

Founding - Ultrasonic testing - Part 3: Spheroidal  
graphite cast iron castings

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 12680-3:2025 sisaldab Euroopa standardi EN 12680-3:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.11.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 12680-3:2025 consists of the English text of the European standard EN 12680-3:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 19.11.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 77.040.20, 77.140.80

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EUROPEAN STANDARD

EN 12680-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 12680-3:2011

English Version

## Founding - Ultrasonic testing - Part 3: Spheroidal graphite cast iron castings

Fonderie - Contrôle par ultrasons - Partie 3: Pièces moulées en fonte à graphite sphéroïdal

Gießereiwesen - Ultraschallprüfung - Teil 3: Gussstücke aus Gusseisen mit Kugelgraphit

This European Standard was approved by CEN on 22 September 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>3</b>
<b>1 Scope</b> .....	<b>4</b>
<b>2 Normative references</b> .....	<b>4</b>
<b>3 Terms and definitions</b> .....	<b>4</b>
<b>4 Requirements</b> .....	<b>5</b>
<b>4.1 Order information</b> .....	<b>5</b>
<b>4.2 Extent of testing</b> .....	<b>5</b>
<b>4.3 Wall section zones</b> .....	<b>5</b>
<b>4.4 Maximum acceptable size of discontinuities</b> .....	<b>6</b>
<b>4.5 Qualification of personnel</b> .....	<b>6</b>
<b>4.6 Severity levels</b> .....	<b>6</b>
<b>5 Testing</b> .....	<b>6</b>
<b>5.1 Principles</b> .....	<b>6</b>
<b>5.2 Material</b> .....	<b>6</b>
<b>5.3 Equipment and coupling medium</b> .....	<b>6</b>
<b>5.3.1 Ultrasonic instrument</b> .....	<b>6</b>
<b>5.3.2 Probes</b> .....	<b>7</b>
<b>5.3.3 Checking of the ultrasonic test equipment</b> .....	<b>8</b>
<b>5.3.4 Coupling medium</b> .....	<b>8</b>
<b>5.3.5 Time base range and sensitivity setting of the ultrasonic test equipment</b> .....	<b>8</b>
<b>5.3.6 Detection sensitivity</b> .....	<b>9</b>
<b>5.4 Preparation of casting surfaces for testing</b> .....	<b>9</b>
<b>5.5 Test procedure</b> .....	<b>9</b>
<b>5.5.1 General</b> .....	<b>9</b>
<b>5.5.2 Sensitivity setting</b> .....	<b>9</b>
<b>5.5.3 Consideration of various types of indications</b> .....	<b>10</b>
<b>5.5.4 Evaluation and recording of indications</b> .....	<b>10</b>
<b>5.5.5 Assessment of discontinuities to be recorded</b> .....	<b>10</b>
<b>5.5.6 Characterization and sizing of discontinuities</b> .....	<b>10</b>
<b>5.6 Test report</b> .....	<b>11</b>
<b>Annex A (informative) Significant technical changes between this document and the previous edition</b> .....	<b>21</b>
<b>Bibliography</b> .....	<b>23</b>

## European foreword

This document (EN 12680-3:2025) has been prepared by 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 May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.

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.

This document supersedes EN 12680-3:2011.

Annex A provides details of significant technical changes between EN 12680-3:2025 and EN 12680 3:2011.

This is one of four European Standards for ultrasonic testing. The other standards are:

- EN 12680-1, *Founding — Ultrasonic testing — Part 1: Steel castings for general purposes*
- EN 12680-2, *Founding — Ultrasonic testing — Part 2: Steel castings for highly stressed components*
- EN 12680-4, *Founding — Ultrasonic testing — Part 4: Phased array ultrasonic testing of steel castings*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## 1 Scope

This document specifies the requirements for the ultrasonic testing of spheroidal graphite cast iron castings and the techniques for determining internal discontinuities by the pulse-echo technique.

This document does not apply to ultrasonic testing of the nodularity of spheroidal graphite cast irons.

This document does not apply to phased array technique and to transmission technique.

NOTE The transmission technique has insufficient sensitivity to detect the discontinuities found in spheroidal graphite cast iron castings and is used in exceptional cases only.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

EN ISO 16827, *Non-destructive testing — Ultrasonic testing — Characterization and sizing of discontinuities (ISO 16827)*

EN ISO 5577, *Non-destructive testing — Ultrasonic testing — Vocabulary (ISO 5577)*

EN ISO 2400, *Non-destructive testing — Ultrasonic testing — Specification for standard block No. 1 (ISO 2400)*

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

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

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

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

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 5577 and the following 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

#### rim zone

1/5 of the through-wall thickness from the surface with a minimum of 5 mm and a maximum of 30 mm thickness in through-wall direction