SLOVENSKI STANDARD
SIST EN 1279-2:2018

01-oktober-2018

Steklo v gradbeništvu - Izolacijsko steklo - 2. del: Dolgoročna preskusna metoda ter zahteve za penetracijo vlage

Glass in building - Insulating glass units - Part 2: Long term test method and requirements for moisture penetration

Glas im Bauwesen - Mehrscheiben-Isolierglas - Teil 2: Langzeitprüfverfahren und Anforderungen bezüglich Feuchtigkeitsaufnahme

Verre dans la construction - Vitrage isolant - Partie 2: Méthode d'essai de longue durée et exigences en matière de pénétration d'humidité

Ta slovenski standard je istoveten z: **EN 1279-2:2018**

ICS:

81.040.20	Steklo v gradbeništvu	Glass in building

SIST EN 1279-2:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1279-2

July 2018

ICS 81.040.20

Supersedes EN 1279-2:2002

English Version

Glass in building - Insulating glass units - Part 2: Long term test method and requirements for moisture penetration

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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

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European foreword

This document (EN 1279-2:2018) 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of an identical text or by endorsement, at the latest by January 2019 and conflicting national standards shall be withdrawn at the latest by January 2019.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 1279-2:2002.

The main changes compared to the previous edition EN 1279-2:2002 are:

a) Measurement of the dew point of the 15 specimens was removed, the specimens are randomly selected;

b) The tolerance of some temperature was increased:

   — During cycling, θ_1 = (−18,0 ± 2,0) °C;

   — During the slopes: Θ = (θ_s ± 4,0) °C/h (for other specimens than the centred one);

   — During constant temperature: θ_c = (58 ± 1) °C;

c) The time to move the specimens from one cabinet to another was increased;

d) The minimum storage duration before testing was reduced to 3 days;

e) Test report was revised adding a full description of the test specimens;

f) Annex A: Dew point was moved to part 6;

g) Annex B: Measurement of the moisture content was moved to main part (sampling) and part 4 Annex E (measuring with change of temperature from 950 °C to 540 °C);

h) Annex C: Karl Fisher was moved to main part (sampling) and part 4 Annex F (measuring);

i) Annex D: Measurement of *Tc* was moved to part 4 Annex E (desiccant in bulk) or F (Karl Fisher);

j) Moisture content in insulating glass units without desiccant was moved to Annex A.

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

This European Standard “Glass in Building - Insulating glass units” 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 document describes the test method for the determination of moisture penetration index and specifies the requirements for limit values for 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 1279-1:2018, *Glass in Building — Insulating glass units — Part 1: Generalities, system description, rules for substitution, tolerances and visual quality*

EN 1279-4:2018, *Glass in Building — Insulating glass units — Part 4: Methods of test for the physical attributes of edge seal components and inserts*

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
AWAC	Available water adsorption capacity	% by weight
I	Moisture penetration index of the IGU	fraction or percentage
I_{av}	Average value of the moisture penetration indices I within tested set of IGUs	fraction or percentage
T_c	Standard moisture adsorption capacity of desiccant	% by weight
$T_{c,av}$	Average standard moisture adsorption capacity of desiccant T_c	% by weight
T_f	Final moisture content of desiccant after ageing according to standardized ageing conditions	% by weight
T_i	Initial moisture content of desiccant before ageing	% by weight
$T_{i,av}$	Average initial moisture content of desiccant T_i obtained over four measurements	% by weight

Symbol	Characteristic	Unit
Θ	Temperature of the external face of test specimens in test cabinet	°C
Θ_c	Temperature of the external face of the central test specimen in test cabinet during constant temperature phase	°C
Θ_h	High temperature of the external face of the central test specimen in the test cabinet during the high humidity/temperature cycling phase	°C
Θ_l	Low temperature of the external face of the central test specimen in the test cabinet during the low humidity/temperature cycling phase	°C
Θ_s	Temperature of the external face of the central test specimen in the test cabinet as the cycle moves between high temperature and low temperature and vice versa	°C

5 Requirements

Average moisture penetration index (*I*av) and moisture penetration index (*I*) shall be determined in accordance with Clause 6.

The average moisture penetration index (*I*av) of five test specimens shall not exceed 0,20 (or 20 %).

The moisture penetration index of any test specimen shall not exceed 0,25 (or 25 %).

6 Method of long-term test

6.1 Principle

Insulating glass unit (IGU) specimens are exposed to a climate test. The initial and final moisture content of the desiccant are determined. *I* values for each unit tested and *I*av value are calculated for each unit tested.

6.2 Number, description and selection of test specimens

15 test specimens which shall be representative of the system description (see EN 1279-1:2018, Annex A), and shall consist of two panes of 4 mm glass in accordance with EN 1279-1:2018, 5.2. If 4 mm glass is not available, the thickness as near as possible to 4 mm shall be used. The length shall be (502 ± 2) mm and the width shall be (352 ± 2) mm. The cavity width shall be 12 mm, or if not manufactured, the cavity width shall be as near as possible to 12 mm.

Specimens of triple glazed units may also be tested. Length, width and cavity width should fulfil the above mentioned requirements. The I-value of the individual cavities may be different. The requirement given in Clause 5 applies to both individual cavities.

After production, the test specimens shall be stored for fourteen days and additionally conditioned for a minimum of three days at standard laboratory conditions.

Number the specimens by random selection. Select the specimens as indicated in Table 1.

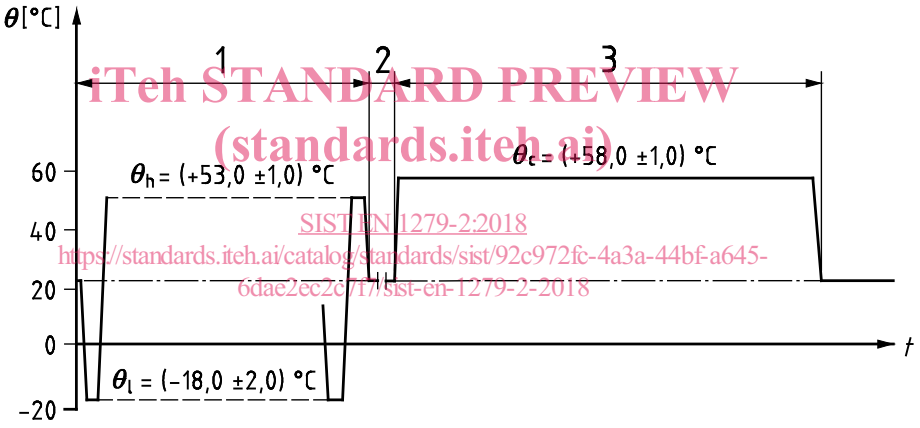
Table 1 — Designation of specimens

Specimen number	Designate specimens for:
1, 2, 3 and 4	Measurement of initial moisture content of desiccant (T_i)
5, 6, 7, 8 and 9	Climate testing and measurement of final moisture content of desiccant (T_f)
10, 11, 12 and 13	If used in case of breakage, spare specimens shall be aged in accordance with the full climate test for measurement of final moisture content of desiccant (T_f)
14 and 15	Disregarded or measurement of standard moisture adsorption capacity of desiccant (T_c) as required

The average moisture penetration index I_{av} shall be the average of five specimens .

6.3 Climate conditions in cabinet

The climate test procedure consists of two subsequent steps.



Key

1 cycling
2 moving specimens from cabinet to cabinet
3 constant temperature

Figure 1 — Overview of climate test conditions