SLOVENSKI STANDARD
SIST EN 1279-1:2018

01-oktober-2018

Nadomešča:
SIST EN 1279-1:2004
SIST EN 1279-1:2004/AC:2006

Steklo v gradbeništvu - Izolacijsko steklo - 1. del: Splošno, opis sistema, pravila za zamenjavo, tolerance in vizualna kakovost

Glass in Building - Insulating glass units - Part 1: Generalities, system description, rules for substitution, tolerances and visual quality

Glas im Bauwesen - Mehrscheiben-Isolierglas - Teil 1: Allgemeines, Systembeschreibung, Austauschregeln, Toleranzen und visuelle Qualität

Verre dans la construction - Vitrage isolant - Partie 1: Généralités, description du système, règles de substitution, tolérances et qualité visuelle

Ta slovenski standard je istoveten z: **EN 1279-1:2018**

ICS:

81.040.20	Steklo v gradbeništvu	Glass in building

SIST EN 1279-1:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1279-1

July 2018

ICS 81.040.20

Supersedes EN 1279-1:2004

English Version

Glass in Building - Insulating glass units - Part 1: Generalities, system description, rules for substitution, tolerances and visual quality

Verre dans la construction - Vitrage isolant - Partie 1 : Généralités, description du système, règles de substitution, tolérances et qualité visuelle

Glas im Bauwesen - Mehrscheiben-Isolierglas - Teil 1: Allgemeines, Systembeschreibung, Austauschregeln, Toleranzen und visuelle Qualität

This European Standard was approved by CEN on 9 March 2018.

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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 1279-1:2018) 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of an identical text or by endorsement, at the latest by January 2019 and conflicting national standards shall be withdrawn at the latest by January 2019.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 1279-1:2004.

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

The main changes in comparison with the previous edition include:

a) Example of system descriptions was added;

b) Annex B: examples of IGU systems were transferred from part 6;

c) Annex C compatibility of components was added;

d) Annex D: rules to substitute materials and components were revised and combined in this part;

e) Annex F: visual appearance requirements were added.

EN 1279, *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.*

This standard is written on the assumption of a 25 year period of use for IGUs.

No warranty can be derived thereof for the variety of different IGU designs, manufacturing procedures and particularly with regard to glazing situations. To ensure the full suitability and durability of new IGU designs or special product variants additional tests of components and/or IGUs may be required.

This means, that the described test procedures and all requirements of this standard, including factory production control, were worked out with the understanding that all values for characteristic's performances can be kept under relevant glazing situations in window and facades for this period without significant change.

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 (all parts) covers the requirements for insulating glass units. The main intended uses of the insulating glass units are installations in windows, doors, curtain walling, bonded glazing for doors, windows and curtain walling, roofs and partitions.

The achievement of the requirements of this standard indicates that insulating glass units fulfil the needs for intended use and ensures by means of the evaluation of conformity to this standard that, visual, energetic, acoustic, safety parameters do not change significantly over time.

In cases where there is no protection against direct ultraviolet radiation or permanent shear load on the edge seal, as in bonded glazing for doors, windows and curtain walling systems, it is essential to follow additional European Technical Specifications (see EN 15434, EN 13022-1 and prEN 16759).

Insulating glass units that are intended for artistic purposes (e.g. lead glass or fused glass) are excluded from the scope of this standard.

Vacuum insulating glass is not covered by this standard (see ISO DIS 19916-1).

Glass/plastics composites are under the scope as long as the surface of contact with sealants is a glass component.

NOTE For glass products with electrical wiring or connections for, e.g. alarm or heating purposes, other directives, e.g. Low Voltage Directive, may apply.

This European Standard gives definitions for insulating glass units and covers the rules for the system description, the optical and visual quality and the dimensional tolerances thereof and describes the substitution rules based on an existing system description.

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 572-1, *Glass in building - Basic soda lime silicate glass products - Part 1: Definitions and general physical and mechanical properties*

EN 572-2, *Glass in building - Basic soda lime silicate glass products - Part 2: Float glass*

EN 572-3, *Glass in building - Basic soda lime silicate glass products - Part 3: Polished wired glass*

EN 572-4, *Glass in building - Basic soda lime silicate glass products - Part 4: Drawn sheet glass*

EN 572-5, *Glass in building - Basic soda lime silicate glass products - Part 5: Patterned glass*

EN 572-6, *Glass in building - Basic soda lime silicate glass products - Part 6: Wired patterned glass*

EN 572-8, *Glass in building - Basic soda lime silicate glass products - Part 8: Supplied and final cut sizes*

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

EN 1279-3:2018, *Glass in building - Insulating glass units - Part 3: Long term test method and requirements for gas leakage rate and for gas concentration tolerances*

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 1279-5:2018, *Glass in building - Insulating glass units -Part 5: Product standards*

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

EN ISO 12543-1, *Glass in building - Laminated glass and laminated safety glass - Part 1: Definitions and description of component parts (ISO 12543-1)*

EN 13022-1, *Glass in building - Structural sealant glazing - Part 1: Glass products for structural sealant glazing systems for supported and unsupported monolithic and multiple glazing*

ISO 11485-1, *Glass in building - Curved glass - Part 1: Terminology and definitions*

ISO 11485-2, *Glass in building - Curved glass - Part 2: Quality requirements*

3 Terms and definitions

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

3.1
insulating glass unit
IGU

assembly consisting of at least two panes of glass, separated by one or more spacers, hermetically sealed along the periphery, mechanically stable and durable (as specified in 6.1)

3.1.1
IGU type A
IGU, when used for installation without permanent shear load in the sealant and protected against direct UV exposure on edge seal

3.1.2
IGU type B
IGU, when used for installation with at least one edge not completely protected against direct UV radiation without permanent shear load in the sealant

3.1.3
IGU type C
IGU when used for installation as bonded glazing for doors, windows and curtain walling with possible permanent shear load on edge sealant with or without direct UV radiation exposure

Note 1 to entry: Permanent shear load can be avoided by mechanical support to carry the weight.

Note 2 to entry: For IGU type B and C additional requirements in accordance with EN 15434 and EN 13022-1 may apply.

3.2
bonded glazing for doors, windows and curtain walling
assembly in which glass products are fixed to the structural seal frame by means of a sealant that has been shown to be capable of withstanding the load actions applied to the glass products of the structural seal frame

Note 1 to entry: Bonded glazing for doors, windows and curtain walling (see prEN 16759) was previously called structural sealant glazing (SSG) and is still used in some already published standards.

3.3
system
range of insulating glass units with a common edge seal design, edge seal materials and edge seal components as described in the system description, the range having a similar edge seal performance

Note 1 to entry: Examples of edge seal performances are moisture penetration index, gas leakage rate.

3.4
system description
description of components and the edge seal of the insulating glass unit in terms relevant to identification, and in terms relevant to edge seal performance, e.g. moisture penetration index, gas loss rate

Note 1 to entry: See Annex A.

3.5
permeation geometry
geometry of that part of the edge seal of the insulating glass unit through which the moisture and gas transmission takes place

Note 1 to entry: For example see Figure 1.

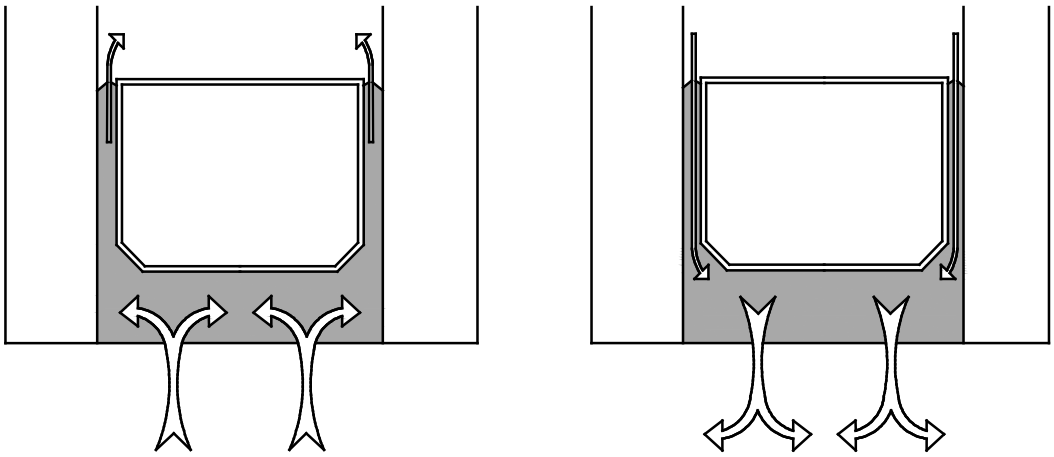

Figure 1 — Example of permeation geometry

3.6
cross-over stress
sealant tensile strength value at which its stress/strain curve crosses the line joining a stress of 0,50 MPa and a strain of 50 %

Note 1 to entry: Value is determined following EN 1279-4:2018, Annex A.

3.7
cavity
gap between the panes of an insulating glass unit

3.8
dehydrated air or gas
air or other gas with a low water vapour partial pressure which, when introduced into the cavity, avoid the risk of condensation in the cavity

Note 1 to entry: In all parts of EN 1279, the word “gas” refers to other gases or mixture of gases rather than air.

3.9
desiccant
component added to the system to absorb or adsorb immersing water vapour in the cavity over time

3.10
edge seal
assembled edge of an insulating glass unit, designed to ensure that moisture and gas transmissions between the inside and outside of the unit are limited, with a certain mechanical strength, and with a certain physical and chemical stability

3.11
sealant
polymer material that, after application, has sufficient mechanical and physical properties of cohesion and of adhesion to glass and/or spacer for use in edge seals

3.12
hot applied outer sealant
polymer material where an elevated temperature is required for application that, after application, has sufficient mechanical and physical properties of cohesion and of adhesion to glass and/or spacer for use in edge seals

3.13
double/dual seal system
edge seal system made of at least an inner sealant placed towards the cavity of the IGU and an outer sealant in contact with the environment outside the IGU

3.14
single seal system
edge seal system made of one single sealant

3.15
spacer
component used to separate the panes and control the width of the cavity at the edge of the insulating glass unit

Note 1 to entry: The main families of spacers are given in Figure 2.

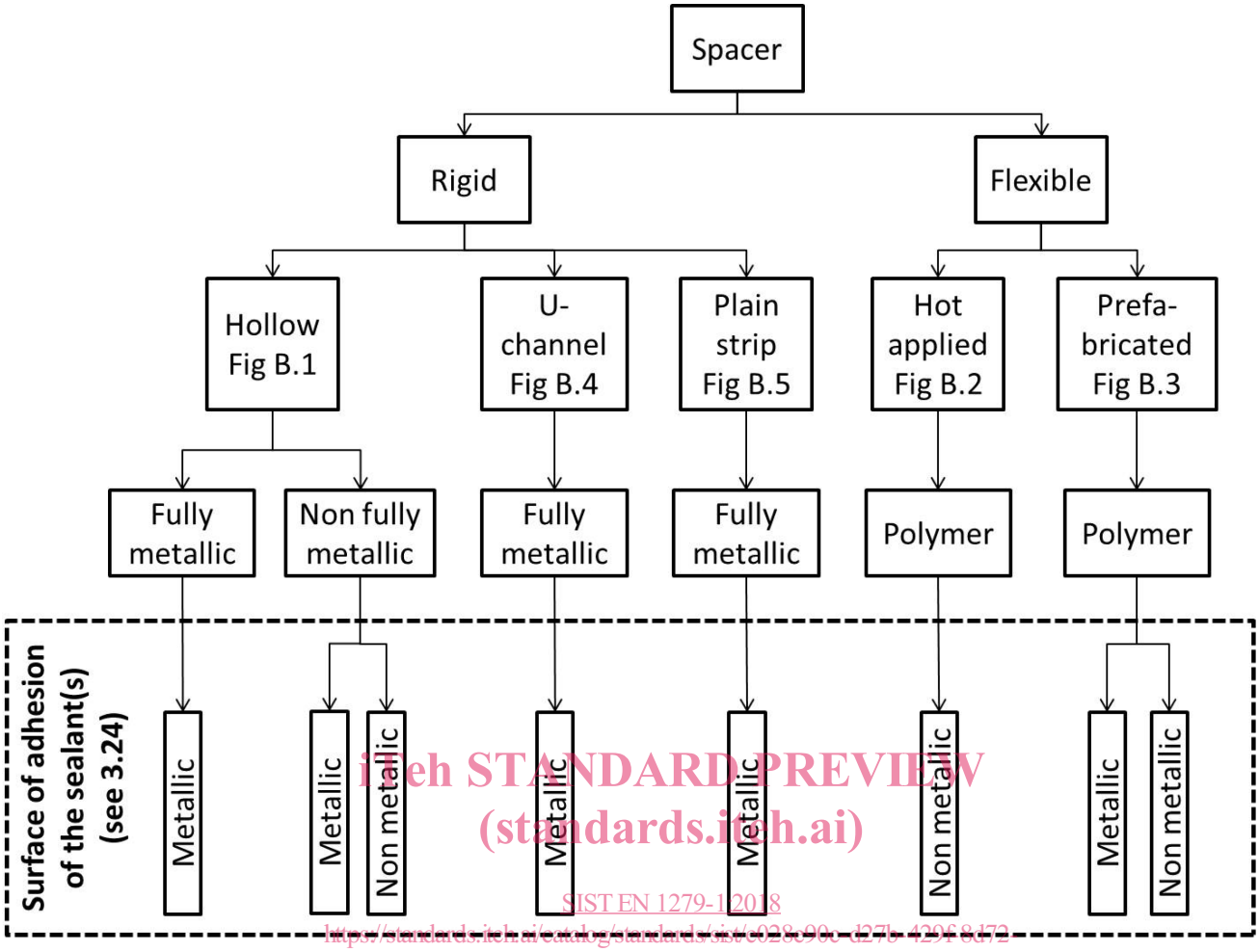

Figure 2 — Main families of spacers

3.16
hollow spacer
spacer intended to be filled with desiccant

3.17
rigid spacer frame
set of hollow spacers, that provide enough rigidity to be preassembled prior to application and applied against one pane of the insulating glass unit before the assembly

Note 1 to entry: examples of rigid spacer frame are a frame bent with joint piece or connected with corner keys, or a welded frame.

3.18
hollow metallic spacer
hollow spacer, painted or not, where at least 1/4 of the inner sealant adhesion height r (see Figure 3) and all of the contact surface with outer sealant shall be metallic adhesion surface (see 3.23)

3.19
joint piece
piece that connects parts of a spacer

3.20
corner key
joint piece that acts as a corner of the spacer frame

3.21
hot applied flexible spacer
polymer-based spacer which is applied at elevated temperature

Note 1 to entry: this spacer can be either prefabricated or extruded directly onto the glass surface.

3.22
prefabricated flexible spacer
polymer based flexible spacer which is supplied as a profile to the IGU manufacturer

Note1 to entry: this spacer can either be hot applied or cold applied.

3.23
adhesion surface
contact surface between spacer and one or both sealant(s)

3.24
metallic adhesion surface
spacer adhesion surface made of rolled or extruded aluminium, galvanised steel, stainless steel, without organic surface treatment

Note 1 to entry: Organic surface treatments are painting, organic coating, organic film, or organic overspray.

3.25
insert

constituent included in the cavity not directly in contact with the sealants of the edge seal

Note 1 to entry: The permeation geometry can be modified as fixings or connections of the inserts may be in contact with the edge seals.

3.26
U-channel spacer
spacer made of a U-shaped metal strip generally filled with a desiccant matrix

3.27
desiccant matrix
materials based on a polymer containing desiccant placed in a U-channel spacer for the purpose to keep the cavity of the insulating glass unit dry

3.28
desiccant cartridge
container with desiccant, placed somewhere in the cavity

3.29
leaded light strip
lead strip usually self-adhesive used on surface 1 and/or 2 of the insulating glass unit to simulate leaded light, traditional or modern stained glass effects