

COMPARISON BETWEEN CAST STEEL SHOT & CUT WIRE STEEL SHOT

Cast Steel Shot

Standard

- Raw material: steel scrap of unknown/approx. composition.
- Small melting lots (5–10 tons max).
- Coarse grain size of cast shot (1–5).
- Suffer from internal blow holes & tails.
- Shot produced is mixed size; spherical variation.
- Quenching from 1600°C causes shrinkage & porosity.
- Lower density: max 7.00 g/cm³.
- Material removal by severe impact only.
- Large hardness variation across batch.
- Micro-structure contains carbide; shatters into dust.
- Increases shot blasting machine maintenance.
- Generates high airborne steel dust in depth atmosphere.
- *Advantage:* Lower initial purchase price.
- *Disadvantage:* High inventory required (high wear).
- High consumption rate: ~2.0 kg/ton blasted.

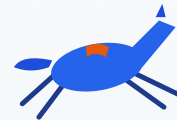
Cut Wire Steel Shot

Superior

- Wire rod in steel mill made from exact composition.
- 200 to 500 ton melt lots for high consistency.
- Eight rolling passes yield optimal grain size (7.9).
- Zero blow holes & zero tails.
- All shots drawn from exact same wire; 100% identical.
- No porosity or shrinkage; density 7.85 g/cm³.
- Cylindrical sharp edges scrape material faster.
- Uniform hardness across entire volume.
- Micro-structure is 100% tempered martensite.
- No brittleness; shots ONLY WEAR DOWN slowly.
- Dramatically lower machine maintenance & no dust.
- High initial purchase price offset by extreme life.
- Lower inventory needed due to lower stock turnover.
- Reduced consumption: 1.0 kg/ton (or lower!).



CAST STEEL SHOT (MULE)



CUT WIRE SHOT (RACE HORSE)

DO NOT COMPARE A MULE WITH A RACE HORSE !!

THE PEDIGREE OF OUR SHOT IS KNOWN !

Consistency	: Absolute uniformity in size, shape, hardness, and grain density.
Durability	: Maintains size significantly longer with the highest fracture resistance.
Part Life	: Processed parts exhibit higher and more consistent fatigue life.
Dust Generation	: Highest durability equals lowest dust levels and cleaner environment.
Surface Finish	: Parts are noticeably cleaner, brighter, and free from graphite residues.
Equipment Wear	: Dramatically lower machine wear due to absence of broken abrasive dust.

50% Less

ABRASIVE CONSUMPTION

7.85 g/cm³

WROUGHT DENSITY

Zero Voids

POROSITY FREE

100% Martensite

MICROSTRUCTURE

1. TECHNICAL SPECIFICATIONS & QUALITY PARAMETERS

STANDARD: ISO & SAE J441

Parameter	Bakul Cut Wire Shot Value	Industrial Advantage
Material Composition	High Carbon Steel Wire (AISI 1070 Grade)	Exact chemistry control per 200–500 ton melt
Hardness Grades	Regular: 45–50 HRC High: 55–60 HRC	Tailored for peening or descaling operations
Available Sizes	0.30 mm to 3.20 mm diameter	Precise 1:1 length-to-diameter cutting ratio
Conditioning Levels	As-Cut (Cylindrical), G1, G2, G3 (Spherical)	G3 conditioned for critical aerospace peening
Grain Size Rating	ASTM Grain Size 7.9	Refined grain structure resists micro-cracks
Microstructure	Tempered Martensite (Carbide Free)	Prevents premature shattering into fine dust

2. PROCESS FLOW & SHAPE TRANSFORMATION



3. PRIMARY INDUSTRIAL APPLICATIONS

Precision Shot Peening

Transfers controlled kinetic energy to create deep compressive residual stress layers on crankshafts, gears, leaf springs, and turbine blades to prevent fatigue failure.

Heavy Scale & Rust Removal

Sharp edge cylindrical shots cut through tough heat-treat scale, forge oxidation, and foundry sand faster than blunt cast shot particles.

Pre-Coating Anchor Profile

Imparts a consistent, dense surface roughness profile ensuring superior mechanical bonding for galvanizing, rubber lining, and high-performance paint systems.

Deburring & Deflashing

Removes flash and fine burrs from machined automotive castings and forged parts without eroding dimensional tolerances or rounding functional edges.

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