



SLOVENSKI STANDARD

SIST EN 15651-2:2010

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Tesnilne mase za nekonstrukcijske stike v stavbah in na sprehajalnih površinah - 2. del: Tesnilne mase za zasteklitev

Sealants for non-structural use in joints in buildings and pedestrian walkways - Part 2:
Sealants for glazing

Fugendichtstoffe für nicht tragende Anwendungen in Gebäuden und Fußgängerwegen -
Teil 2: Fugendichtstoffe für Verglasungen

Mastics pour joints dans la construction immobilière - Définitions, exigences et évaluation
de la conformité - Partie 2 : Mastics pour vitrage

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EUROPEAN STANDARD

EN 15651-2

NORME EUROPÉENNE

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English Version

Sealants for non-structural use in joints in buildings and pedestrian walkways - Part 2: Sealants for glazing

Mastics pour joints dans la construction immobilière -
Définitions, exigences et évaluation de la conformité -
Partie 2 : Mastics pour vitrage

Fugendichtstoffe für nicht tragende Anwendungen in
Gebäuden und Fußgängerwegen - Teil 2: Fugendichtstoffe
für Verglasungen

This European Standard was approved by CEN on 29 January 2010.

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 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 Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents		Page
Foreword.....		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	5
4	Requirements	6
5	Durability	10
6	Sampling	11
7	Evaluation of conformity.....	11
8	Marking and labelling	11
Annex A (informative) Example on the frequency of tests for factory production control		12
Bibliography		13

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SIST EN 15651-2:2010

<https://standards.iteh.ai/catalog/standards/sist/461a6d87-c574-4185-ac3f-f71caf50007c/sist-en-15651-2-2010>

Foreword

This document (EN 15651-2:2010) has been prepared by Technical Committee CEN/TC 349 “Sealants for joints in building construction”, 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 September 2010, and conflicting national standards shall be withdrawn at the latest by September 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes an informative Annex A dealing with factory production control.

This document is one part of the product European Standards within the framework series of EN 15651 on *Sealants for non-structural use in joints in buildings and pedestrian walkways*, as follows:

— *Part 1: Sealants for facade elements,*

— *Part 2: Sealants for glazing (this document),*

— *Part 3: Sealants for sanitary joints,*

— *Part 4: Sealants for pedestrian walkways,*

— *Part 5: Evaluation of conformity and marking.*

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 15651-2:2010 (E)**1 Scope**

This European Standard specifies definitions and requirements for non-structural elastic sealants used for sealing glazing in building construction applications.

It covers glazing joints from 7° horizontal. Main areas of application are:

- glass to glass;
- glass to frame;
- glass to porous substrates.

Excluding aquariums, structural bonding/glazing, inner and outer seal to manufacture insulated glazing units, horizontal glazing (below 7°), organic glass (e.g. polycarbonate, PMMA, etc.).

2 Normative references

The following referenced documents are indispensable for the application 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 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 15651-5, *Sealants for non-structural use in joints in buildings and pedestrian walkways — Part 5: Evaluation of conformity and marking*

EN 26927:1990, *Building construction — Jointing products — Sealants — Vocabulary (ISO 6927:1981)*

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1:2004)*

EN ISO 7389, *Building construction — Jointing products — Determination of elastic recovery of sealants (ISO 7389:2002)*

EN ISO 7390, *Building construction — Jointing products — Determination of resistance to flow of sealants (ISO 7390:2003)*

EN ISO 8339, *Building construction — Sealants — Determination of tensile properties (Extension to break) (ISO 8339:2005)*

EN ISO 8340, *Building construction — Sealants — Determination of tensile properties at maintained extension (ISO 8340:2005)*

EN ISO 9046, *Building construction — Jointing products — Determination of adhesion/cohesion properties of sealants at constant temperature (ISO 9046:2002)*

EN ISO 9047, *Building construction — Jointing products — Determination of adhesion/cohesion properties of sealants at variable temperatures (ISO 9047:2001)*

EN ISO 10563, *Building construction — Sealants — Determination of change in mass and volume (ISO 10563:2005)*

EN ISO 10590, *Building construction — Sealants — Determination of tensile properties of sealants at maintained extension after immersion in water (ISO 10590:2005)*

EN ISO 10591, *Building construction — Sealants — Determination of adhesion/cohesion properties of sealants after immersion in water (ISO 10591:2005)*

EN ISO 11358, *Plastics — Thermogravimetry (TG) of polymers — General principles (ISO 11358:1997)*

EN ISO 11431, *Building construction — Jointing products — Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass (ISO 11431:2002)*

EN ISO 11432, *Building construction — Sealants — Determination of resistance to compression (ISO 11432:2005)*

EN ISO 11600, *Building construction — Jointing products — Classification and requirements for sealants (ISO 11600:2002)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

ISO 13640, *Building construction — Jointing products — Specifications for test substrates*

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3 Terms and definitions

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For the purposes of this document, the terms and definitions given in EN 26927:1990 and the following apply.

3.1

non-reactive sealants

mainly physical drying mechanism, without significant change in the molecular weight of the main polymer

3.2

reactive sealants

mainly curing by chemical reaction, with significant increase of the molecular weight of the main polymer

3.3

cure

irreversible transformation of a sealant from a liquid or paste like state into a hardened or rubber like solid state

3.4

uncured/wet

state of a sealant prior to the above transformation

EN 15651-2:2010 (E)**4 Requirements****4.1 Identification requirements and test methods****4.1.1 Short description of the sealant**

The short description of the non-structural sealant for glazing elements shall include: brand name, type (general chemical family), opaque or translucent, waterborne or solvent based or solvent free, reactive or non-reactive, and one or multi-component (e.g. neutral cure, reactive silicone and one component, etc.).

The primer shall be stated for the substrate concerned if relevant (name, chemical type, etc.)

4.1.2 Thermogravimetric test

The test shall be carried out in accordance with EN ISO 11358 on the uncured or wet sealant, between 35 °C to 900 °C, temperature slope 10 °C/min, non-oxidative condition (e.g. nitrogen). A single sample shall be used for this test. A single specimen may be tested and there shall be no significant difference between the reference curve and derivative (profile).

In the case of multi-component sealant, each component shall be evaluated (if relevant).

4.1.3 Specific Gravity test

The determination of the specific gravity shall be in accordance with EN ISO 1183-1, on the uncured or wet sealant, using Method A or Method B, depending on the type of sealant under test. The testing temperature shall be (23 ± 2) °C. At least three samples shall be tested. The method used and the mean value, recorded to two decimal places, shall be declared. The tolerance of the declared values shall be within ± 5 %.

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4.1.4 Hardness (indentation) test (Shore Hardness)

The determination of the indentation hardness shall be in accordance with EN ISO 868. The test shall be performed on the cured or dried sealant.

The exact conditions of test shall be defined by the manufacturer, i.e. thickness, cure/drying times and temperature and relative humidity, specific Shore type (A, D...), test time, temperature, etc.

At least three samples shall be tested and the five measurements taken per sample. The mean value and tolerances of all measurements, recorded to the nearest unit, shall be declared.

4.2 Conditioning, test procedure and substrates

When determining the classification of a glazing sealant according to the requirements of this standard, the same conditioning procedure shall be used in all relevant test methods (use only Method A or Method B). For each test method, three test specimens for each substrate shall be tested. The same batch of sealant (and primer, if used) shall be used in all tests. The same substrates (material and surface finish) shall be used in all tests. Tests shall be performed on glass according to ISO 13640.

The specific test conditions for each test method are given in Table 1.

Table 1 - Specific tests conditions

	Test method	25LM	25HM	20LM	20HM
Elongation ^a	EN ISO 7389 EN ISO 8339 EN ISO 8340 EN ISO 10590 EN ISO 11431	100 %	100 %	60 %	60 %
Amplitude	EN ISO 9047	± 25 %	± 25 %	± 20 %	± 20 %
^a the value of elongation is given as a percentage of the original width: elongation % = [(final width – original width) / (original width)] x 100 %					

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Substrates to be used in all mechanical tests concerned shall be glass according to ISO 13640. Additional substrates to be considered mortar M1 or M2 and/or anodised aluminium.

4.3 Performance requirements

4.3.1 General

Classes for elastic sealants for glazing in building construction are referred to as type G. A summary of the characteristics and classes are given in Table 2.