通略钢丸 (ENGLISH VERSION)

TONGLVE CUT WIRE SHOT



TONGLVE

江苏通略金属制品有限公司

TONGLVE METAL CO., LTD

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About US

Since its establishment in 2018, Tonglve Metal Co., Ltd. has stood out in the metal products industry with its firm pace, efficient production capacity and excellent product quality. The company is a high-tech enterprise focusing on the production of carbon spring steel wire and various metal abrasives, with more than 20 years of rich manufacturing experience, and is committed to providing comprehensive solutions for metal surface treatment for a number of key industries. In 2019, the company passed the ISO9001 quality management system certification and ISO14001 environmental management system certification.

The company's products are mainly used in aerospace, military, nuclear industry, shipbuilding, automobile, high-speed rail, construction, photovoltaic, wind power, medical and other key industrial manufacturing fields of metal surface treatment and repair. At present, metal abrasives are widely used in the field of industrial production, from the most basic industrial parts such as springs, gears to high-precision cutting-edge products such as aircraft engine blades, etc., are inseparable from the use of metal abrasives. Metal abrasives are therefore known as "industrial teeth", and their main uses include surface treatment of steel before anti-corrosion coating, surface cleaning of parts, and physical structure strengthening of metal surfaces.

The company has always adhered to scientific and technological innovation, strengthening technical cooperation, enhancing research and development strength, and enriching the international competitiveness of the company as the premise for the development of the company. In 2020, a new technology research and development center was established in cooperation with Tongji University. In 2021, the company established a joint research and development center with Shanghai Jiao Tong University. In the research and development of new products, we continue to pay attention to the international metal surface treatment market and the development of high-end machinery and equipment, seize the development opportunities of domestic and foreign aerospace, ships, new energy vehicles, wind power, robots and other high-tech manufacturing industries, to technological progress and scientific and technological innovation as the guidance, concentrate all scientific research strength, and constantly improve the comprehensive strength of enterprises.

Our culture

With nearly 30 years' experience to serve our customers, we strive for a deeper and further cultivation in the metal surface preparation industry field home and abroad. One must possess upright values in order to obtain long-term satisfied customer relationships and a sustainable positive industry image.Below are the key value points which could drive us to be better and active in the long run:

➤ Vision

Market changes from time to time, therefore the products we produce should keep up with the market preferrence alterations. To prevent from falling behind of the market demands, we need to have a vision into the future and being visionary is vital for us to study and understand what the story might be look like. A visionary mind keeps us ahead of time.

➤ Innovation

Always trying to be innovative in terms of the product upgrading process could help us to serve our markets and customers in a better sense. Technological innovations no matter are to improve exsisting production processes or to switch up to completely new production mechanisms would definitely make us standing out in the market.Upgraded and improved production processes could reduce costs and ensure product quality to an great extent. And, innovative new products enables us to be ready and confident when meeting up with future market challenges.

➤ Precision

Happy and satisfied customer relationships requires us to be accurate and precisive all the time in the comprehensive quality controlling system. We strive to maintain effective quality managerial techniques and will always be looking for breakthroughs when facing chanllenges in product quality assuring procedures. Providing up to standard quality products with a cost effective production process is the ultimate aim for us to run the business.

➤ Cooperation

We truely value team works inside and outside of our company. The importance to facilitate communication and talks between our employee groups are always beening emphasized within our company to promote high morale and working efficiency.Meanwhile, open talks and active discussions with our customers and stakeholders is equally enssential for us to achieve closer and more comfortable relationships. We believe cooperation from all around could help us to grow our business in a greener and healthier way.

Carbon Wire

High-quality high-strength smooth steel wires have been validated by customers.This is achieved through the utilization of advanced wire-drawing equipment and stable process control. The dry straight-feed wire-drawing machine ensures the production of products with medium and thick specifications, while the rotary water-tank wire-drawing machine guarantees the supply of products with medium and thin specifications.The ISO 9001 quality management system and years of technical experience in wire drawing ensure the quality of products. Moreover, high-quality customized services are provided to meet the diverse needs of customers.

Application Areas

Carbon Wires for Cut Wire Shot
Steel Wire Rope
Spring Steel Wire
Optical Cable Steel Wire

➤ Product Features

Material Grades
C40/45/55/60/70/80
SWRH72A/72B
SWRH77A/77B
SWRH82A/82B
C72/76D2
C82/86D2
or upon inquiries

Pysical Properties	
Diameter range	±0.015mm
Tensile strength	upon inquiries
Vector	0-5cm
Circle warp	≥10cm
	or upon inquiries

Specification
Φ0.2-1.0mm
Φ0.5-2.5mm
Φ1.8-5.0mm
or upon inquiries

Packaging
25kg/spool on wooden pallets
150/200/250kg/spool on wooden pallets
Roll Packaging
or upon inquiries

Standards
GB-T 4357-2022 Cold-Drawn Carbon Spring Steel Wire
GB-T 5224-2014 Steel Strands for Prestressed Concreteor upon inquiries

Application Lists
Cut Wire：Surface Cleaning/ Blasting/Peening/ Deformation/ Hardening for Spare Parts etc.
Steel Wire Rope：Elevators/Industrial and Mining Conveyors etc.
Spring Steel Wire：Machinery/ Electronics/ Automobiles etc.
Optical Cable Wire: Optical Cable



➤ HD Carbon Cut Wire

High-durability cut wire (HD Shot) is the future for carbon peening cut wire shots.HD shot is a premium self-invented products that has undergone a complete 5 years' research and development time before the final plant verification from the customer groups.Thanks to its special and essential heat-treatment process, HD shots provides a better value for the money, in comparison with the conventional or traditional carbon cut wire, the lifespan improved about 30%-50%, contributing to more cost-efficient shot-peening operations.HD shot are more environmental friendly for it's reduced consumption of media during treating processes.HD shot reduces the risks of surface contamination, impingement and problematic dust to a great extent.It's prolonged service life and premium quality construction ensures the best performance of shot-peening process in the market.

Application Areas

Shot Peening
Surface Deformation
Surface Hardening

➤ Product Features

Material Grades

SWRH72A/72B
SWRH77A/77B
SWRH82A/82B
C58D2
C72/76D2
C82/86D2
or upon inquiries

Specification

Φ0.4/0.6/0.7/0.8/1.0/1.2mm
or upon inquiries

Standards

VDFI 8001
SAE J441
AMS 2431/3
AMS 2431/8
DIN 8201-4
GB/T 31214.2-2021
Customer Spec. etc.

Pysical Properties

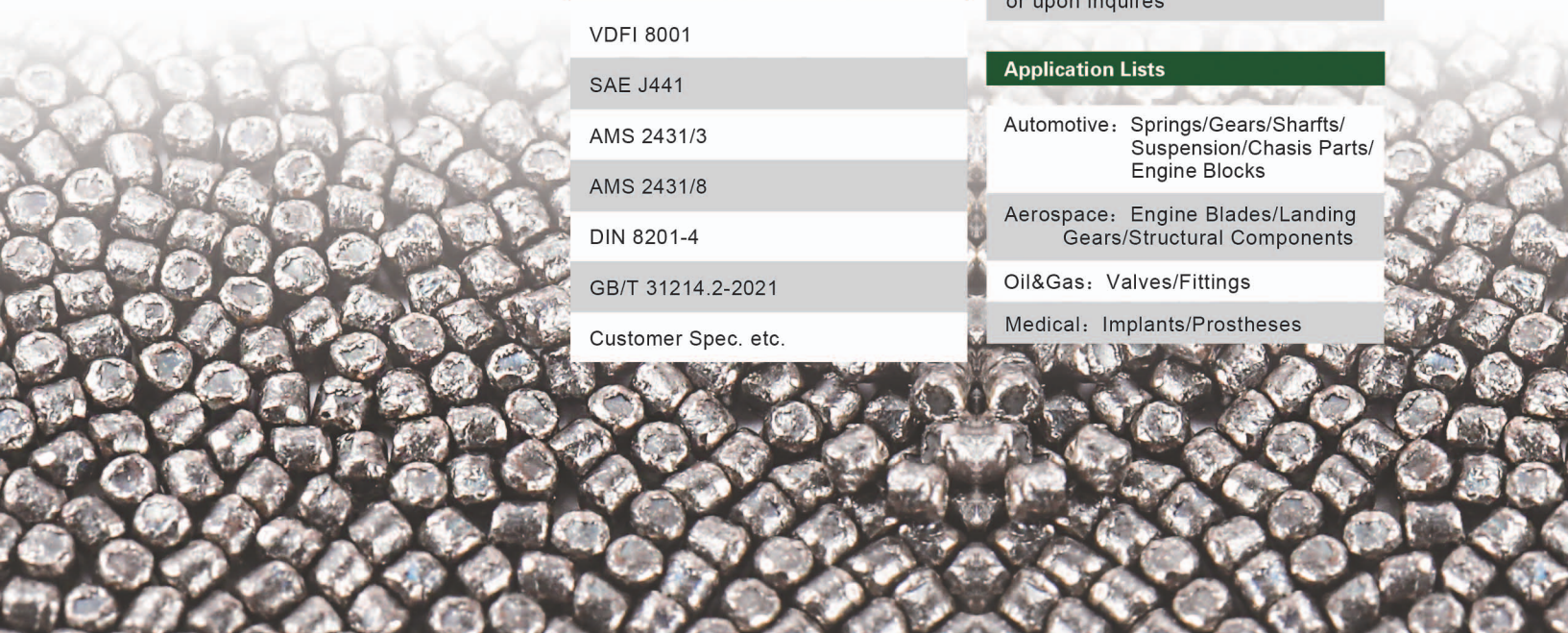
Hardness in Vickers	HV400-500/HV610-670/ HV640-700/HV670-730/HV800 over/ upon inquiries
Hardness in Rockwell	HRC45-52/HRC55-62/ HRC58-63/upon inquiries
Grain Shape	G1/G2/G3
Specific Gravity	ca. 7,8 g/cm^3
Bulk Density*	ca. 4,4 – 4,8 g/cm^3
	*the figure is depending on grain sizes

Packaging

25 kg bags on 1t pallets
1 ton loose in a big bag
1 ton in a steel drum
or upon inquires

Application Lists

Automotive：Springs/Gears/Sharfts/ Suspension/Chasis Parts/ Engine Blocks
Aerospace：Engine Blades/Landing Gears/Structural Components
Oil&Gas：Valves/Fittings
Medical：Implants/Prostheses



➤ Peening Carbon Cut Wire

Shot peening process is used in various industries to prolong and improve the service life of load-bearing components or workpieces. An ideal compressive stress layer to increase resistance to fatigue such as propagation of cracks, stress corrosion will be imposed by well-designed peening processes.Conditioned cut wire can avoid the risks of denting workpieces and the rounded shape also improves the durability level while using.This type of cut wire is particularlly suitable for shot peening applications across industries such as Automotive and Aerospace,Oil & Gas, Medical and other General Industries.

Application Areas

Shot Peening
Surface Deformation
Surface Hardening

➤ Product Features

Material Grades

SWRH72A/72B
SWRH77A/77B
SWRH82A/82B
C58D2
C72/76D2
C82/86D2
or upon inquiries

Specification

Φ0.2mm-Φ2.5mm
or upon inquiries

Standards

VDFI 8001
SAE J441
MIL-S-13165C
AMS 2431/8
DIN 8201-4
GB/T 31214.2-2021
Customer Spec. etc.

Pysical Properties

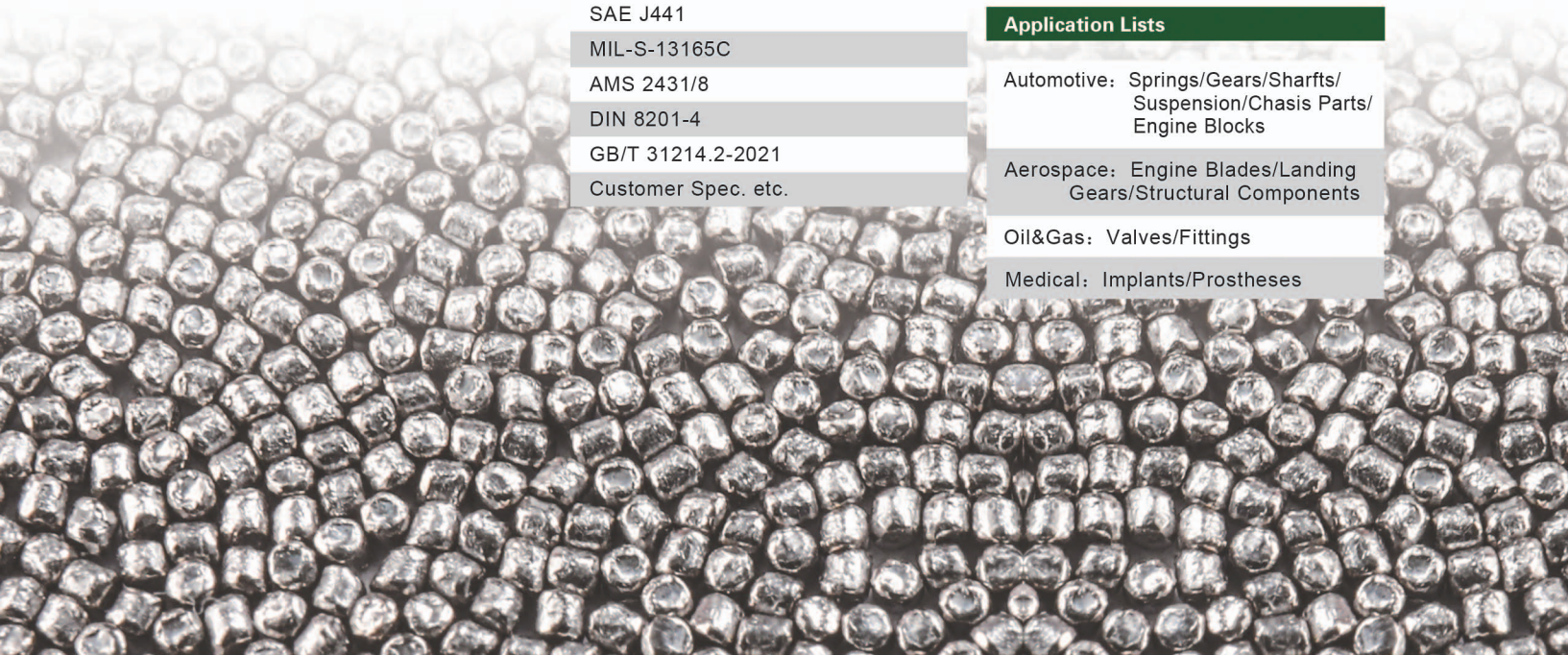
Hardness in Vickers	HV610-670 HV640-700/HV670-730/ HV800 over/upon inquiries
Hardness in Rockwell	HRC50-55 HRC55-62/HRC58-63/ upon inquiries
Grain Shape	G1/G2/G3
Specific Gravity	ca. 7,8 g/cm^3
Bulk Density*	ca. 4,4 – 4,8 g/cm^3
	*the figure is depending on grain sizes

Packaging

25 kg bags on 1t pallets
1 ton loose in a big bag
1 ton in a steel drum
or upon inquires

Application Lists

Automotive：Springs/Gears/Sharfts/ Suspension/Chasis Parts/ Engine Blocks
Aerospace：Engine Blades/Landing Gears/Structural Components
Oil&Gas：Valves/Fittings
Medical：Implants/Prostheses



Cleaning Carbon Cut Wire

Cylindrical cut wire shots are cut from drawn wires, which enables higher consistent and stable level of partical sizes and hardness.The cutting process creates grains with greater uniformity and increases the application durability capacity.Comparing with steel shots, metallic cut wire shots obtain higher density and the precise geometry and the compacted structure giving them more impact effects on components or workpieces.The highest energy transfer among the abrasive materials can be realized with wire grain.Moreover, the cylinder edges also create aggressiveness and enables good cleaning of the surface even with some stubborn scales.This type of cut wire products are generally used in foundry and desanding applications.

Application Areas

Deburring
Descaling
Deflashing
Rust Removal
Blast Cleaning
Blast Cutting
Surface Roughening
Pre-Painting Treatment

Product Features

Material Grades

SWRH40A/40B
SWRH42A/42B
SWRH45A/45B
SWRH62A
or upon inquiries

Specification

Φ0.2mm-Φ2.5mm
or upon inquiries

Standards

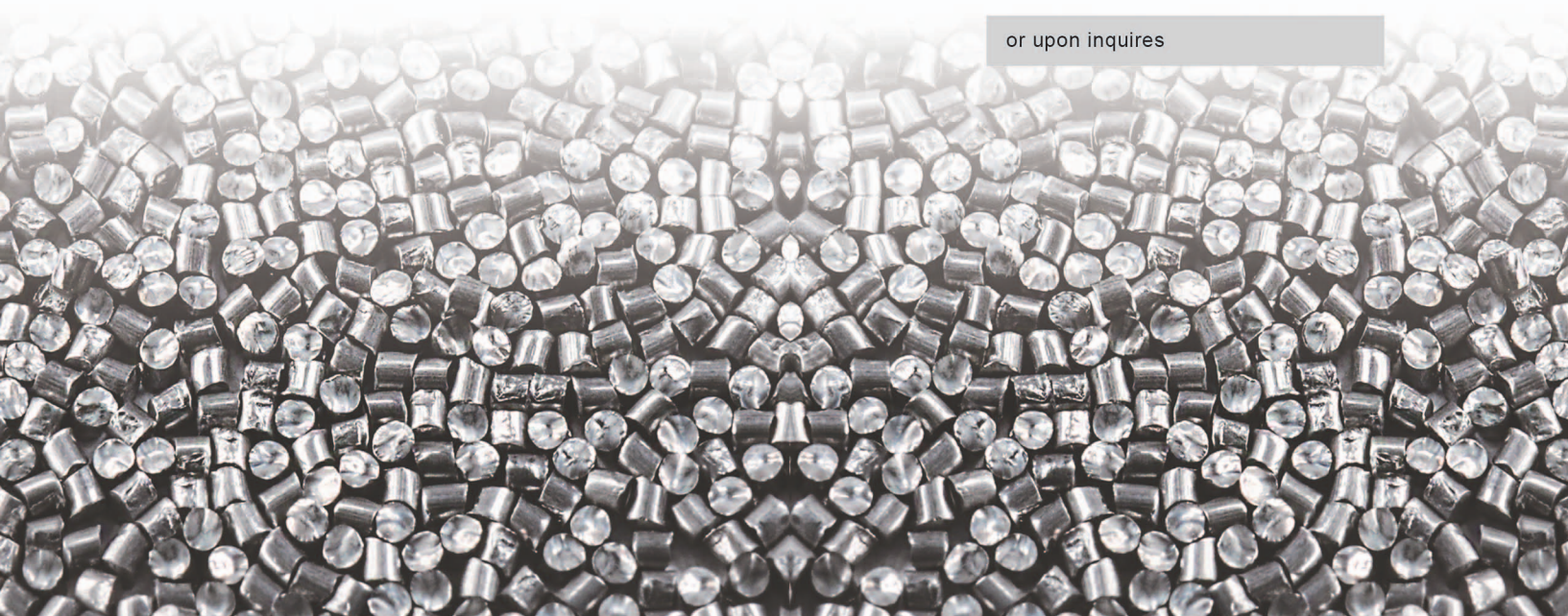
DIN 8201-4:1985
AMS 2431/3

Pysical Properties

Hardness in Vickers	HV370-420/HV400-500 or upon inquiries
Hardness in Rockwell	HRC37-42/HRC40-50 or upon inquiries
Grain Shape	Z/G1/G2
Specific Gravity	ca. 7,8 g/cm^3
Bulk Density*	ca. 3,9 – 4,9 g/cm^3
	*the figure is depending on grain sizes

Packaging

25 kg bags on 1t pallets
1 ton loose in a big bag
1 ton in a steel drum
or upon inquires



Stainless Cut Wire

Stainless steel cut wire stands for longevity and high-performance, it is ideal for different blasting and peening application in many industry senarios, even in toughest task environments. It brings brighter and uniformed surfaces contributing to the precision production process. Stainless material can not only reduces the risks of surface impingement, contamination and dust, but also reducing media consuming rates, which means it saves more costs. Moreover, thanks to the stable operational mix resulting from the overall improved lifespan of the peening media, stainless cut wire ensures consistent blasting pattern and will prolong the service years of blasting machines.

Application Areas

Deburring
Descaling
Fettling
Rust Removal
Sand Removal
Blast Cleaning
Surface Preparation

Product Features

Material Grades

SUS302/304
SUS410/430
SUS201/202
SUS/AISI316
AISI302/304
AISI410/430
or upon inquiries

Pysical Properties

Hardness Range	HV250-450/HV400-600
Grain Shape	Z/G1/G2/G3
Specific Gravity	approx. 6,5 – 7,8 g/cm^3
Bulk Density*	approx. 3,8 – 4,8 g/cm^3

*the figure is depending on grain sizes

Chemical Properties

	SUS304	SUS430
Cr	18-20	16-18
Ni	8-11	
C	max. 0,15 %	max. 0,12 %
Mn	max. 2,00 %	max. 1,00 %
Si	max. 1,00 %	max. 1,00 %
P	max. 0,045 %	max. 0,03 %
S	max. 0,03 %	max. 0,04%
Fe	The Rest	The Rest

Specification

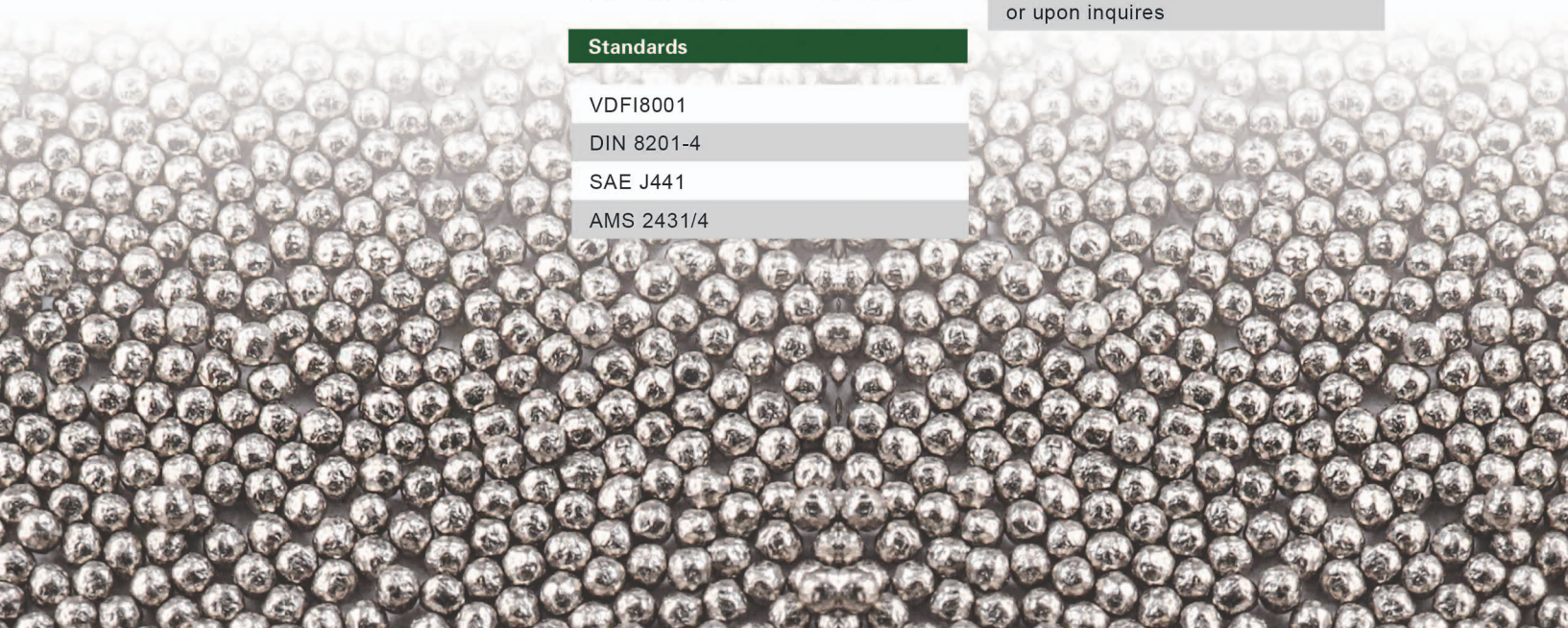
Φ0.2mm-Φ2.5mm
or upon inquiries

Packaging

25 kg bags on 1t pallets
1 ton /500 kg loose in a big bag
1 ton in a steel drum
or upon inquires

Standards

VDFI8001
DIN 8201-4
SAE J441
AMS 2431/4



➤ Aluminium Cut Wire

Aluminium Cut Wire is one kind of materials that can be reused many times and it is a preferred choice for the surface treatments of non-ferrous delicate parts and components in various industry applications.The lightweight and softer nature of Aluminium material helps to reduce the wear and tear for blasting machine spare parts, which can lower the overall costs and losts. It is non-sparking and can ensure a safer non-explosive working environment. Also, in comparison with Steel Cut Wire, Aluminium Cut Wire will not leave any steel residues which can later cause corrosion on workpieces.Since the material is electro-chemically neutral on aluminium and magnesium alloys, therefore it will prevent white corrosion and ensures the integrity of the components.

Application Areas

Deburring
Descaling
Blast Cleaning
Surface Improvement

➤ Product Features

Material Grades

AW5056
AW6060
AW1070
AW5019
or upon inquiries

Application Lists

	AW-5056	AW-6060	AW-1017
Si	0,30 – 0,60 %	0,30 – 0,60 %	max. 0,16 %
Fe	0,10 – 0,70 %	0,10 – 0,30 %	max. 0,16 %
Cu	max. 0,10 %	0,10 %	0,01 %
Mn	0,10 – 0,60 %	0,10 %	
Mg	3,00 – 7,00 %	0,35 – 0,60 %	
Cr	max. 0,30 %	0,05 %	
Zn	max. 0,30 %	0,15 %	
Ti	max. 0,30 %	0,10 %	
Andere	0,15 %	0,10 %	max. 0,026 %
Al	the Rest	the Rest	the Rest

Pysical Properties

Hardness in Vickers	A5056 HV100-150 A6060 HV80-120 A1070 HV40-50
Grain Shape	Z/Conditioned(G2)
Specific Gravity	ca. 2,7g/cm^3
Bulk Density*	ca. 1,7 g/cm^3

*the figure is depending on grain sizes

Packaging

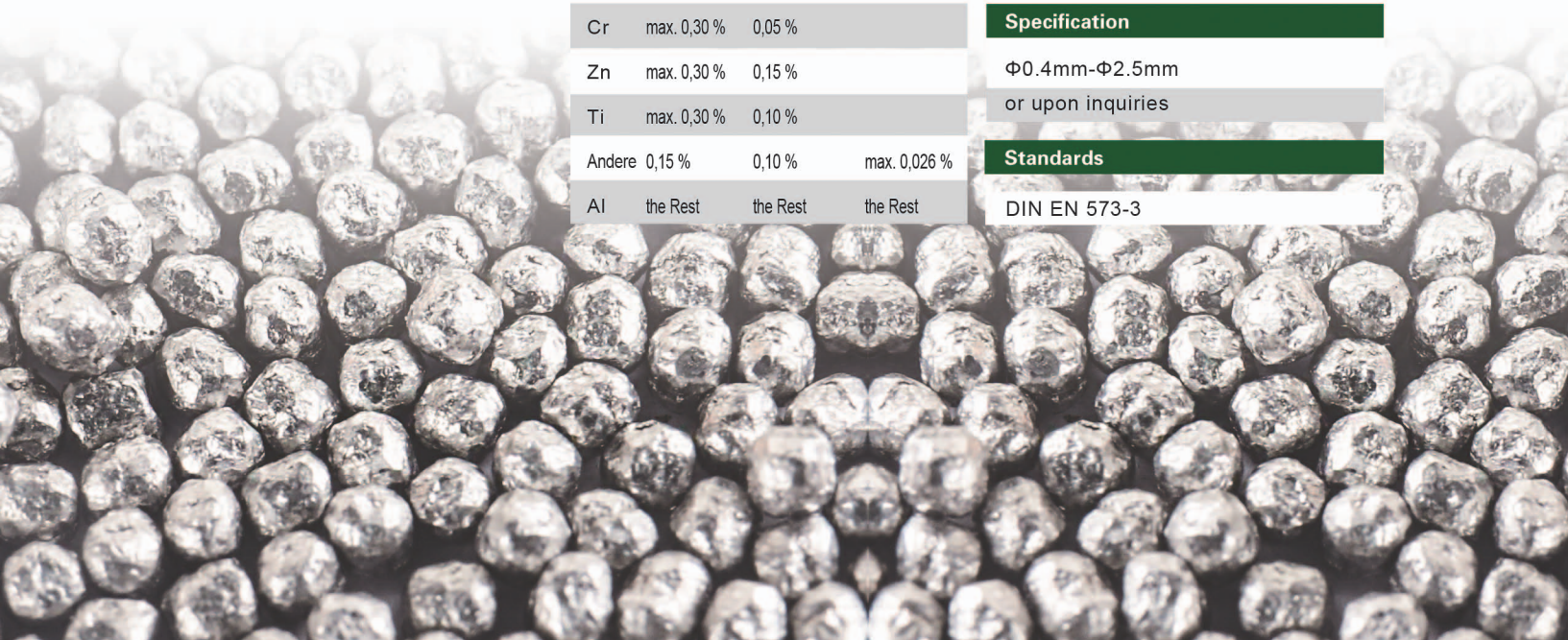
25/12 kg bags on 1t pallets
1 ton loose in a big bag
1 ton in a steel drum
or upon inquires

Specification

Φ0.4mm-Φ2.5mm
or upon inquiries

Standards

DIN EN 573-3



Zinc Cut Wire

Zinc Cut Wire is regarded as an ideal choice for gentle and delicate deburring and finishing applications in wide range of industries. It's unique characters can not only delivers satisfying results on workpieces and parts such as exceptional anti-corrosion ability, electrochemical protection, stable abrasive process action, but also lower risks of deforming or damaging the substrate of delicate components in comparing with other metallic media.The comprehensive gentle yet effective abrasive processes provided by Zinc Cut Wire are friendly to the blasting systems, which improves the overall lifespans of machinery and equipments. In general, Zinc Cut Wire can leave a bright clean finished surface and creat a fine zinc layer to prevent future corrosion to the parts.It is an ideal choice for your delicate workpieces and to save your total costs.

Application Areas

Deburring
Descaling
Deflashing
Rust Removal
Blast Cleaning
Blast Cutting
Surface Roughening
Pre-Painting Treatment

➤ Product Features

Material Grades

99.995% High-Purity Zinc (Pure Zinc)

98% Zn / 2% Al(Zn98Al2)

Specification

Φ0.6mm-Φ1.8mm
or upon inquiries

Standards

DIN EN 573-3

Packaging

25 kg bags on 1t pallets

1 ton/500 kg loose in a big bag

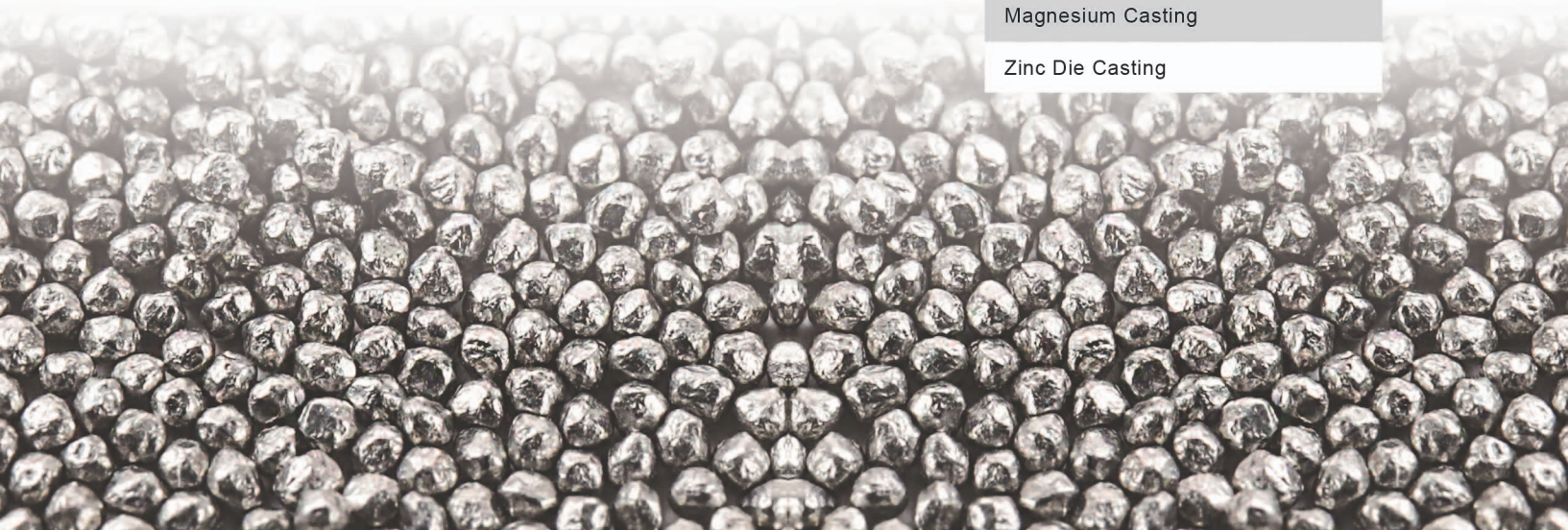
or upon inquires

Pysical Properties

Hardness in Vickers	Pure Zinc Zn98Al2	HV30–50 HV45-60 HV60-80
Grain Shape	Z/Conditioned(G2)	
Specific Gravity	ca. 7,4 g/cm^3	
Bulk Density*	ca. 3,9 – 4,9 g/cm^3	
	*the figure is depending on grain sizes	

Workpiece Materials

Aluminium Casting
Aluminium Forging
Titanium Part
Magnesium Casting
Zinc Die Casting



➤ Copper Cut Wire

Copper wire cut shot has stable material properties, is not easily oxidized, and features excellent wear resistance and corrosion resistance.It can maintain good brightness without burrs.During long-term use, it is unlikely to deform or wear out, reducing material loss in the production process.Copper wire cut shot is widely used in surface treatment such as removing oxide scale, deburring, polishing, cleaning, strengthening, and pre-treatment before spraying in fields like mechanical manufacturing, metal die-casting parts, precision castings, automotive parts, instruments and meters, pumps and valves, and hardware tools.

Application Areas

Deburring
Descaling
Cleaning and Polishing
Metal Processing
Surface Enhancement
Pre-Painting Treatment

➤ Product Features

Typical Pysical Properties	
Hardness	110~300HV
Grain Shape	As cut or Round
Tensile Strength	200~500Mpa
Durability	5000 times
Specific gravity	ca.8.9g/cm^3
Bulk density	ca.5.1g/cm^3

Specification
Φ0.3mm-Φ2.5mm
or upon inquiries

Chemical Properties
Copper Cu 96%-99% Zn 4%-1%
Brass Cu 58%-65% Zn 42%-35%

Packaging
25 kg bags on 1t pallets
1 ton /500 kg loose in a big bag
1 ton in a steel drum
or upon inquires



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