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Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives —

Part 7:
High chromium white cast iron grit

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **2**
4 Designation of abrasives **3**
5 Sampling **3**
6 Requirements for high chromium white cast iron grit **3**
7 Package identification and lot traceability **4**
8 Information to be provided by the manufacturer or supplier **4**

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Foreword

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This document was prepared by Technical Committee ISO/TC 35 *Paints and varnishes*, Subcommittee SC12, *Preparation of steel substrates before application of paints and related products*.

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Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives —

Part 7:
High chromium white cast iron grit

1 Scope

This document specifies requirements for high chromium white cast iron grit, as supplied for blast-cleaning processes. It specifies ranges of particle sizes, together with corresponding grade designations. Values are specified for hardness, density, defect/structural requirements, metallographic structure and chemical composition.

The requirements specified in this document apply to abrasives supplied in the new condition only. They do not apply to abrasives either during or after use.

High chromium white cast iron grits are used in both static and site blasting equipment. They are most often selected where there is a possibility for the recovery and re-use of the abrasive.

NOTE 1 Although this document has been developed for preparation of steelwork, these materials are predominantly used for non-ferrous substrates. The properties specified will generally be appropriate for use when preparing other material surfaces, or components, using blast-cleaning techniques, and can be used for applications where no subsequent coating is applied.

NOTE 2 Whenever dissimilar metals are used together, galvanic corrosion can occur.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 439, *Steel and cast iron — Determination of silicon content — Gravimetric method*

ISO 629, *Steel and cast iron — Determination of manganese content — Spectrophotometric method*

ISO 9556, *Steel and iron — Determination of total carbon content — Infrared absorption method after combustion in an induction furnace*

ISO 10138, *Steel and iron — Determination of chromium content — Flame atomic absorption spectrometric method*

ISO 11125-1, *Preparation of steel substrates before application of paints and related products — Test methods for metallic blast-cleaning abrasives — Part 1: Sampling*

ISO 11125-2, *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 11125-3, *Preparation of steel substrates before application of paints and related products — Test methods for metallic blast-cleaning abrasives — Part 3: Determination of hardness*

ISO 11125-4, *Preparation of steel substrates before application of paints and related products — Test methods for metallic blast-cleaning abrasives — Part 4: Determination of apparent density*

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ISO 11125-5, *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 11125-6, *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 11125-7, *Preparation of steel substrates before application of paints and related products — Test methods for metallic blast-cleaning abrasives — Part 7: Determination of moisture*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
high chromium white cast iron grit
metallic blast-cleaning abrasive obtained by crushing various *high chromium white cast iron* (3.2) shot sizes into sharp-edged angular particles

3.2
high chromium white cast iron
ferrous alloy containing 1,8 % to 3,5 % mass fraction of carbon and 25 % to 35 % mass fraction chromium and possibly with other elements added to secure special properties

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

[SOURCE: ISO 11124-1:2018, 3.3]

3.4
grit
particles that are predominantly angular, that have fractured faces and sharp edges and that are less than half-round in shape

[SOURCE: ISO 11124-1:2018, 3.4]

3.5
defect
fault or weakness in an abrasive which, if present at or above a given level, can be detrimental to the performance characteristics of the abrasive

3.5.1
crack
linear discontinuity that has a length-to-width ratio of 3:1 or greater, that extends over more than 20 % of the diameter or the shortest dimension of a particle, and that is radial in direction

3.6
foreign matter
material or particles mixed with the abrasive which are not attached to the abrasive particles and which are nonmagnetic

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