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Non-destructive testing - Leak testing - Guide to the  
method selection

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 1779:2000 sisaldab Euroopa standardi EN 1779:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 1779:2000 consists of the English text of the European standard EN 1779:1999.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p><b>Käsitlusala:</b><br/>This draft European Standard describes criteria for the selection of the most suitable method for the assessment of leak tightness by indication or measurement of a gas leakage. Annex A allows a comparison of standard test methods. Leak detection using hydrostatic tests, ultrasonic or electromagnetic methods are not included in this document.</p> | <p><b>Scope:</b><br/>This draft European Standard describes criteria for the selection of the most suitable method for the assessment of leak tightness by indication or measurement of a gas leakage. Annex A allows a comparison of standard test methods. Leak detection using hydrostatic tests, ultrasonic or electromagnetic methods are not included in this document.</p> |
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ICS 19.100

Võtmesõnad:

ICS 19.100

English version

Non-destructive testing – Leak testing

Criteria for method and technique selection

Essais non destructifs – Contrôle  
d'étanchéité – Critères de choix de la  
méthode et de la technique

Zerstörungsfreie Prüfung –  
Dichtheitsprüfung – Kriterien zur  
Auswahl von Prüfmethoden und  
-verfahren

This European Standard was approved by CEN on 1999-07-10.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

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## Foreword

This European Standard has been prepared by 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 February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

This European Standard 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(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard describes criteria for the selection of the most suitable method and technique for the assessment of leak tightness by indication or measurement of a gas leakage. Annex A, normative, allows a comparison of standard test methods. Leak detection using hydrostatic tests, ultrasonic or electromagnetic methods is not included in this document.

This standard can be used for equipment which can be evacuated or pressurized.

## 2 Normative references

This standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the reference applies.

EN 473 Qualification and certification of NDT personnel - General principles

EN 1330-8 Non-destructive testing - Terminology -  
Part 8: Terms used in leak tightness testing

## 3 Definitions

For the purposes of this standard, the definitions given in EN 1330-8 apply.

## 4 Personnel qualification

It is assumed that leak testing is performed by qualified and capable personnel. In order to prove this qualification, it is recommended to certify the personnel in accordance with EN 473.

## 5 Units

The leakage rate is defined as the pV-throughput of a specific fluid which passes through a leak under specific conditions and is expressed in Pascals cubic metre per second.

In the past, the leakage rate was expressed in various units, these are given in informative annex B.

## 6 Tightness requirements

The leak tightness of an object is usually determined by measurement of its gas leakage rate.

Leak tightness is commonly described as the flow rate of fluid into or from the test object. For a gas, leak tightness may be conveniently indicated by the variation of pressure with time under specified conditions.

For testing, however, i.e. when drafting specifications and procedures, the leak tightness shall be expressed as leakage rate in units of gas throughput ( $\text{Pa}\cdot\text{m}^3/\text{s}$ ) for a specific gas at specified temperature and at specified pressure conditions.

Zero leakage rate shall not be specified. The required leak tightness shall be related to the function of the object under consideration.