

Leak detection systems - Part 7: Requirements and test/assessment methods for interstitial spaces, leak detection linings and leak detection jackets

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 13160-7:2016+A1:2025 sisaldab Euroopa standardi EN 13160-7:2016+A1:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.11.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 13160-7:2016+A1:2025 consists of the English text of the European standard EN 13160-7:2016+A1:2024.</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 13.11.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

EN 13160-7:2016+A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Leak detection systems - Part 7: Requirements and test/assessment methods for interstitial spaces, leak detection linings and leak detection jackets

Systèmes de détection de fuites - Partie 7: Exigences et méthodes d'essai/d'évaluation pour les espaces interstitiels, les détecteurs de fuite des revêtements et les détecteurs de fuite d'enveloppes

Leckanzeigesysteme - Teil 7: Anforderungen und Prüf-/Bewertungsverfahren für Überwachungsräume, Leckschutzauskleidungen und Leckschutzummantelungen

This European Standard was approved by CEN on 8 April 2016 and includes Amendment 1 approved by CEN on 11 September 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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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 13160-7:2016+A1:2024) has been prepared by Technical Committee CEN/TC 393 “Equipment for storage tanks and for filling stations”, 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 2025, and conflicting national standards shall be withdrawn at the latest by August 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 includes Amendment 1 approved by CEN on 11 September 2024.

This document supersedes ^{A1} EN 13160-7:2016 ^{A1}.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ^{A1} ^{A1}.

^{A1} *deleted text* ^{A1}

According to edition 2003 the following fundamental changes are given:

- requirements and tests for permeation added;
- material properties revised;
- requirements from EN 13160-1:2003 included, which are no longer contained in EN 13160-1:2016.

This European Standard *Leak detection systems* consists of 7 parts:

- *Part 1: General principles*
- *Part 2: Requirements and test/assessment methods for pressure and vacuum systems*
- *Part 3: Requirements and test/assessment methods for liquid systems for tanks*
- *Part 4: Requirements and test/assessment methods for sensor based leak detection systems*
- *Part 5: Requirements and test/assessment methods for in-tank gauge systems and pressurized pipework systems*
- *Part 6: Sensors in monitoring wells*
- *Part 7: Requirements and test/assessment methods for interstitial spaces, leak detection linings and leak detection jackets*

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 organizations 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 European Standard gives requirements and the corresponding test/assessment methods applicable to leak detection lining kits and leak detection jacket kits. Leak detection lining kits and leak detection jackets kits intended to be used to create an interstitial space or leakage containment in single skin underground or above ground, non-pressurized, tanks designed for water polluting liquids. The kit has to be used only in conjunction with leak detection kits covered by EN 13160-2 to EN 13160-4.

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.

EN 228, *Automotive fuels — Unleaded petrol — Requirements and test methods*

EN 495-5, *Flexible sheets for waterproofing — Determination of foldability at low temperature — Part 5: Plastic and rubber sheets for roof waterproofing*

EN 1107-2, *Flexible sheets for waterproofing — Determination of dimensional stability — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1849-2, *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Part 2: Plastic and rubber sheets*

EN 10300:2005, *Steel tubes and fittings for onshore and offshore pipelines — Bituminous hot applied materials for external coating*

EN 13121-1, *GRP tanks and vessels for use above ground — Part 1: Raw materials — Specification conditions and acceptance conditions*

EN 13121-2:2003, *GRP tanks and vessels for use above ground — Part 2: Composite materials — Chemical resistance*

EN 13160-1:2016, *Leak detection systems — Part 1: General principles*

EN 13160-2:2016+A1:2024, *Leak detection systems — Part 2: Requirements and test/assessment methods for pressure and vacuum systems*

EN 13160-3, *Leak detection systems — Part 3: Requirements and test/assessment methods for liquid systems for tanks*

EN 13160-4, *Leak detection systems — Part 4: Requirements and test/assessment methods for sensor based leak detection systems*

EN 14879-4:2007, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media — Part 4: Linings on metallic components*

EN ISO 62, *Plastics — Determination of water absorption (ISO 62)*

EN ISO 75-1, *Plastics — Determination of temperature of deflection under load — Part 1: General test method (ISO 75-1)*

EN ISO 75-2, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite (ISO 75-2)*

EN ISO 75-3, *Plastics — Determination of temperature of deflection under load — Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics (ISO 75-3)*

EN ISO 175, *Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175)*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178)*

EN ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test (ISO 179-1)*

EN ISO 179-2, *Plastics — Determination of Charpy impact properties — Part 2: Instrumented impact test (ISO 179-2)*

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1)*

EN ISO 527-3, *Plastics — Determination of tensile properties — Part 3: Test conditions for films and sheets (ISO 527-3)*

EN ISO 604, *Plastics — Determination of compressive properties (ISO 604)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1)*

EN ISO 24345, *Resilient floor coverings — Determination of peel resistance (ISO 24345)*

ISO 2528, *Sheet materials — Determination of water vapour transmission rate — Gravimetric (dish) method*

ISO 6133, *Rubber and plastics — Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13160-1:2016 apply.

4 Requirements

4.1 Effectiveness of leak detection lining kits and leak detection jacket kits

4.1.1 Tightness against liquid and vapour

The integrity of the leak detection linings and leak detection jackets shall be maintained under all operating pressures.

4.1.2 Permeability of leak detection linings and leak detection jackets

The permeation shall be according to Table 1 and Table 2.

No condensation of vapour of the stored product in the interstitial space should occur.