

## Abstract:

Steel shot blasting process is the most widely used for cleaning, stripping and improving a metal surface. The grade or size of steel shot will determine the ultimate finish achieved on the surface of the metal. The round ball shape of the steel shot produces a clean, smooth and polished surface through a peening action created by the acceleration of the shot. In a peening application, steel shot is also used to impart compressive strength to torque or load bearing metal parts.

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**High Carbon Cast Steel Shot ISO S120 (SAE S390)**

## Steel Shot

Steel shot blasting is the most widely used process for cleaning, stripping and improving a metal surface. The grade or size of steel shot will determine the ultimate finish achieved on the surface of the metal. The round ball shape of the steel shot produces a clean, smooth and polished surface through a peening action created by the acceleration of the shot. In a peening application, steel shot is also used to impart compressive strength to torque or load bearing metal parts.

Smaller steel shot will result in a smoother and more polished surface. Larger shot will clean more aggressively but produce a rougher surface. Both air powered and wheel blast systems can be used to accelerate the steel shot onto the surface of the part. Due to the hardness and density of steel shot, it can be recycled more than dozens of times before replacement. During use of steel shot a minimal amount of dust is created in the blasting process.

ISO 11124-3	SAE J 444	Nominal Size (mm)	Distribution	Sieve Mesh	Screen aperture (mm)
S 120	S 390	1.00-1.20	All Pass No.	12	1.70
			5% Max on No.	14	1.40
			85% Min on No.	18	1.06
			96% Min on No.	20	0.85

Screening Specifications, High Carbon Cast Steel Shot ISO S120 (SAE S390)

Chemical Comp.	W. Percentage	Hardness No.	Micro Structure	Total Defect	Ap. Density
Carbon	0.85-1.20	390-530 HV(L) 470-610HV(M)	Uniform Martensite And/or Bainite Microstructure, Tempered To A Degree Consistent With The Hardness Range	20 PCT Max  Consist of Non Shape, Void, Shrinkage & Crack	7.0 Kg/Dm <sup>3</sup> Min
Manganese	0.60-1.20				
Selenium	0.40 Min				
Sulfur	0.05 Max				
Phosphor	0.05 Max				

Technical Specifications, High Carbon Cast Steel Shot ISO S120 (SAE S390)

### General Applications, High Carbon Cast Steel Shot ISO S120 (SAE S390)

- De-sanding of small cast iron, steels and non-ferrous alloys parts
- Strengthening and improving the surface properties of metal parts by peening
- De-scaling of forged or heat treated parts with low contamination level
- De-oxidation and removal of atmospheric contaminants with medium oxidation level
- Surface preparation of metal parts before applying paint and coating (Mixing with similar size of steel grit)
- Deburring the surfaces of cast iron parts with low waste material

#### Benefits:

- Extreme Durability
- Very High Recyclability
- Spherical in Shape
- Magnetic
- Used in Both Wheel Blasting and (Air) Blasting
- Multiple Hardness Available
- Very Low Dusting

#### Applications:

- Shot Peening
- Surface Preparation
- Cleaning
- Deburring