Irish Standard
I.S. EN ISO 20485:2018

Non-destructive testing - Leak testing - Tracer gas method (ISO 20485:2017)

I.S. EN ISO 20485:2018

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

I.S. EN ISO 20485:2018 is the adopted Irish version of the European Document EN ISO 20485:2018, Non-destructive testing - Leak testing - Tracer gas method (ISO 20485:2017)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20485

February 2018

ICS 19.100

Supersedes EN 13185:2001

English Version

Non-destructive testing - Leak testing - Tracer gas method (ISO 20485:2017)

Essais non destructifs - Contrôle d'étanchéité - Méthode par gaz traceur (ISO 20485:2017)

Zerstörungsfreie Prüfung - Dichtheitsprüfung - Prüfgasverfahren (ISO 20485:2017)

This European Standard was approved by CEN on 26 November 2017.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 20485:2018) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" in collaboration with Technical Committee CEN/TC 138 “Non-destructive testing”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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.

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Endorsement notice

The text of ISO 20485:2017 has been approved by CEN as EN ISO 20485:2018 without any modification.

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I.S. EN ISO 20485:2018

INTERNATIONAL STANDARD

ISO 20485

First edition
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Non-destructive testing — Leak testing — Tracer gas method

Essais non destructifs — Contrôle d'étanchéité — Méthode par gaz traceur

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 6, *Leak testing*.

Non-destructive testing — Leak testing — Tracer gas method

1 Scope

This document describes the techniques to be applied for the detection of a leak, using a tracer gas and a tracer gas specific leak detector.

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 20484, *Non-destructive testing — Leak testing — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20484 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principles of detection

A partial pressure difference of tracer gas is created across the boundary of the object to be tested. The tracer gas, having passed through the leak, is revealed by its physical or chemical properties. Chemical detection is generally based on reactions that cause a local colour change (the object surface shall therefore be visible).

Detection based on physical properties usually involves a sensor, for example:

— a mass spectrometer, tuned for the specific tracer gas used (generally helium-4);

— an alkali ion diode, for halogen gas, and electron-capture equipment (i.e. for SF_6);

— a Pirani gauge, for tracer gas with thermal conductivity different from that of the ambient atmosphere;

— a photometer, with band-pass filter in the frequency range of the tracer gas absorption or emission.

These types of detection generally give an electrical signal which varies with the tracer gas partial pressure.

The reference conditions should be selected and agreed between a leak tester and a customer. The reference conditions should be clearly stated and claimed by a leak tester in the test report (see Clause 10).