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KATSE MEETOD JA NÕUDED GAASILEKKEKIIRUSELE
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Glass in building - Insulating glass units - Part 3: Long
term test method and requirements for gas leakage rate
and for gas concentration tolerances

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---|--|
| See Eesti standard EVS-EN 1279-3:2018 sisaldab Euroopa standardi EN 1279-3:2018 ingliskeelset teksti. | This Estonian standard EVS-EN 1279-3:2018 consists of the English text of the European standard EN 1279-3:2018. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.07.2018. | Date of Availability of the European standard is 25.07.2018. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |

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EUROPEAN STANDARD

EN 1279-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 1279-3:2002

English Version

Glass in building - Insulating glass units - Part 3: Long term test method and requirements for gas leakage rate and for gas concentration tolerances

Verre dans la construction - Vitrage isolant - Partie 3 :
Méthode d'essai à long terme pour le débit de fuite et
prescriptions pour les tolérances de concentration en
gaz

Glas im Bauwesen - Mehrscheiben-Isolierglas - Teil 3:
Langzeitprüfverfahren und Anforderungen bezüglich
Gasverlustrate und Grenzabweichungen für die
Gaskonzentration

This European Standard was approved by CEN on 2 March 2018.

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 COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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 1279-3:2018) has been prepared by Technical Committee CEN/TC 129 “Glass in building”, the secretariat of which is held by NBN.

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 2019 and conflicting national standards shall be withdrawn at the latest by January 2019.

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 supersedes EN 1279-3:2002.

The main changes compared to the previous edition EN 1279-3:2002 are:

- a) the standard has been fully technically and editorially revised;
- b) the scope has been changed;
- c) Terms and definitions and symbols have been split into two clauses;
- d) requirement for gas leakage rate has been significantly changed;
- e) the test method of this standard is also applicable to triple glazing units;
- f) gas leakage rate can be determined after ageing a minimum two and a maximum four test specimens. Durability of gas and interaction with IGU components has been added to requirements;
- g) precision of the test method has been moved to A.4.8 and updated following a new inter-laboratory test performed in 2009;
- h) "Test report" has been revised adding a full description of the test specimen;
- i) "Requirements for other gases" has been changed and moved to EN 1279-5:2018, Annex B: "Effect of gas filling on U and R_w".
- j) "Gas leakage rate by gas chromatography" is now Annex A;
- k) exchange criteria for gases are given in EN 1279-1:2018, Annex D.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document is part of the series EN 1279 “Glass in building - Insulating glass units” which consists of the following parts:

- *Part 1: Generalities, system description, rules for substitution, tolerances and visual quality;*
- *Part 2: Long term test method and requirements for moisture penetration;*
- *Part 3: Long term test method and requirements for gas leakage rate and for gas concentration tolerances;*
- *Part 4: Methods of test for the physical attributes of edge seal components and inserts;*

- *Part 5: Product standard;*
- *Part 6: Factory production control and periodic tests.*

These parts are inextricably bound up with each other.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard describes the test method for the determination of gas leakage rate and specifies the requirements for limit values for gas leakage rate and gas concentration for gas filled insulating glass units made

- a) in accordance with EN 1279-1:2018 and manufactured to EN 1279-6:2018, or
- b) for the purpose to demonstrate that components (e.g. edge seals or spacers) will allow the insulating glass unit to conform to the requirements given in EN 1279-1:2018, Clause 6.

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 673, *Glass in building - Determination of thermal transmittance (U value) - Calculation method*

EN 1279-1:2018, *Glass in building - Insulating glass units - Part 1: Generalities, system description, rules for substitution, tolerances and visual quality*

EN 1279-2:2018, *Glass in building - Insulating glass units - Part 2: Long term test method and requirements for moisture penetration*

EN 1279-6:2018, *Glass in building - Insulating glass units - Part 6: Factory production control and periodic tests*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1279-1:2018 apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Symbols and abbreviations

| Symbol | Characteristic | Unit |
|--------------------|--|--------------------------|
| c_i | concentration of gas i determined in accordance with 6.3.4 | % |
| $c_{i,0}$ | nominal value for a system of insulating glass and gas i which is the basis for testing sound insulation and/or calculating or testing thermal insulation to fix the respective R_w and U -value | % |
| m_i | mass of gas that has leaked from a gas-filled unit in a given time | $\mu\text{g}/\text{h}$ |
| L_i | gas leakage rate | $\% \cdot \text{a}^{-1}$ |
| $L_{i,\text{max}}$ | maximum gas leakage rate from all tested specimens | $\% \cdot \text{a}^{-1}$ |
| $L_{i,\text{av}}$ | average gas leakage rate for all tested specimens | $\% \cdot \text{a}^{-1}$ |
| P | absolute atmospheric pressure at which the unit was sealed | hPa |