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Microstructure of cast irons - Part 1: Graphite classification by visual analysis (ISO 945-1:2019)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/19

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EN ISO 945-1

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English Version

Microstructure of cast irons - Part 1: Graphite classification by visual analysis (ISO 945-1:2019)

Microstructure des fontes - Partie 1: Classification du graphite par analyse visuelle (ISO 945-1:2019)

Mikrostruktur von Gusseisen - Teil 1: Graphitklassifizierung durch visuelle Auswertung (ISO 945-1:2019)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 945-1:2019) has been prepared by Technical Committee ISO/TC 25 "Cast irons and pig irons" in collaboration with Technical Committee CEN/TC 190 “Foundry technology” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 945-1:2019 has been approved by CEN as EN ISO 945-1:2019 without any modification.

INTERNATIONAL STANDARD

ISO 945-1

Third edition
2019-06

Microstructure of cast irons —

Part 1: Graphite classification by visual analysis

Microstructure des fontes —

Partie 1: Classification du graphite par analyse visuelle

Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 25, *Cast irons and pig irons*.

This third edition cancels and replaces the second edition (ISO 945-1:2017), of which it constitutes a minor revision. The changes compared with the previous edition are as follows:

— Figures 3 and 4 have been corrected to a diameter of 120 mm to allow a direct comparison with the microscope display screen;

— Figures 3 and 4 have been corrected so that the maximum graphite sizes conform with Table 1.

A list of all parts in the ISO 945 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Microstructure designation is a useful feature that provides a means of classifying the graphite form, distribution and size in cast irons.

Graphite classification by visual analysis is a well-established method which is well recognized within the foundry industry as a means of quickly determining the overall graphite microstructure of a cast iron casting.

INTERNATIONAL STANDARD **ISO 945-1:2019(E)**

Microstructure of cast irons —

Part 1:
Graphite classification by visual analysis

1 Scope

This document specifies a method of classifying the microstructure of graphite in cast irons by comparative visual analysis.

The purpose of this document is to provide information about the method of graphite classification. It is not intended to give information on the suitability of cast-iron types and grades for any particular application.

The particular material grades are specified mainly by mechanical properties and, in the case of austenitic and abrasion resistant cast irons, by their chemical composition. The interpretation of graphite form and size does not allow a statistically valid statement on the fulfilment of the requirements specified in the relevant material standard.

2 Normative references

There are no normative references in this document.