BS ISO 4992-2:2020

BSI Standards Publication

Steel castings — Ultrasonic testing

Part 2: Steel castings for highly stressed components

bsi.

National foreword

This British Standard is the UK implementation of ISO 4992-2:2020. It supersedes BS ISO 4992-2:2006, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/111, Steel Castings and Forgings.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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INTERNATIONAL STANDARD

ISO 4992-2

Second edition
2020-03

Steel castings — Ultrasonic testing —

Part 2: Steel castings for highly stressed components

Pièces moulées en acier - Contrôle par ultrasons —

Partie 2: Pièces moulées en acier pour composants fortement sollicités

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Foreword

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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 17, *Steel*, Subcommittee SC 11, *Steel castings*.

This second edition cancels and replaces the first edition (ISO 4992-2:2006), which has been technically revised. The main changes compared to the previous edition are as follows:

— New definition added for “rim zone” (3.6) and “non-measurable dimension (3.8);

— New subclause 4.3.3.1;

— Figure 1 was redrawn;

— Text in Figure 2 moved to 4.3.3.2 and text in Figures 3 and 4 moved to 4.3.3.3;

— Figure referenced in 5.5.3.3 was corrected (new Figure 5 added);

— Figure 5 was renumbered as Figure 6;

— Subtitles added to Figure 1, Figure 6, and Figures in Annex C;

— Figure B.1 Key 8 was corrected;

— Table in Figure B.1 numbered as Table B.1.

A list of all parts in the ISO 4992 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.

INTERNATIONAL STANDARD **ISO 4992-2:2020(E)**

Steel castings — Ultrasonic testing —

Part 2: Steel castings for highly stressed components

1 Scope

This document specifies the requirements for the ultrasonic testing of steel castings (with ferritic structure) for highly stressed components, and the methods for determining internal discontinuities by the pulse-echo technique. Purchasers determine if components are highly stressed based on the need for performance or safety.

This document applies to the ultrasonic testing of steel castings which have usually received a grain-refining heat treatment and which have wall thicknesses up to and including 600 mm. For greater wall thicknesses, special agreements apply with respect to the test procedure and the acceptance levels.

This document does not apply to austenitic steels and to joint welds.

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 2400, *Non-destructive testing — Ultrasonic testing — Specification for calibration block No. 1*

ISO 5577, *Non-destructive testing — Ultrasonic testing — Vocabulary*

ISO 7963, *Non-destructive testing — Ultrasonic testing — Specification for calibration block No. 2*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 11971, *Steel and iron castings — Visual testing of surface quality*

ISO 16810, *Non-destructive testing — Ultrasonic testing — General principles*

ISO 16811, *Non-destructive testing — Ultrasonic testing — Sensitivity and range setting*

ISO 16827:2012, *Non-destructive testing — Ultrasonic testing — Characterization and sizing of discontinuities*

ISO 22232-1[1)], *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 1: Instruments*

ISO 22232-2[2)], *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 2: Probes*

ISO 22232-3[3)], *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 3: Combined equipment*

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