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Founding — Ausferritic spheroidal graphite cast irons — Classification

Fonderie — Fonte ausferritique à graphite sphéroïdal — Classification

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Foreword

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ISO 17804 was prepared by Technical Committee ISO/TC 25, *Cast irons and pig irons*, Subcommittee SC 2, *Spheroidal graphite cast irons*.

Introduction

Ausferritic spheroidal graphite cast iron is a cast alloy, iron and carbon based, carbon being present mainly in the form of spheroidal graphite particles.

Compared with the spheroidal graphite cast-iron grades (see ISO 1083:2004), this material combines higher strength and toughness properties as a result of the austempering heat treatment.

This International Standard deals with the classification of ausferritic spheroidal graphite cast irons in accordance with the mechanical properties of the material.

The mechanical properties of these ausferritic spheroidal graphite cast irons depend on their structure, e.g. the form of the graphite and the structure of the matrix.

The required structure is developed by selecting the appropriate composition and subsequent processing.

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

— separately cast samples with an appropriate gating system, able to provide metallurgical conditions similar to those of the castings they represent;

— samples cast onto either the casting or the running system, hereafter referred to as cast-on samples;

— samples cut from a casting (only by agreement between the manufacturer and the purchaser, the agreement specifying, in particular, the conditions of sampling and the values to be obtained).

Two grades of ausferritic spheroidal graphite cast iron are specified in Annex A, in accordance with their hardness. These cast irons are used in applications (e.g. mining, earth moving and manufacturing industries) where high abrasion resistance is required.

Five grades of ausferritic spheroidal graphite cast iron are specified by the mechanical properties. When, for these grades, hardness is a requirement for the application, Annex D provides means for determining appropriate hardness ranges.