



**NSAI**  
Standards

Irish Standard  
I.S. EN 13160-1:2016

# Leak detection systems - Part 1: General Principles

## I.S. EN 13160-1:2016

*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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## National Foreword

I.S. EN 13160-1:2016 is the adopted Irish version of the European Document EN 13160-1:2016, Leak detection systems - Part 1: General Principles

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

EN 13160-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 23.020.01; 23.040.99; 29.260.20

Supersedes EN 13160-1:2003

English Version

## Leak detection systems - Part 1: General Principles

Systèmes de détection de fuites - Partie 1: Principes  
généraux

Leckanzeigesysteme - Teil 1: Allgemeine Grundsätze

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.

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## European foreword

This document (EN 13160-1:2016) has been prepared by Technical Committee CEN/TC 393 “Equipment for storage tanks and for service 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of an identical text or by endorsement, at the latest by January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

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 13160-1:2003.

According to edition 2003 the following fundamental changes are given:

- new definitions for the Class IV C added;
- requirements concerning electromagnetic compatibility added;
- requirements for the different classes shifted to the part of the appropriate class.

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 kits*
- *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.

## EN 13160-1:2016 (E)

### 1 Scope

This European Standard specifies the general principles for leak detection systems for use with double-skin, single-skin, underground or above ground tanks and pipework designed for water polluting fluids.

### 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 60079-0, *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0)*

EN 60079-26, *Explosive atmospheres — Part 26: Equipment with equipment protection level (EPL) Ga (IEC 60079-26)*

EN 60950-1, *Information technology equipment — Safety — Part 1: General requirements (IEC 60950-1)*

EN 61000-6-1, *Electromagnetic compatibility (EMC) — Part 6-1: Generic standards — Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1)*

EN 61000-6-2, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments (IEC 61000-6-2)*

EN 61000-6-3, *Electromagnetic compatibility (EMC) — Part 6-3: Generic standards — Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3)*

EN 61000-6-4, *Electromagnetic compatibility (EMC) — Part 6-4: Generic standards — Emission standard for industrial environments (IEC 61000-6-4)*

EN 61010-1, *Safety requirements for electrical equipment for measurement, control and laboratory use — Part 1: General requirements (IEC 61010-1)*

EN 61340-4-1, *Electrostatics — Part 4-1: Standard test methods for specific applications — Electrical resistance of floor coverings and installed floors (IEC 61340-4-1)*

EN ISO 80079-36:2016, *Explosive atmospheres — Part 36: Non-electrical equipment for explosive atmospheres — Basic method and requirements (ISO 80079-36:2016)*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **atmospheric pressure conditions**

pressures ranging from 0,08 MPa (0,8 bar) to 0,11 MPa (1,1 bar)

#### 3.2

##### **working pressure**

maximum pressure which is generated by a pressure/vacuum generator in the interstitial space under normal operating conditions

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