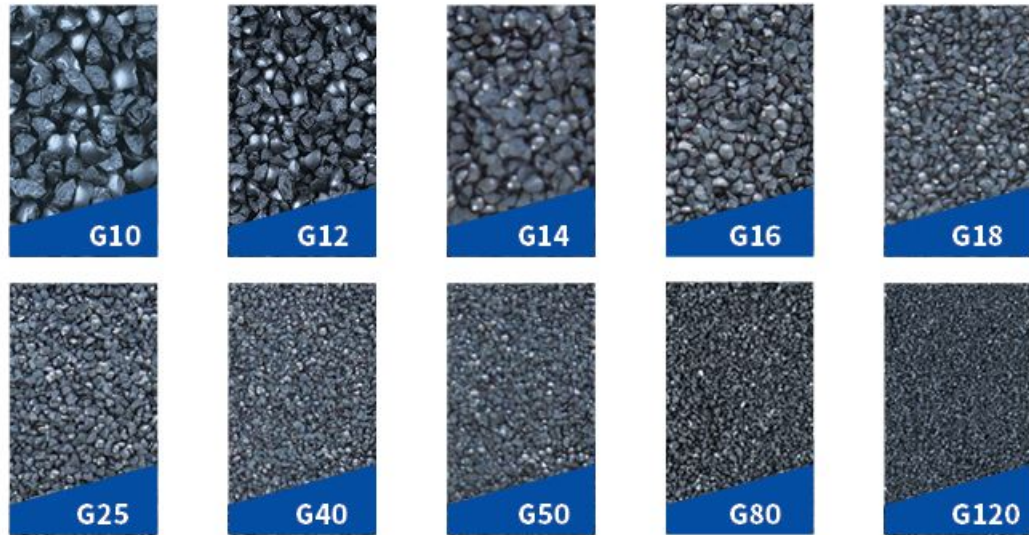
钢砂 / Steel Grit

钢砂是一种棱角形金属磨料，广泛应用于重型表面处理、除锈、除氧化皮、钢材预处理以及表面粗糙度处理等领域。山东中兴金属采用优质合金钢原料，通过先进熔炼、热处理及筛分工艺生产钢砂产品。凭借锋利的棱角、高耐磨性和优异的抗冲击性能，为客户提供高效、稳定、低消耗的表面处理解决方案。

Steel grit is an angular metallic abrasive widely used for heavy-duty surface preparation, rust removal, descaling, steel surface preparation, and surface profiling. Shandong Zhongxing Metal manufactures steel grit using high-quality alloy steel raw materials through advanced melting, heat treatment, and screening processes. With sharp edges, high wear resistance, and excellent impact durability, our steel grit provides efficient, stable, and low-consumption surface treatment solutions.

主要应用：船舶制造 | 钢结构 | 铸造 | 工程机械 | 金属表面处理 | 钢材预处理

Main applications: Shipbuilding | Steel Structure | Foundry | Construction Machinery | Metal Surface Treatment | Steel Surface Preparation



产品规格 / Product Specifications

标准 (Standard)		标准要求 Standard Specification		中兴控制标准 Zhongxing Control Standard	
化学成分 (Chemical Composition)	碳 / C	0.80-1.20%		0.80-1.20%	
	锰 / Mn	0.60-1.20%		0.60-1.20%	
	硅 / Si	0.4% min		0.5% min	
	硫 / S	0.05% max		0.035% max	
	磷 / P	0.05% max		0.035% max	
密度 Density (g/cm³)		7.0Min		7.3Min	
硬度 Hardness (HRC)		GP	GL		GH
		40-51	54-60		60Min
金相组织 (Microstructure)		回火马氏体 (Tempered martensite)			
形状 (Shape)		棱角状 (Angular)			
定制 (Customization)		可根据需求提供尺寸、硬度及包装定制 (Size, hardness and packaging available upon request)			

PRODUCT

产品介绍

低碳钢丸 / Low Carbon Steel Shot

低碳钢丸是一种高韧性、高寿命金属磨料，专为连续式、高效率抛丸生产设计。

相比传统高碳钢丸，低碳钢丸具有更好的抗冲击性能和颗粒稳定性，在长期循环使用过程中保持较低破碎率和较少粉尘产生，有效降低磨料消耗和生产成本。

Low Carbon Steel Shot is a high-toughness, long-life metallic abrasive designed for continuous and high-efficiency blasting operations.

Compared with traditional high carbon steel shot, it offers better impact resistance, lower breakdown rate, and less dust generation during repeated use, helping reduce abrasive consumption and overall production costs.

产品优势：

低破碎率，使用寿命长：优异的韧性使钢丸在多次冲击后保持完整颗粒形态，减少补充频率。

减少粉尘产生：降低钢丸破碎产生的粉末，提高工作环境和抛丸效果。

稳定清理性能：保持均匀粒度和稳定冲击力，确保连续生产中的一致表面质量。

降低综合成本：减少磨料消耗和设备维护，提高生产效率。

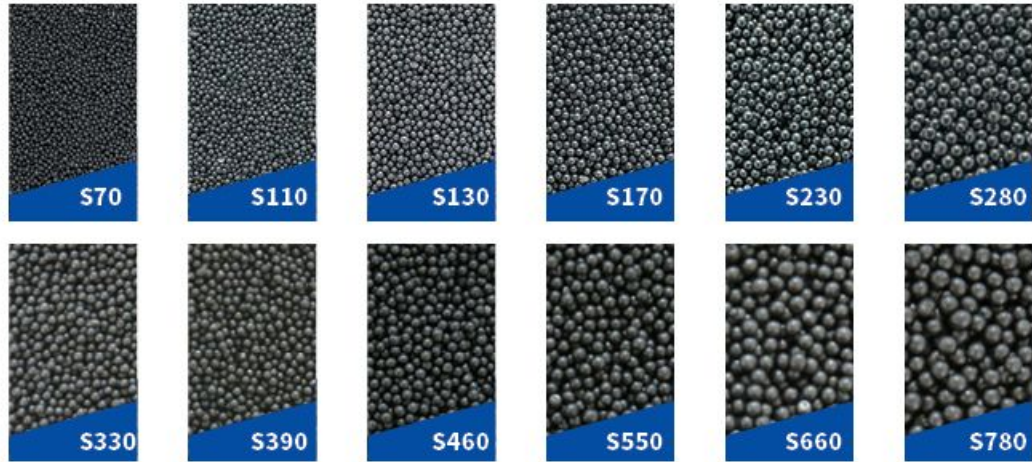
Product Advantages:

Low Breakdown Rate & Long Service Life: Excellent toughness maintains particle integrity and extends service life.

Less Dust Generation: Reduces broken particles and improves blasting efficiency.

Stable Cleaning Performance: Consistent size distribution and impact performance ensure uniform surface treatment.

Lower Operating Cost: Reduces abrasive consumption and equipment maintenance costs.



产品规格 / Product Specifications

项目 (Item)		低碳钢丸 Low Carbon Steel Shot	
		SAEJ2175	ISO11124/GB18838
化学成分 (Chemical Composition)	碳 / C	0.10-0.15%	0.08-0.20%
	锰 / Mn	1.20-1.50%	0.35-1.50%
	硅 / Si	0.10-0.25%	0.10-2.00%
	硫 / S	0.035% max.	0.05% max.
	磷 / P	0.035% max.	0.05% max.
硬度 Hardness (HRC)		通常 HRC 40-51 (Commonly HRC 40-51)	
金相组织 (Metallurgical structure)		贝氏体组织 (Bainite structure)	
密度 Density (g/cm³)		≥ 7.2g/cm³	
形状 (Shape)		圆形 / 球形 (Round / Spherical)	
定制 (Customization)		可根据需求提供尺寸、硬度及包装定制 (Size, hardness and packaging available upon request)	

PRODUCT

产品介绍

ST 强化钢丸 / ST Strengthened Steel Shot

ST 强化钢丸是山东中兴金属自主研发的高性能金属磨料，采用特殊热处理工艺制造，通过优化合金成分，控制高锰、低硫、低磷含量，提升钢丸的韧性、抗冲击性能和疲劳寿命。

相比普通钢丸，ST 强化钢丸在长期循环使用过程中具有更低的破碎率、更稳定的性能表现以及更低的使用成本，适用于高效率、连续化抛丸生产。

ST Strengthened Steel Shot is a high-performance metallic abrasive developed by Shandong Zhongxing Metal. Manufactured through a special heat treatment with optimized alloy composition and high manganese, low sulfur, and low phosphorus control, it delivers superior toughness, impact resistance, and life-span.

Compared with conventional steel shot, ST Steel Shot provides lower breakdown rate, longer service life, and lower abrasive consumption for continuous blasting operations.

产品优势：

特殊热处理：优化金相组织，提高钢丸抗冲击能力和循环使用寿命。

高锰高铬低磷配方：提升产品韧性和疲劳性能，降低破碎率。

长寿命，低消耗：减少磨料补充频率，降低生产成本。

稳定抛丸效果：保持稳定硬度和粒度分布，确保一致的表面处理质量。

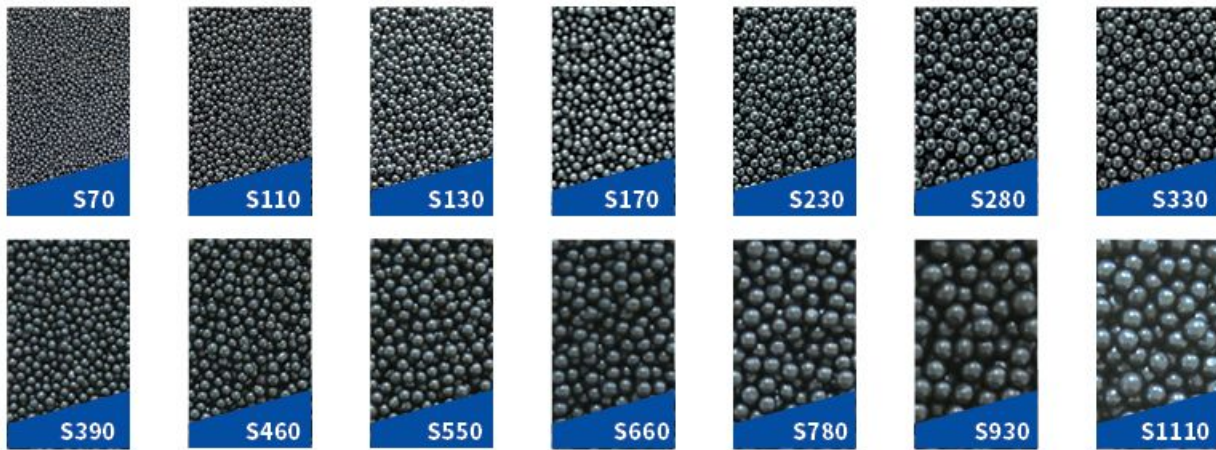
Product Advantages:

Special heat treatment: Enhanced microstructure for improved impact resistance and durability.

High Manganese & Chromium Low Sulfur & Phosphorus: Improved toughness and fatigue performance with reduced breakage.

Long Life & Low Consumption: Reduces abrasive replacement frequency and operating costs.

Stable Blasting Performance: Consistent hardness and size distribution ensure uniform surface treatment.



产品规格 / Product Specifications

项目 (Item)		ST 强化钢丸 ST Strengthened Steel Shot
化学成分 (Chemical Composition)	碳 / C	0.85-1.20%
	锰 / Mn	0.70-1.20%
	硅 / Si	0.50-1.00%
	硫 / S	≤ 0.03%
	磷 / P	≤ 0.03%
	铬 /Cr	0.15-0.50%
硬度 Hardness (HRC)		40-51HRC
金相组织 (Metallurgical structure)		板条状回火马氏体 (Uniform Tempered Martensite)
密度 Density (g/cm³)		7.5g/cm³
欧文寿命 (Lifespan)		使用寿命较普通钢丸提升至少 20%(Min 20% longer than normal steel shot)

PRODUCT

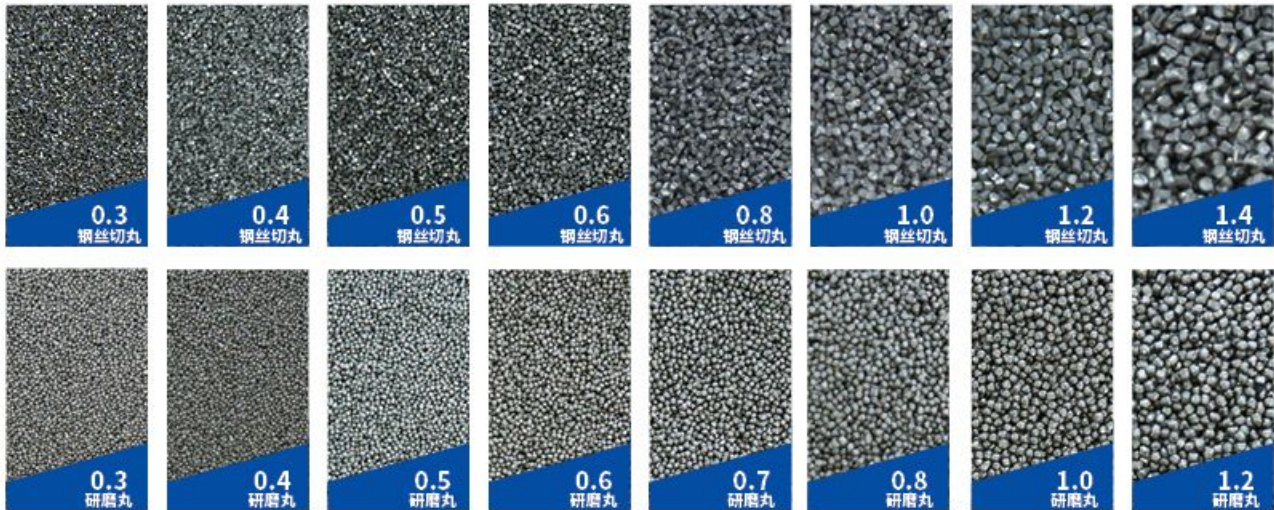
产品介绍

钢丝切丸 研磨丸 / Steel cut wire shot

CWS 系列钢丝切丸采用优质钢丝切割成型，颗粒尺寸均匀、形状规则，具备优异的一致性与可控性。在喷丸强化过程中，可提供更稳定的冲击能量与覆盖效果，特别适用于对强化效果、尺寸精度及工艺一致性要求严格的应用场景。

Steel cut wire shot is manufactured from high-quality steel wire cut into uniform cylindrical particles. With consistent particle size, high density and strong impact energy, it is widely used for shot peening, deburring, surface strengthening and precision surface treatment.

Our steel cut wire shot provides more uniform size control and stable peening performance. It is especially suitable for applications requiring consistent coverage, repeatable impact energy and controlled surface treatment results.



研磨等级 / Grinding grade

等级 (Grade)	特点 (Characteristics)	应用 (Applications)
G1	初级圆整处理，保留部分切割边缘，清理效率高 (Partially rounded with cutting edges, high cleaning efficiency)	普通清理、除锈、表面处理 (General cleaning, rust removal)
G2	中等圆整度，兼顾清理效率与表面质量 (Medium roundness, balanced cleaning and surface finish)	汽车零部件、机械加工件 (Automotive parts, machinery parts)
G3	高圆整度，接近球形颗粒，表面冲击更柔和 (High roundness, smooth impact, better surface quality)	精密铸件、喷丸强化、高质量表面处理 (Precision castings, shot peening)

产品规格 / Product Specifications

项目 (Item)		钢丝切丸 / 研磨丸 Steel Cut Wire Shot
化学成分 (Chemical Composition)	碳 / C	0.45-0.85%
	锰 / Mn	0.30-1.30%
	硅 / Si	0.15-0.35%
	硫 / S	0.05% max
	磷 / P	0.05% max
硬度 Hardness (HRc)		44Min
型号 (size)		0.3mm-3.0mm 可根据需求定制 (0.3mm-3.0mm, customizable upon request)
金相组织 (Metallurgical structure)		形变索氏体 (deformed sorbite)
密度 Density (g/cm³)		7.8g/cm³Min

PRODUCT

产品介绍

不锈钢切丸 / Stainless Steel Cut Wire

研磨丸 SSC / Stainless Steel Shot

无污染·高洁净·稳定可控的喷丸解决方案

SSC 系列不锈钢切丸采用优质不锈钢丝切割成型，颗粒尺寸均匀，具备良好的冲击稳定性与一致性表现。在喷丸及表面处理过程中，不会引入铁污染，特别适用于不锈钢及有色金属材料的加工，可有效避免因残留杂质引发的表面腐蚀风险。在保证表面洁净度的同时，实现稳定高效的处理效果，满足高标准制造场景的应用需求。

Pollution free, high cleanliness, stable and controllable shot blasting solution

SSC series stainless steel cut wire shot is manufactured by cutting high-quality stainless steel wire into precise particles. With uniform particle size, it provides excellent impact stability and consistent performance during shot blasting and surface treatment processes. During blasting and surface finishing operations, SSC stainless steel cut wire shot does not introduce iron contamination, making it particularly suitable for processing stainless steel and non-ferrous metal materials. It effectively reduces the risk of surface corrosion caused by residual impurities. While maintaining high surface cleanliness, SSC delivers stable and efficient treatment performance, meeting the application requirements of high-standard manufacturing industries.



研磨等级 / Grinding grade

等级 (Grade)	特点 (Characteristics)	应用 (Applications)
G1	初级圆整处理，保留部分切割边缘，清理效率高 (Partially rounded with cutting edges, high cleaning efficiency)	普通清理、除锈、表面处理 (General cleaning, rust removal)
G2	中等圆整度，兼顾清理效率与表面质量 (Medium roundness, balanced cleaning and surface finish)	汽车零部件、机械加工件 (Automotive parts, machinery parts)
G3	高圆整度，接近球形颗粒，表面冲击更柔和 (High roundness, smooth impact, better surface quality)	精密铸件、喷丸强化、高质量表面处理 (Precision castings, shot peening)

产品规格 / Product Specifications

等级 (Grade)		SUS430	SUS410	SUS304	SUS302	SUS202
		1.4016	1.4006	1.4301	1.4325	1.4373
化学 成分 (Chemical Composition)	C	< 0.12%	< 0.15%	< 0.07%	< 0.15%	< 0.15%
	Cr	16.0-18.0%	11.5-13.5%	17.5-19.5%	17.0-19.0%	17.0-19.0%
	Ni	< 0.60%	< 0.60%	8.0-10.5%	8.0-10.0%	4.0-6.0%
	Mn	< 1.0%	< 1.0%	< 2.0%	< 2.0%	7.5-10.0%
	Si	< 1.0%	< 1.0%	< 1.0%	< 1.0%	< 1.0%
	S	< 0.03%	< 0.03%	< 0.015%	0.03%	< 0.03%
	P	< 0.04%	< 0.04%	< 0.045%	0.045%	< 0.05%
	Mo	/	/	/	2.0-3.0%	/
	N	/	/	< 0.11%	< 0.10%	0.05-0.25%
硬度 (Hardness)		300-750HV(Customization available)				
型号 (size)		0.3mm-3.0mm 可根据需求定制 (0.3mm-3.0mm, customizable upon request)				

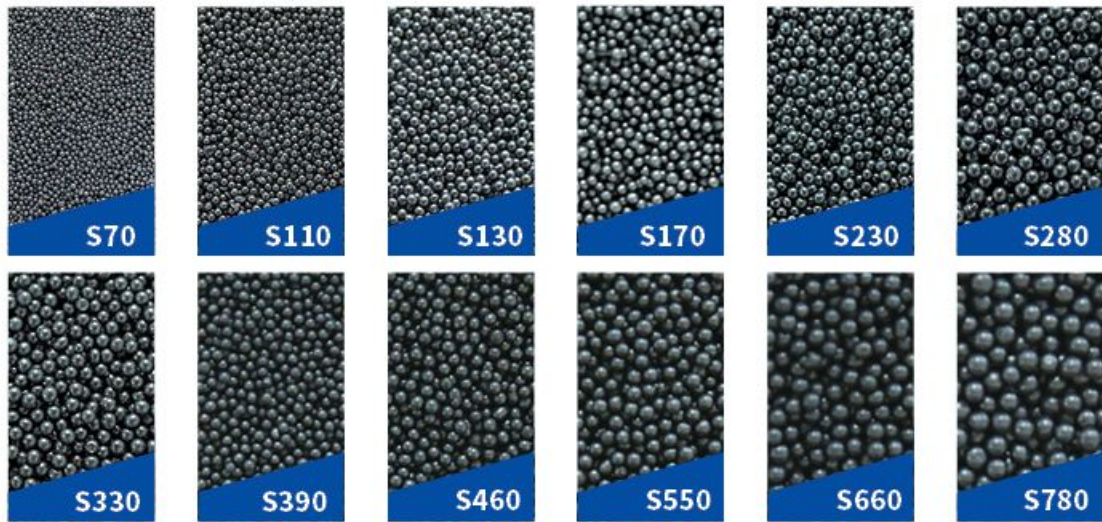
PRODUCT

产品介绍

强化钢丸 / Peening Shot (Shot Peening Media)

Peening Shot 是一种专门为 **喷丸强化工艺 (Shot Peening)** 开发的高性能金属磨料，旨在提升零部件的：疲劳强度、表面耐久性、使用可靠性。

Through controlled manufacturing processes and strict quality inspection, Peening Shot provides stable peening intensity and repeatable performance, making it suitable for high-performance components requiring enhanced fatigue resistance and extended service life.



产品规格 / Product Specifications

项目 (Item)	参数 (Available Range)
形状 (Shape)	球形 / 近球形 (Spherical/Near spherical)
粒径范围 (Particle size range)	0.15–2.0 mm (可定制) (0.15–2.0 mm Customization)
硬度 (Hardness)	52min (可根据应用需求定制) 52min(customizable according to application requirements)
硬度均匀性 (Uniformity of hardness)	≤ ±3 HRC
密度 (Density)	钢基产品 ≥ 7.5 g/cm ³ ; 不锈钢产品 ≥ 7.8 g/cm ³ (Steel based products ≥ 7.5 g/cm ³ ; Stainless steel products ≥ 7.8 g/cm ³)
球形率 (Sphericity ratio)	≥ 90%
粒度分布 (particle size distribution)	严格控制，均匀稳定 (Strict control, uniform and stable)
表面状态 (surface state)	表面光滑、洁净，无明显尖锐边缘 (Smooth and clean surface, without obvious sharp edges)
内部质量 (Internal Quality)	低气孔率、低缺陷率 (Low porosity and low defect rate)
使用寿命 (service life)	高耐久性，适用于长周期循环使用 (High durability, suitable for long-term cyclic use)
磁性能 (magnetic properties)	可根据材料需求提供不同磁性能产品 (Different magnetic products can be provided according to material requirements)
定制 (Customization)	尺寸、硬度、材料及包装定制 (Size, hardness, conditioning level and packaging available)

PRODUCT

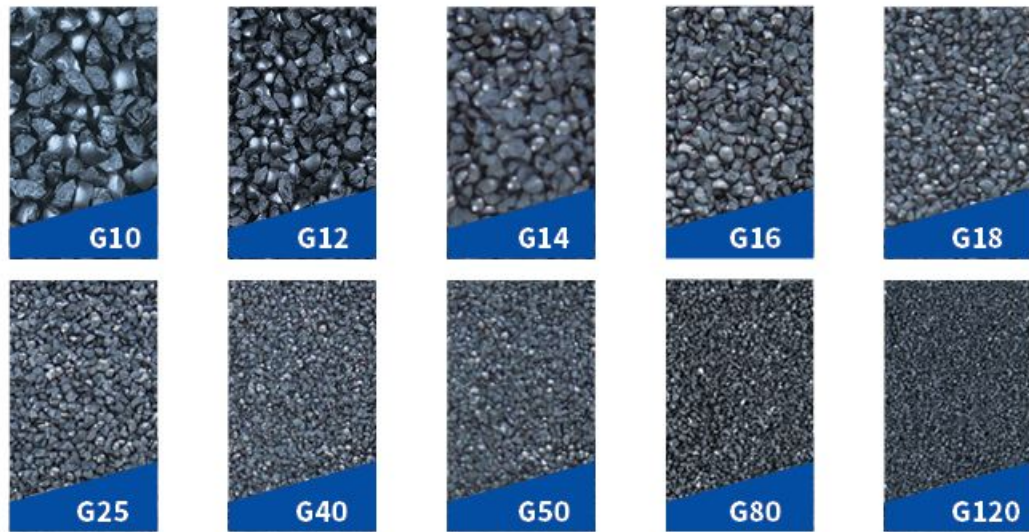
产品介绍

轴承合金钢砂 / Bearing Alloy Steel Grit

面向重载表面处理的高耐磨金属磨料解决方案。

轴承合金钢砂是一种采用高品质轴承合金钢制造的高性能棱角状金属磨料。相比普通铸钢砂，轴承合金钢砂具有：更高硬度、更优异耐磨性、更强抗冲击性能，能够在高强度抛丸过程中提供更强切削能力和更长使用寿命。

A high wear-resistant metal abrasive solution for heavy-duty surface treatment.
Bearing Alloy Steel Grit is a premium angular metallic abrasive manufactured from high-quality alloy bearing steel.
Compared with conventional cast steel grit, bearing steel grit features higher hardness, superior wear resistance and excellent impact durability, providing stronger cutting performance and longer service life during aggressive blasting operations.



产品规格 / Product Specifications

项目 (Item)	参数 (Available Range)	
产品名称 (Product Name)	轴承合金钢砂 (Bearing Alloy Steel Grit)	
材料 (Material)	高碳铬轴承钢 (High Carbon Chromium Bearing Steel)	
形状 (Shape)	棱角状 (Angular)	
硬度 (Hardness)	GP(40-51) GL(54-60) GH(60Min)	
金相组织 (Microstructure)	回火马氏体 (Tempered Martensite)	
密度 (Density)	≥ 7.5 g/cm ³	
化学成分 (Chemical Composition)	元素 (element)	含量 (content)
	(碳) C	0.90–1.10%
	(铬) Cr	0.7–1.65%
	(硅) Si	0.15–1.12%
	(锰) Mn	0.25–1.0%
	(磷) P	≤ 0.04%
	(硫) S	≤ 0.04%

PRODUCT

产品介绍

有色金属切丸 / Non Ferrous Cut Wire Shot

有色金属切丸采用铝、锌、铜等有色金属材料制造，具有无铁污染、高洁净度和稳定处理性能等特点。适用于非铁金属零部件表面清理、精整、去毛刺及喷丸处理。

Nonferrous metal cutting pellets are made of non-ferrous metal materials such as aluminum, zinc, and copper, which have the characteristics of no iron pollution, high cleanliness, and stable processing performance. Suitable for surface cleaning, finishing, deburring, and shot peening of non-ferrous metal components.



铝切丸 / Al Cut Wire Shot

铝切丸主要用于铝铸件和铝锻件的表面清理、表面精整及去毛刺处理。处理过程中不会在工件表面留下铁污染残留物，同时能够产生明亮、均匀一致的表面效果。

Al Cut Wire Shot is used for the surface cleaning/finishing and deburring of Al castings and forgings. It is very durable and leaves no ferrous residue on the workpieces. It also produces a bright and uniform surface finish on the workpieces.



锌切丸 / Zn Cut Wire Shot

锌切丸是一种相对柔软的磨料，但具有较高密度，能够提供良好的冲击能量。相比钢铁磨料或铝磨料，具有更少粉尘、更长寿命以及更低设备磨损。

Zn Cut Wire is a relatively soft abrasive with a high density giving it good kinetic energy. It creates less dust than steel or Al abrasives, has a long life cycle and causes relatively low wear on machine parts.



铜切丸 / Cu Cut Wire Shot

铜切丸广泛用于抛丸处理、喷丸强化以及去除油漆和涂层处理。

Cu Cut Wire is widely used in various industries for shot blasting, shot peening, and processes to remove paints.

产品规格 / Product Specifications

项目 (Item)	铝切丸 (Al CW)	锌切丸 (Zn CW)	铜切丸 - 黄铜 (Cu CW-Brass)	铜切丸 - 红铜 (Cu CW-Red)
化学成分 (Chemical Composition)	Al: 99.7% / 99.5%	Zn: ≥ 99.0%	Cu: 62% Zn: 37.5%	Cu: 99%min.
硬度 (Hardness)	35-45 HV / 70-125 HV	35-65 HV	110-300 HV	
抗拉强度 (Tensile Intensity)	80-140 MPa	90-120 MPa	200-500 MPa	
密度 (比重) (Specific Gravity)	2.7 g/cm³	7.1 g/cm³	8.6 g/cm³	
堆积密度 (Bulk Density)	1.5 g/cm³	4.1 g/cm³	5.1 g/cm³	
金相组织 (Microstructure)	变形 α 相 (Deformed α)	变形 α 相 (Deformed α)	变形 α 相 或 α+β 相 (Deformed α or α+β)	
应用 (Application)	清理 / 精整 / 去毛刺 (Cleaning/FinishingDeburring)	去毛刺 / 去飞边 (Deburring/Deflashing)	清理 / 喷丸强化 / 去毛刺 (Cleaning/Peening/Deflashing)	
适用范围 (Scope of Application)	铝铸件、铝锻件、镁铸件 (Aluminum Castings & Forgings, Magnesium Castings)	铝铸件、镁铸件、锌铸件 (Aluminum Casting & Magnesium/Zinc Casting)	压铸件 (Die casting)	
形状 (Shape)	圆柱形 (切割状态 / As Cut) 球形 (研磨整形后 / Conditioned)			
规格尺寸 (Specification dimension)	0.6-2.5 mm (其他尺寸可根据客户需求提供) 0.6-2.5 mm(Other sizes available on request)			

PRODUCT

产品介绍

非金属磨料 / Non-Metallic Abrasives

产品类别：棕刚玉 (Brown Fused Alumina) / 白刚玉 (White Fused Alumina) / 石榴石 (Garnet)

原料属性：棕刚玉、白刚玉为人工熔炼磨料；石榴石为天然矿石加工磨料。

核心优势：棕刚玉耐用、切削效率高、通用性强；白刚玉高纯度、低污染、精度高；石榴石低粉尘、可循环、性能稳定、适配场景多元。

Product Category: Brown Fused Alumina/ White Fused Alumina/ Garnet

Raw material properties: Brown Fused Alumina and White Fused Alumina are artificially melted abrasives; Garnet is a natural mineral processing abrasive.

Core advantages: Brown Fused Alumina is durable, has high cutting efficiency, and strong versatility; High purity, low pollution, and high precision of White Fused Alumina; Garnet is low in dust, recyclable, stable in performance, and adaptable to diverse scenarios.



棕刚玉 / Brown Fused Alumina

棕刚玉是一种坚韧耐用的非金属磨料，由高品质铝矾土经过高温熔融制成。具有高硬度、强切削能力和良好的耐磨性能，广泛用于喷砂处理、表面预处理、除锈、去除涂层以及研磨加工。

Brown Fused Alumina is a tough and durable non-metallic abrasive made from high-quality bauxite through high-temperature fusion. With high hardness, strong cutting ability and good wear resistance, it is widely used for sandblasting, surface preparation, rust removal, coating removal and grinding applications.



白刚玉 / White Fused Alumina

白刚玉是一种高纯度非金属磨料，由高品质氧化铝粉经过高温熔融制成。相比棕刚玉，白刚玉具有更高纯度、更洁净外观和更低杂质含量。

White Fused Alumina is a high-purity non-metallic abrasive made from high-quality alumina powder through high-temperature fusion. Compared with Brown Fused Alumina, it has higher purity, cleaner appearance and lower impurity content, making it suitable for applications requiring clean surface treatment and controlled finishing quality.



石榴石 / Garnet

石榴石是一种天然非金属磨料，具有良好的硬度、锋利边缘和稳定切削性能。广泛用于喷砂、表面处理、除锈、去除涂层以及水刀切割。

Garnet is a natural non-metallic abrasive with good hardness, sharp edges and stable cutting performance. It is widely used for sandblasting, surface preparation, rust removal, coating removal and waterjet cutting applications.

产品规格 / Product Specifications

项目 (Item)	棕钢玉 (Brown Fused Alumina)	白钢玉 (White Fused Alumina)	石榴石 (Garnet)
材料 (Material)	铝矾土基氧化铝磨料 (Bauxite-based alumina abrasive)	高纯氧化铝 (High-purity alumina)	天然石榴石矿物 (Natural garnet mineral)
颜色 (Color)	棕色 / 深棕色 (Brown / Dark brown)	白色 (White)	红色 / 红棕色 / 深红色 (Red / Reddish brown / Dark red)
形状 (Shape)	棱角状 (Angular)	棱角状 (Angular)	棱角状 (Angular)
硬度 (Hardness)	高硬度 (High hardness)	高硬度 (High hardness)	高硬度天然磨料 (High hardness natural abrasive)
主要成分 (Main Component)	Al ₂ O ₃	Al ₂ O ₃	石榴石矿物成分 (Garnet mineral composition)
应用 (Application Type)	喷砂、研磨、表面处理 Sandblasting, grinding, surface preparation	精密喷砂、研磨、抛光、表面精整 Precision blasting, grinding, polishing, surface finishing	喷砂、表面处理、水刀应用 Sandblasting, surface preparation, waterjet-related use
定制 (Customization)	粒度、等级、包装可定制 Particle size, grade and packaging available upon request	粒度、等级、包装可定制 Particle size, grade and packaging available upon request	粒度、等级、包装可定制 Particle size, grade and packaging available upon request

TECHNOLOGY AND SERVICES

技术和服务

售前服务 / Pre-Sales Service

专业支持，帮助客户选择最佳磨料方案。

山东中兴金属根据客户的工件材料、表面处理要求及设备条件，提供专业磨料选型建议，帮助客户提高抛丸效率、优化成本并获得稳定处理效果。

Professional Support for the Right Abrasive Solution

Shandong Zhongxing Metal provides professional abrasive selection advice based on workpiece material, surface treatment requirements and blasting conditions, helping customers improve efficiency,

①磨料选型咨询 / Abrasive Consulting

根据客户应用需求，推荐合适的磨料类型、粒度和硬度，包括钢丸、钢砂、切丸、不锈钢磨料及非金属磨料等。

We recommend suitable abrasive types, sizes and hardness levels according to customer requirements, including steel shot, steel grit, cut wire shot, stainless steel abrasives and non-metallic abrasives.

②定制化解决方案 / Customized Abrasive Solutions

针对不同行业和应用场景，提供个性化磨料方案，帮助客户提升清理效果、降低磨料消耗并提高生产稳定性。

We provide customized abrasive solutions for different industries and applications, helping customers improve cleaning performance, reduce abrasive consumption and achieve stable production.

售后服务 / After-Sales Service

持续技术支持，保障长期稳定运行。

山东中兴金属提供持续售后支持，帮助客户解决使用过程中的问题，保持稳定的抛丸效果。

Continuous Technical Support for Long-Term Performance

Shandong Zhongxing Metal provides continuous after-sales support to help customers solve application problems and maintain stable blasting performance.

①技术问题分析 / Technical Problem Analysis

针对磨料消耗、清理效果、粉尘、表面质量等问题，提供专业分析和改善建议

We analyze issues related to abrasive consumption, cleaning performance, dust generation and surface quality, providing practical improvement suggestions.

②产品优化调整 / Abrasive Optimization Support

根据实际应用效果，优化磨料类型、粒度、硬度及使用方案，提高处理效率并降低综合成本。

Based on actual application results, we optimize abrasive type, size, hardness and operating solutions to improve performance and reduce total costs.

③质量反馈处理 / Quality Feedback Solution

建立完善的质量追溯体系，及时处理客户反馈，并提供 COA、检测报告及技术资料支持。

We maintain a complete quality traceability system, handle customer feedback efficiently and provide COA, inspection reports and technical documents upon request.



APPLICATION INDUSTRY

应用行业

1. 清洁 / Cleaning

- a. 除砂 / Desanding
- b. 去毛刺 / Deburring
- c. 除锈除垢 / Descaling



2. 预处理 / Preparing

- a. 表面处理 / Surface Preparation
- b. 压舱物 / Ballast
- c. 配重 / Counterweight



3. 切割 / Cutting

- a. 石头 / Stone
- b. 花岗岩 / Granite



4. 强化作用 / Strengthening

- a. 喷丸加工 / Shot Peening

- 提高部件的抗裂性和抗疲劳性
Improve the resistance of the component against cracks and fatigue
- 增加对应力腐蚀的抵抗力
Increases resistance to stress corrosion
- 喷丸成形
Peen forming

- b. 工业领域 / Industrial

- 弹簧
Springs
- 传动系统
powertrain
- 齿轮
gears
- 传动链等
transmission chains, etc.

- c. 航空航天 / Aerospace

- 起落架
Landing gears
- 变速器部件
Transmission components
- 结构件
Structural parts

