

<b>STN</b>	<p style="text-align: center;"><b>Lepiace tmely</b> <b>Časť 1: Lepené tmely na zasklievanie pri priamom pôsobení svetla</b></p>	<p style="text-align: center;"><b>STN EN 15434-1</b></p>
		70 1641

Bonding sealants - Part 1: Bonded glazing sealants for direct light exposure

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/23

Obsahuje: EN 15434-1:2023

Oznámením tejto normy sa ruší  
STN EN 15434+A1 (70 1641) z novembra 2010

**137057**





EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 15434-1

April 2023

ICS 81.040.20; 91.100.50

Supersedes EN 15434:2006+A1:2010

English Version

Bonding sealants - Part 1: Bonded glazing sealants for  
direct light exposure

Mastics de collage - Partie 1 : Mastics de scellement  
et/ou de collage en exposition direct à la lumière

Klebende Dichtstoffe - Teil 1: Klebende Dichtstoffe für  
Glaskonstruktionen

This European Standard was approved by CEN on 3 March 2023.

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.

CEN members are the national standards bodies of 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN 15434-1:2023 (E)****Contents**

	Page
<b>European foreword .....</b>	<b>4</b>
<b>1 Scope.....</b>	<b>5</b>
<b>2 Normative references.....</b>	<b>5</b>
<b>3 Terms and definitions.....</b>	<b>6</b>
<b>4 Apparatus and substrates.....</b>	<b>7</b>
<b>4.1 Substrate.....</b>	<b>7</b>
<b>4.2 Spacers.....</b>	<b>7</b>
<b>4.3 Anti-adherent substrate.....</b>	<b>7</b>
<b>4.4 Tensile test machine.....</b>	<b>7</b>
<b>4.5 Separator and clamps.....</b>	<b>7</b>
<b>4.6 Oven .....</b>	<b>8</b>
<b>4.7 Conditioning chambers.....</b>	<b>8</b>
<b>4.8 Container .....</b>	<b>8</b>
<b>4.9 Artificial light source .....</b>	<b>8</b>
<b>5 Requirements sealant .....</b>	<b>8</b>
<b>5.1 General.....</b>	<b>8</b>
<b>5.2 Identification .....</b>	<b>9</b>
<b>5.2.1 Description.....</b>	<b>9</b>
<b>5.2.2 General.....</b>	<b>9</b>
<b>5.2.3 Thermogravimetric analysis .....</b>	<b>9</b>
<b>5.2.4 Density .....</b>	<b>10</b>
<b>5.2.5 Hardness .....</b>	<b>10</b>
<b>5.2.6 Change in volume or shrinkage .....</b>	<b>10</b>
<b>5.2.7 Elastic modulus of the sealant.....</b>	<b>10</b>
<b>5.2.8 Elastic recovery .....</b>	<b>10</b>
<b>5.2.9 Water vapour transmission and gas transmission rate.....</b>	<b>11</b>
<b>5.3 Mechanical characteristics .....</b>	<b>11</b>
<b>5.3.1 General.....</b>	<b>11</b>
<b>5.3.2 Initial dynamic tensile load.....</b>	<b>11</b>
<b>5.3.3 Initial Dynamic Shear .....</b>	<b>12</b>
<b>5.3.4 Resistance to tearing .....</b>	<b>14</b>
<b>5.3.5 Fatigue test: dynamic tension cyclic load.....</b>	<b>16</b>
<b>5.3.6 Creep under simultaneous long term shear and tensile loading .....</b>	<b>17</b>
<b>5.3.7 Exposure to water with and without artificial light .....</b>	<b>19</b>
<b>5.3.8 Residual mechanical strength under additional artificial aging conditions .....</b>	<b>22</b>
<b>5.4 Compatibility with adjacent material.....</b>	<b>23</b>
<b>5.4.1 General.....</b>	<b>23</b>
<b>5.4.2 Method without UV .....</b>	<b>23</b>
<b>5.4.3 Method with UV .....</b>	<b>24</b>
<b>6 Reaction to fire.....</b>	<b>26</b>
<b>7 Evaluation of conformity.....</b>	<b>27</b>
<b>7.1 Requirements.....</b>	<b>27</b>
<b>7.1.1 Product description .....</b>	<b>27</b>
<b>7.1.2 Conformity with the definition of sealant.....</b>	<b>27</b>

<b>7.1.3 Determination of the characteristic's performances .....</b>	<b>27</b>
<b>Annex A (normative) Test sample description for testing mechanical characteristics .....</b>	<b>31</b>
<b>Annex B (informative) Evaluation of mechanical test results .....</b>	<b>32</b>
<b>B.1 Evaluation of the characteristic values <math>R_{u,5}</math>.....</b>	<b>32</b>
<b>Annex C (informative) Carrying out and evaluating the creep test.....</b>	<b>33</b>
<b>C.1 Description of testing device .....</b>	<b>33</b>
<b>C.2 Procedure .....</b>	<b>33</b>
<b>Bibliography .....</b>	<b>36</b>

**EN 15434-1:2023 (E)****European foreword**

This document (EN 15434-1:2023) 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 October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

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 15434:2006+A1:2010.

The main changes compared to the previous edition are listed below:

- clauses prepared for the purposes of the Construction Products Directive (CPD) were deleted;
- updated technically and improved editorially.

This document is one part of the product European Standards within the EN 15434 series on *Bonding sealants*.

This document is one of a series of interrelated standard parts dealing with:

- glass products for bonded sealant glazing systems;
- installation of glass products in a bonded manner on building facades;
- bonding sealants.

The interrelated parts are:

- 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*;
- EN 13022-2, *Glass in building — Structural sealant glazing — Part 2: Assembly rules*.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## 1 Scope

This document covers the requirements for, and testing of sealants for use in one or more of the following applications:

- a) Manufacturing of insulating glass units where direct ultraviolet resistance and mechanical resistance (bonding use) of the insulating glass edge seal are required;
- b) Manufacturing of factory-made bonded sealant glazing elements when referred to by the relevant European Standards and/or European Technical Approval Guidelines;
- c) Assembling of glass products into or onto supports, where also direct ultraviolet resistance and/or mechanical resistance (bonding use) of the seal are required, under controlled environmental conditions as described in EN 13022-2.

This document covers the evaluation of conformity and the factory production control with respect to the production of sealants in conformity with this document.

This document describes the role of sealants that are in conformity with this document, with respect to sealing and bonding.

This document does not apply to sealants for the manufacture of insulating glass units where the seal is fully protected, i.e. by a frame, from ultraviolet radiation.

## 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 572-1:2012+A1:2016, *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 1279-1, *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 ISO 6927, *Buildings and civil engineering sealants - Vocabulary (ISO 6927)*

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*

EN 13022-2, *Glass in building - Structural sealant glazing - Part 2: Assembly rules*

EN ISO 527-3:2018, *Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (ISO 527-3:2018)*

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

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)*

**EN 15434-1:2023 (E)**

EN ISO 4892-2, *Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 4892-2)*

EN ISO 7389:2003, *Building construction - Jointing products - Determination of elastic recovery of sealants (ISO 7389:2002)*

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

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

EN ISO 10563, *Buildings and civil engineering works - Sealants - Determination of change in mass and volume (ISO 10563)*

EN ISO 11358-1:2022, *Plastics - Thermogravimetry (TG) of polymers - Part 1: General principles (ISO 11358-1:2022)*

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

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

EN 16759, *Bonded Glazing for doors, windows and curtain walling - Verification of mechanical performance of bonding on aluminium and steel surfaces*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**