

Building and civil engineering sealants - Determination of adhesion/cohesion properties of sealants after immersion in water (ISO 10591:2021)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10591:2021 sisaldab Euroopa standardi EN ISO 10591:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 10591:2021 consists of the English text of the European standard EN ISO 10591:2021.
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ICS 91.100.50

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English Version

**Building and civil engineering sealants - Determination of
adhesion/cohesion properties of sealants after immersion
in water (ISO 10591:2021)**

Mastics pour bâtiments et ouvrages de génie civil -
Détermination des propriétés d'adhésivité/cohésion
des mastics après immersion dans l'eau (ISO
10591:2021)

Dichtstoffe im Hoch- und Tiefbau - Bestimmung des
Haft- und Dehnverhaltens von Dichtstoffen nach dem
Tauchen in Wasser (ISO 10591:2021)

This European Standard was approved by CEN on 17 October 2021.

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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 ISO 10591:2021) has been prepared by Technical Committee ISO/TC 59 "Buildings and civil engineering works" in collaboration with Technical Committee CEN/SS B02 "Structures" the secretariat of which is held by CCMC.

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of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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 ISO 10591:2005.

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

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 10591:2021 has been approved by CEN as EN ISO 10591:2021 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 8, *Sealant*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS B02, *Structures*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 10591:2005), which has been technically revised.

The main changes are as follows:

- the title of the document has been modified;
- the range of variation of extension rate has been changed to $(5,5 \pm 0,5)$ mm/min;
- the range of variation of relative humidity has been changed to (50 ± 10) %;
- the operation sequence for the cleaning substrate materials has been added;
- the expression of results has been improved by showing a formula with descriptors.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Building and civil engineering sealants — Determination of adhesion/cohesion properties of sealants after immersion in water

1 Scope

This document specifies a method for the determination of the influence of water on the adhesion/cohesion properties of sealants with predominantly plastic behaviour which are used in joints in buildings and civil engineering works.

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.

ISO 6927, *Building and civil engineering sealants — Vocabulary*

ISO 13640, *Buildings and civil engineering works — Sealants — Specifications for test substrates*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6927 apply.

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

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

4 Principle

Test specimens are prepared in which the sealant to be tested adheres to two parallel contact surfaces. After submission of the test specimens to water immersion under defined conditions, the test specimens are extended to rupture and the elongation at break recorded.

5 Apparatus

5.1 Substrate material, used for the preparation of test specimens, which shall be as defined in ISO 13640. The materials shall be selected from mortar and/or anodized aluminium and/or glass. Other substrate materials may be used as agreed by the parties concerned.

For each test specimen, two substrate pieces of the same material are required, with a cross-section of dimensions as shown in [Figures 1](#) and [2](#). Test substrates of other dimensions may be used, but then the dimensions of the sealant bead and the area of adhesion shall be the same as those shown in [Figures 1](#) and [2](#).

5.2 Spacers, for the preparation of the test specimens, of cross-section (12 mm × 12 mm) with anti-adherent surface (see [Figures 1](#) and [2](#)).