# **VINAYAKA SHOT**

### **CUT WIRE SHOT**

Stainless Steel Shot Low Carbon Steel Shot, High Carbon Steel Shot, Aluminum Shot, Lead Shot, Copper Shot, Zinc Shot, Brass Shot, Nickel Shot, All Ferrous and Non Ferrous Metal Shot

### **ABRASIVES**

Steel Shot, Steel Grit, Aluminum Oxide, Emery Powder, Emery Grit, Carborandum, Glass Beads, Garnet

### INGOTS

Lead Ingots, Aluminum Ingots, Zinc Ingots

## FIBER

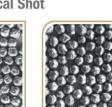
Stainless Steel Fiber, Steel Fiber. Available in Crimped, corrugated and straight

### BALLS

Copper Balls, Ferrous and Non Ferrous Precision Balls, Stainless Steel Balls, MS Balls Zinc Ball, SS Grinding Media Balls **CUT-WIRE SHOT** is produced by cutting wire into lengths equal to the wire diameter. Quality is assured by control of the chemical and physical properties inherent in the wire and accurate sizing to length. Every piece is 100% solid. Cut-wire is available in "As-Cut" (Cylindrical) form as well as in conditioned (Spherical) shape.







G1 Condition

G3 Condition

Advantages Of Cut Wire Shot

1. More life span, till completely reduced to smallest tiny particle.

**G2** Condition

- 2. Most economical and lowest consumption
- 3. Increase the fatigue life of the blasted components.
- 4. Less dust formation during shot blasting.
- 5. Cleans the product faster.
- 6. Cuts down the maintenance cost of shot blasting machine.
- 7. No dust or health hazard during operation.

**CARBON STEEL CUT WIRE SHOT** is available in two types High carbon shot and Low Carbon Shot with Density 7.8gcm<sup>3</sup>, also available in both shapes "As-Cut" (Cylindrical) form as well as in conditioned (Spherical) shape.

Shot Available Specifications	:	SAE J441, IS-5873-1970
Available Sizes	:	0.30mm to 3.20mm

### CHEMICAL COMPOSITION AND HARDNESS

Chemical Element	C%	MN % MAX	S% MAX	SI% MAX	P% MAX	HRC Hardness	HV Hardness
Grade3	0.80-0.85	0.72	0.40	0.19	0.04	54-58	580-660
Grade-2	0.60-0.80	0.72	0.40	0.19	0.04	50-54	520-570
Grade-1	0.40-0.60	0.72	0.40	0.19	0.04	40-50	400-500
Mild Steel	0.08-0.14	0.72	0.40	0.19	0.04	25-32	270-320





High Carbon Cut Wire Shot

Low Carbon Cut Wire Shot

**STAINLESS STEEL SHOT** is used on subjects for which ferrous contamination is harmful. For example Stainless Steel Shot used for blasting on stainless steel, titanium, aluminum, or other non-ferrous work objects. It is also used in peening these metals (stainless steel, titanium, brass or aluminum) in work objects that are subject to stress, corrosion and cracking.

it is available in grades AISI 304, 316, 202, 201, 430, 410.

**Available Specifications**: Available in conditioned form SAE J441, IS-5873-1970, AMS 2431/4 MILS 13165C and aerospace specification. Stainless Steel Cut Wire Shot has a Rockwell C hardness of 30 - 58 HRC







As-Cut SS

Condition Shot G2 Condition Shot G3

- Advantages of Stainless Steel Shot
- It has a significantly longer shots life than cast steel shot or grit and carbon cut wire shot.
- Dust generation is significantly lower blasting operations are much cleaner
- It produces excellent surface results because of its uniformity and strength
- It will make you a "Greener" organization because disposal of spent media will be significantly reduced. (You won't need as much shot, inventory requirements will be lower, and inbound freight will cost less.)
- You will NOT introduce ferrous contamination to non-ferrous castings or work objects as occurs with the use of cast steel or carbon cut wire shot

**COPPER CUT WIRE SHOT** is made through Commercial or Virgin Grade Copper Wire 99.9%.

### Application

- 1. Copper Cut Wire Shot used primarily to clean or peen parts and components where conductivity is important and cannot be interfered with.
- 2. Also used for paint removal on electrical components and tooling.
- 3. It is used for removing oxidation, eliminating surface defect, removing stress, etching, strengthen, prevention rust before painting of metal die-casting, precision casting, hardware tool, machinery manufacturing, automobile spare parts, pump valve industry and jewelery making etc.





**Copper cut Wire Shot** 

**Copper Balls** 

	Comparison of SS Shot SS-	-304, SS-202, SS-4	30, Steel Shot,	High and Low Ca	arbon Steel Wire S	hot
Particulars for Steel Grits	Stainless Steel Shot 304 Grade specification	Stainless Steel Shot 202 Grade specification	Stainless Steel Shot 430 Grade specification	Steel Shot specification as per IS : 4606 - 1983	High Carbon Steel Cut Wire Shot specification as per IS : 5873-1970	Low Carbon Cut Wire Shot
Hardness	45-55 HRc /450-590 HV	45-55 HRc /450-590 HV	32 HRC /300HV Min.	41-49 HRc /400-500HV	45-52 HRc / 450-550 HV	25-32 HRc /250-300HV
Chemical						
Composition						
Nickel%	8-10%	4-6%	Nil	Nil	Nil	Nil
Chromium%	17-19%	16-18%	16-18%			
Carbon %	0.030 max	0.4%max	0.12%Max	0.6 to 1.25	0.45 to 0.75	0.08 to 0.14
Silicon %	1 Max.	1 Max.	0.75% Max	0.2 to 1.1	0.10 to 0.30	
Manganese %	2 Max	8% Min.		1.25 Max	0.60 to 1.20	
Sulphur %	0.030 Max	0.030 Max	0.030 Max	0.08 Max	0.050 Max	
Phosphorus %	0.045Max	0.06Max	0.040Max	0.08 Max	0.045 Max	
Density In gm/cc	7.8 g/cc	7.8 g/cc	7.8 g/cc	7 g/cc Min	7.4 g/cc	7.4g/cc
Dust Generation	Very Very Less	Very Less	Very Less	Very High	Very Less	Medium
Brightness of Surface	Very Bright	Bright	Less Bright	Average	Above Average	Average
Surface	Very Smooth, Shiny and Bright Surface	Very Smooth and Less	Very Smooth and	Smooth Surface	Anker Profile and Carbon	Carbon residue or
Finishing	due to negligible Carbon % (0.030%	Shiny and Bright Surface	Dull Surface	and Contamination	residue on surface Very	surface Very Very
	Max) and Nickel 8%	compare to SS-304	compare to SS-304	of Carbon (Blackness)	Less compare to Steel	Less compare to
		Grade Due to Less% of Nickel 4%	and SS-202 Due to non presence of Nickel 0%	on top of Surface due to High % of carbon (0.60-1.25%)	Shot, because Carbon % 0.4-0.85%)	Steel Shot, becau Carbon % 0.07 0.10%)
Application	Specially used in Food Grade Product,	Aluminum components,	Aluminum	De-scaling,	Steel plate, Cylinder,	MS Plate, MS
	Aluminum components , Alloys Wheels, Profile and tubes, Aluminum Sections,	Manganese Plate Blasting, Bright Surface	component and Engine Parts,	Roughening, Coating Removal,	Steel Structure, Metallurgy machinery	Products, Where Io hardness shot
	Motor cycle, Automobile Parts, Anti-Rust Aluminum Engines Surface	required Components, Motor cycle,	Automobile Parts, Die Casting,	De-burring, casting blasting	surface improvement, Peening, Surface	required, Cleaning Tumbling,
	Preparations, Brass Pipe Fittings, Brass	Automobile Parts,	Surface Finishing,		Finishing of Casting,	Pre painting,
	wolves, Stainless Utensils, It could be	Anti-Rust	other type of		Forging, Stain Finishing,	De-scaling,
	used in many alloy products, like	Aluminum Engines	Non-Ferrous		reconditioning of	Roughening,
	Stainless Steel, Steel, Aluminum, Zinc,	Surface Preparations	components		Automotive Parts,	Coating Removal
	copper and so on, make surface bright				Hardening, De-scaling,	De-burring, Cleani
	and anti-rust, Aluminum Engines, die				Roughening, Coating	Rust Removal,
	casting, other type of non ferrous				Removal, De-burring,	Smoothing,
	components				Cleaning, Rust Removal	Shaping

SAE	BIS	SIZE	2.80	2.40	2.00	1.70	1.40	1.18	1.00	0.850	0.710	0.600	0.500	0.425	0.355	0.180	0.125
NO.	NO.	IN MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM
S-70	SS-180	0.180															
S-110	SS-300	0.300										All Pass	5% Min		80% Min	90% Min	
S-170	SS-425	0.425								All Pass	10% Min			85% Min	97% Min		
S-230	SS-600	0.600							All Pass	10% Min		85% Min	97% Min				
S-280	SS-710	0.710						All Pass	5% Min		85% Min	96% Min					
S-330	SS-850	0.850					All Pass	5% Min		85% Min	96% Min						
S-390	SS-1000	1.00				All Pass	5% Min		85% Min	96% Min							
S-460	SS-1180	1.180			All Pass	5% Min		85% Min	96% Min								
S-550	SS-1400	1.400			All Pass		85% Min	97% Min									
S-660	SS-1700	1.700		All Pass		85% Min	97% Min										
S-780	SS-2000	2.00	All Pass		85% Min	97% Min											
S-930	SS-2400	2.400		90% Min	97% Min												
RETAINSI	ON IN SEIVE		2.80 MM	2.40 MM	2.00 MM	1.70 MM	1.40 MM	1.18 MM	1.00 MM	0.850 MM	0.710 MM	0.600 MM	0.500 MM	0.425 MM	0.355 MM	0.180 MM	0.125 MM

**LEAD SHOTS/ BALLS :** are normally used for radiation protection by filling and melting into hollow spaces and gaps in Lead shields where other Lead products like Lead sheet or Lead bricks are not approachable.

- The material has a low melting point and can be processed easily and fast into a homogenous barrier layer. The standard program comprises of diameters from 0.50 to 10mm. Further dimensions can be produced on request.
- Availabe in 99% and above as per customer specification

### Lead Shot Application :

- Stress testing Providing variable weights in strength-ofmaterials stress-testing systems
- Hydrometers: use a weight made of Lead balls
- Split Balls: a larger type of lead balls where each pellet is cut partway through the diameter.
- The heads of some dead blow hammers are filled with balls to minimize rebound off the struck surface.
- Shot belts: scuba diving, cycling and swimming.
- Model rocketry: to add weight to the nose of the rocket, increasing the stability factor.
- Lead balls are used for a regenerator in Stirling engines and thermo acoustic crycoolers.
- Lead balls for wall construction suitable for radiation shielding applications.
- It is used to attenuate radiation, especially X-rays and gamma rays in Medical and nuclear industry.
- For free casting steel / free machinery steel.
- Ballast for counter balance, bridge construction & building
- Cored Wire Manufacturing







Lead Shot

Aluminum Shot Aluminum Cut Wire Shot

**ALUMINUM CUT WIRE SHOTS** are produced by cutting Aluminum wire into lengths equal to the wire. Aluminum being a soft a metal is ideal for blast cleaning, shot peening and shot blasting on Aluminum Castings, Aluminum components. Aluminum being a non ferrous metal is also widely used on Stainless Steel Components.

**ALUMINUM SHOT** making by melting Process. The Aluminum Shot use for De-oxidation as well as pellets are used in steel plants for the purpose of de-oxidation.

### CHEMICAL COMPOSITION AND APPLICATION

Grades	AI%	Hardness	Sizes	Purpose
Al Cut Wire Shot	99.9%	95-130 mpa	0.80- 3.20mm	Shot Blasting
Aluminum Shot	99% +		5 to 15mm	De-oxidation
Aluminum Shot	98% +		5 to 15mm	De-oxidation
Aluminum Shot	96-98 %		5 to 15mm	De-oxidation

**ZINC SHOT :** The softness of zinc shot is suitable for operation in deburring die castings, and removing impregnated sand from sand castings. It can remove coatings from soft alloy cast parts without damage, and leaves a thin film of zinc, which provide corrosion resistance, on the work pieces.

**Applications:** De-burring aluminum die castings (removing flash up to .020"), stripping paint and removing powder coatings without damaging substrates (tooling, paint hooks, etc.). fine film layer on work objects, zinc provides additional corrosion resistance.

### **CHEMICAL COMPOSITION AND HARDNESS**

Sizes	Wire	HRC Hardness	Density
0.30 - 3.20mm	Commercial Quality Pure Zinc Special High Grade Zinc 99.99%	20-30 B	7.1g/cm3







Zinc Casted Shot Zinc Condition Shot

Zinc Cut Wire Shot

### Why Vinayaka Shot ?

- Pan India Presence
- ISO Certified
- Capacity to process 1500 MT/year
- Largest manufacturer of Condition SS Shots and Cut Wire Shots
- 40% of export sale
- Dedicated Sales and Technical Team
- · Full technical support
- Fully integrated plant



AN ISO 9001:2015 CERTIFIED COMPANY

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(The Shot Blasting Media Company Since 2006)

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