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Compacted (vermicular) graphite cast irons — Classification

Fontes à graphite vermiculaire (compacté) — Classification



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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.

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ISO 16112 was prepared by Technical Committee ISO/TC 25, *Cast irons and pig irons*, Subcommittee SC 7, *Compacted graphite cast irons*.

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Introduction

This International Standard deals with the classification of compacted (vermicular) graphite cast irons (CGI), in accordance with the mechanical properties of the material.

The properties of compacted (vermicular) graphite cast irons depend on their graphite and matrix microstructure.

The mechanical properties of the material can be evaluated on machined test pieces prepared from

- separately cast samples,
- samples cast onto either the casting or the running system, hereafter referred to as cast-on samples, or
- samples cut from a casting (only when an agreement is made between the manufacturer and the purchaser).

The material grade is defined by mechanical properties measured on machined test pieces prepared from separately cast samples, cast-on samples, or samples cut from the casting by agreement between the manufacturer and the purchaser.

Some material grades may be suitable for pressure applications.

Annex A (informative) gives typical properties for compacted (vermicular) graphite cast irons obtained in separately cast test bars.

Annex B (informative) gives information on a procedure to determine the graphite nodularity of the microstructure.

Annex C (informative) gives information on the influence of metallurgical variables on the machinability in compacted (vermicular) graphite cast irons.

Annex D (informative) provides information on properties and examples for typical applications of compacted (vermicular) graphite cast irons.

Annex E (informative) provides cross-references of ISO 16112 grade designations to other standard grades of compacted (vermicular) graphite cast iron

Documents used in the preparation of this International Standard are listed in the Bibliography for reference purposes.