

ICS 25.220.10

CCS A 29



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18838.3-2008

**Preparation of steel substrates before application of paints and
related products -- Specifications for metallic blast-cleaning
abrasives -- Part 3: High-carbon cast-steel shot and grit**

涂敷涂料前钢材表面处理喷射清理用金属磨料的技术要求

(English Translation)

Issued on: April 1, 2008

Implemented on: September 1, 2008

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

Table of Contents

Foreword	3
1 Scope	5
2 Normative References	6
3 Definitions	7
4 Designation of Abrasives	8
5 Sampling	9
6 Requirements for High-Carbon Cast-Steel Shot and Grit Abrasive	9
7 Package Identification and Lot Traceability	9
8 Information to be Provided by the Manufacturer or Supplier	9
Abrasives	13
Appendix B (Informative)	15
Bibliography	15

1 Scope

This Part of GB/T 18838 specifies the technical requirements for abrasive of 14 grades of high-carbon cast-steel shot and 12 grades of high-carbon cast-steel grit, as supplied for blast-cleaning processes. Values are specified for hardness, density, defect/structural requirements and chemical composition.

The requirements specified in this part of GB/T 18838 apply to abrasives supplied in the "new" condition only. They do not apply to abrasives either during or after use.

Test methods for metallic blast-cleaning abrasives are given in the various parts of GB/T 19816.

High-carbon cast-steel shot and grit are used in both static and site blasting equipment.

They are most often selected where a facility exists for the recovery and re-use of the abrasive.

NOTE 1: Information on commonly referenced national standards for metallic abrasives and their approximate relationship with this Part is given in Appendix A and B.

NOTE 2: Although this Part of GB/T 18838 has been developed specifically to meet requirements for preparation of steelwork, the properties specified will generally be appropriate for use when preparing other material surfaces, or components, using blast-cleaning techniques. These techniques are described in ISO 8504-2:2000

1)

Preparation of Steel

1)

Such Standard is ISO 8504-2:1992 in ISO 11124-3:1993. GB/T 18839.2-2002 modified and adopted

ISO 8504-2:2000.

Substrates before Application of Paints and Related Products - Surface Preparation Methods

- Part 2: Abrasive Blast-Cleaning.

2 Normative References

The provisions in following documents become the provisions of this Part of GB/T 18838 through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 19816.1-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

1: Sampling (ISO 11125-1:1993, IDT)

GB/T 19816.2-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

2: Determination of Particle Size Distribution (ISO 11125-2:1993, IDT)

GB/T 19816.3-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

3: Determination of Hardness (ISO 11125-3:1993, IDT)

GB/T 19816.4-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

4: Determination of Apparent Density (ISO 11125-4:1993, IDT)

GB/T 19816.5-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

5: Determination of Percentage Defective Particles and of Microstructure (ISO

11125-5:1993, IDT)

GB/T 19816.6-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

6: Determination of Foreign Matter (ISO 11125-6:1993, IDT)

GB/T 19816.7-2005 Preparation of Steel Substrates before Application of Paints and Related Products - Test Methods for Metallic Blast-Cleaning Abrasives - Part

7: Determination of Moisture (ISO 11125-7:1993, IDT)

ISO 439:1982 Steel and Cast Iron - Determination of Total Silicon - Gravimetric Method

ISO 629:1982 Steel and Cast Iron - Determination of Manganese Content - Spectrophotometric Method

ISO 4935:1989 Steel and iron - Determination of Sulfur Content - Infrared Absorption Method after Combustion in an Induction Furnace

ISO 9556:1989 Steel and Iron - Determination of Total Carbon Content - Infrared Absorption Method after Combustion in an Induction Furnace

ISO 10714:1992 Steel and Iron - Determination of Phosphorus Content - Phosphovanadomolybdate Spectrophotometric Method

3 Definitions

For the purpose of this Part of GB/T 18838, the following definitions apply.

3.1 High-carbon cast-steel shot

A metallic blast-cleaning abrasive produced by a casting process in which molten high-carbon steel is formed into shot (see also 3.3) by means of an atomization process.

3.2 High-carbon cast-steel grit

A metallic blast-cleaning abrasive obtained by crushing various sizes of high-carbon cast-steel shot into sharp edged angular particles.

3.3 Shot

Particles that are predominantly round, that have a length of less than twice the maximum particle width and that do not have edges, broken faces or other sharp surface defects.

3.4 Grit

Particles that are predominantly angular, that have fractured faces and sharp edges and that are less than half round in shape.

3.5 Defect

A fault or weakness in an abrasive which, if present at or above a given level, may be detrimental to the performance characteristics of the abrasive (see table 3).

3.5.1 Void

A smooth-surfaced internal cavity considered undesirable when greater than 10% of the cross-sectional area of a particle.