

# The Surface Finishing Equipment Group Ltd



Surface Finishing  
Equipment Group

## TECHNICAL & MATERIAL

### SAFETY DATA SHEET

## STEEL SHOT

Steel Shot is a spherical product of hypereutectoid steel in the fully heat treated condition. It has a uniform structure of finely tempered martensite which provides optimum resilience and resistance to fatigue. Steel shot is 'round' as supplied and remains so throughout its working life. It is the optimum abrasive for many wheel blast applications, its durability and resistance to impact fatigue give high cleaning efficiency and economy.

### GRADES / PARTICLE SIZES

Product Size (mm)	% : min & max cumulative percentages allowed on corresponding sieves															
	0%		85% min	97% min												
<b>S780</b> 2.0 - 2.8	0%		85% min	97% min												
<b>S660</b> 1.7 - 2.4		0%		85% min	97% min											
<b>S550</b> 1.4 - 2.0			0%		85% min	97% min										
<b>S460</b> 1.2 - 1.7			0%	5% max		85% min	96% min									
<b>S390</b> 1.0 - 1.4				0%	5% max		85% min	96% min								
<b>S330</b> 0.85 - 1.2					0%	5% max		85% min	96% min							
<b>S280</b> 0.71 - 1.0						0%	5% max		85% min	96% min						
<b>S230</b> 0.6 0 0.85							0%	10% max		85% min	97% min					
<b>S170</b> 0.42 - 0.71								0%	10% max			85% min	97% min			
<b>S110</b> 0.3 - 0.5										0%	10% max			80% min	90% min	
<b>S70</b> 0.18 - 0.35											0%	10% max		80% min	90% min	
SAE Sieve No.	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
Aperture	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	0.30	0.18	0.125

### CHEMICAL & PHYSICAL PROPERTIES

	Steel Shot
Shape when new	Round
Typical average hardness:	Normal 45 - 51 HRC
Tukon durometer Knoop diamond point 1000g load	Special 51 - 57 HRC
Vickers pyramid	Normal 450 - 520 HV
10kg 5kg 2.5kg 1.0kg according to particle size	Special 530 - 630 HV
Mean hardness deviation*	± 3 HRC or ± 40 HV
Microstructure	tempered martensite completely fine and uniform
Minimum density measured by alcohol displacement	≥ 7.0 g/cm <sup>3</sup>
* On 10 measurements taken halfway across the grain radius. Arithmetic mean of absolute values of deviation ±3 HRC	



## HEALTH AND SAFETY DATA SHEET

### STEEL SHOT

**Product and Reference:** Steel Shot Abrasive

**Date of Issue:** 10/06/2009

#### **1. IDENTIFICATION OF THE PREPARATION AND COMPANY**

**Company:** The Surface Finishing Equipment Group Ltd

**Product Code:** S110, S170, S230, S330, S460

**Intended Use:** Abrasive Media

**Name and full address:** The Surface Finishing Equipment Group Ltd

Comprising :

Hogg Blasting & Finishing Equipment Ltd  
Unit 10 Armstrong Road, Armstrong Industrial Estate, Washington,  
Tyne & Wear, United Kingdom, NE37 1PR.  
Tel. (0191) 415 3030 Fax (0191) 415 5345

AND

Abraclean Ltd  
Ann Street, Stockport, Cheshire. SK5 7PP  
Tel: (0161) 480 8087 Fax: (0161) 480 4424

#### **2. COMPOSITION / INFORMATION ON COMPONENTS**

Typical chemical analysis		
<u>COMPOUND</u>	<u>CHEMICAL FORMULA</u>	<u>TYPICAL CONTENT</u>
Carbon	C	00.85 - 01.20%
Manganese	Mn	
S70 - S110		00.35 - 01.20%
S170		00.50 - 01.20%
S230 and larger		00.60 - 01.20%
Silicon	Si	00.40 - 01.50%
Sulphur	S	00.05% maximum
Phosphorous	Ph	00.05% maximum

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## 3. HAZARD IDENTIFICATION

Main Hazards	Dust from handling operations
Health Effects - Eyes	Dust may cause slight transient irritation.
Health Effects – Skin	Repeated or prolonged contact may produce irritation.
Health Effects - Ingestion	None known
Health Effects - Inhalation	Exposure to dust may have the following effects:- irritation of nose, throat and respiratory tract,

## 4. FIRST AID MEASURES

### General:

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

### Inhalation:

Remove to fresh air, keep the patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in the recovery position and seek medical advice.

### Skin Contact:

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleaner.

### Ingestion:

Mouth rinse and give water to drink.

### Eye:

Eye wash with plenty of water.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water

## 6. ACCIDENTAL RELEASE MEASURES

### Recovery measures:

Product can be swept up dry or wet. Personnel should use appropriate personal protective equipment particularly if material is in powder form and dry.

## 7. HANDLING AND STORAGE

**Handling:** Avoid breathing dust and spillage whilst handling.

The Manual Handling Operations Regulations may apply to the handling of bags when carrying out assessments.

### Storage:

The storage and use of this product is not subject to any requirements but it should be kept dry where this is important for further process use.

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## 8. EXPOSURE CONTROLS /PERSONAL PROTECTION

### General:

- Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should only be employed in processes in which this product is used under supervision.
- Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

### Engineering Measures:

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction during process use.

### Occupational Exposure Standards:

1. Total dust                                      Less than 10 mg per cubic metre 8h TWA
2. Respirable dust                                Less than 4 mg per cubic metre 8h TWA

### Personal Protection:

All Personal Protective Equipment, include Respiratory Protective Equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the COSHH Regulations.

### Respiratory Protection:

None except where used in applications that would cause dust, and then appropriate respiratory protection should be used depending on the application.

### Hand Protection:

When skin exposure may occur, advice should be sought from glove suppliers on appropriate types. Barrier creams may help to protect exposed areas of the skin but are not substitutes for full physical protection.

### Eye Protection:

Eye protection designed to protect against exposure which should be an EC approved helmet in blasting operations.

### Skin Protection:

Cotton or cotton/synthetic overalls or coveralls are normally suitable. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner.

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## 9. **PHYSICAL AND CHEMICAL PROPERTIES**

a. Bulk Density	7.00 g/cm <sup>3</sup>
b. Shape	Shot - Spherical
c. Colour	Blue - Grey
d. Specific Gravity	N/A
e. Hardness	SS: 45 - 51 HRC SS-M: 51 - 54 HRC SS-X 58HRC

## 10. **STABILITY AND REACTIVITY**

Stability Stable under normal conditions

## 11. **TOXICOLOGICAL INFORMATION**

Acute Toxicity No relevant studies identified

Irritancy - Eyes Splashes in the eye may cause irritation and irreversible local damage

Irritancy - Skin Repeated or prolonged contact with the product may lead to skin irritation

Sub-acute/Subchronic Toxicity No relevant studies identified.

Chronic Toxicity/Carcinogenicity Appropriate protective measures and good hygiene practices should be followed in order to minimise potential exposure.

Genotoxicity No relevant studies identified.

Reproductive/Developmental

Toxicity No relevant studies identified

Human Data Inhalation over long periods of time may constitute a health hazard

Additional Data None

## 12. **ECOLOGICAL INFORMATION**

There is no data available on the product itself. The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

## 13. **DISPOSAL CONSIDERATIONS**

The material in its supplied form is non hazardous inert solid waste and is classified as such under Appendix A section 10 06 01 of the Consolidated European Waste Catalogue EC Landfill Directive ( 16 th July 2004 ),

The disposal of material after it has been used may cause the product to fall into a different category.

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## 14. TRANSPORT INFORMATION

UN Number	Not regulated
ADR/RID substance ID number	Not regulated
IMDG	Not regulated
Tremcard No. TEC ®	Not regulated

## 15. REGULATORY INFORMATION

The information contained in this safety data sheet does not constitute the suppliers own assessment of workplace risks as required by other Health and Safety legislation. The provisions of the Health and Safety at Work etc. Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.

## 16. OTHER INFORMATION

The information contained in this safety data sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications, and we do not accept any liability for any loss or damage , however arising, which may result directly or indirectly from the use of this information.

Further information and relevant advice can be found in: The Control of Substances Hazardous to Health Regulations 1988 (SI 1988. 1657).

The Manual Handling Operations Regulations 1992 (SI 1992:2793)

The Environmental Protection (Duty of Care) Regulations 1992 (SI 1992-2839).