Irish Standard
I.S. EN 13160-3:2016

Leak detection systems - Part 3: Requirements and test/assessment methods for liquid systems for tanks

I.S. EN 13160-3:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 13160-3:2016 is the adopted Irish version of the European Document EN 13160-3:2016, Leak detection systems - Part 3: Requirements and test/assessment methods for liquid systems for tanks

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13160-3

July 2016

ICS 23.020.01; 23.040.99

Supersedes EN 13160-3:2003

English Version

Leak detection systems - Part 3: Requirements and test/assessment methods for liquid systems for tanks

Systèmes de détection de fuites - Partie 3: Exigences et méthodes d'essai/d'évaluation des systèmes à liquide pour des réservoirs

Leckanzeigesysteme - Teil 3: Anforderungen und Prüf-/Bewertungsverfahren für Flüssigkeitssysteme für Tanks

This European Standard was approved by CEN on 8 April 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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European foreword

This document (EN 13160-3:2016) 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 January 2017, and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13160-3:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

According to edition 2003 the following fundamental changes are given:

— requirements and test methods for the leak detection liquids revised;

— consideration of the Construction Product Regulation 305/2011/EU;

— new structure — technical requirements for the system provided consisting of sensing device, evaluation device, alarm device;);

— including of environmental aspects;

— requirements from EN 13160-1:2003 included, which are no longer contained in EN 13160-1:2016;

— requirements for software included;

— reference to REACH — Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency and GHS — Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

— using of temperature types;

— crevice test pieces and test method changed.

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*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard gives requirements and the corresponding test/assessment methods applicable to leak detection kits based on the drop of the liquid level in the leak detection liquid reservoir. Leak detection kits are intended to be used with double skin, underground or above ground, non-pressurized, tanks designed for water polluting liquids.

The liquid leak detection kits are usually composed of:

— sensing device (liquid sensor);

— evaluation device;

— alarm device.

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 981:1996+A1:2008, *Safety of machinery — System of auditory and visual danger and information signals*

EN 1412, *Copper and copper alloys — European numbering system*

EN 1652, *Copper and copper alloys — Plate, sheet, strip and circles for general purposes*

EN 10027–1, *Designation systems for steels — Part 1: Steel names*

EN 12285-1, *Workshop fabricated steel tanks — Part 1: Horizontal cylindrical single skin and double skin tanks for the underground storage of flammable and non-flammable water polluting liquids*

EN 12285-2, *Workshop fabricated steel tanks — Part 2: Horizontal cylindrical single skin and double skin tanks for the aboveground storage of flammable and non-flammable water polluting liquids*

EN 13160–1:2016, *Leak detection systems — Part 1: General Principles*

EN 13160–7, *Leak detection systems — Part 7: Requirements and test/assessment methods for interstitial spaces, leak detection linings and leak detection jackets*

EN 13341:2005+A1:2011, *Static thermoplastic tanks for above ground storage of domestic heating oils, kerosene and diesel fuels — Blow moulded and rotationally moulded polyethylene tanks and rotationally moulded tanks made of anionically polymerized polyamide 6 — Requirements and test methods*

EN 27888, *Water quality — Determination of electrical conductivity (ISO 7888)*

EN 60079-0:2012, *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0:2011, modified + Cor.:2012)*

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1)*

EN ISO 175:2010, *Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175:2010)*