



SLOVENSKI STANDARD
oSIST prEN ISO 9046:2020
01-september-2020

Stavbe in gradbeni inženirski objekti - Tesnilne mase - Ugotavljanje adhezijskih/kohezijskih lastnosti pri stalni temperaturi (ISO/DIS 9046:2020)

Buildings and civil engineering works - Sealants - Determination of adhesion/cohesion properties at constant temperature (ISO/DIS 9046:2020)

Hochbau - Fugendichtstoffe - Bestimmung des Haft- und Dehnverhaltens von Dichtstoffen bei konstanter Temperatur (ISO/DIS 9046:2020)

Construction immobilière - Produits pour joints - Détermination des propriétés d'adhésivité/cohésion des mastics à température constante (ISO/DIS 9046:2020)

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ICS:

91.100.50 Veziva. Tesnilni materiali Binders. Sealing materials

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Buildings and civil engineering works — Sealants — Determination of adhesion/cohesion properties at constant temperature

ICS: 91.100.50

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Contents

	Page
Foreword.....	iv
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Principle.....	1
5 Apparatus.....	1
5.1 Substrate material.....	1
5.2 Spacers.....	1
5.3 Anti-adherent substrate.....	2
5.4 Ventilated convection-type oven.....	2
5.5 Container for water immersion.....	2
5.6 Test machine.....	2
5.7 Measuring device.....	2
6 Preparation of test specimens.....	2
7 Conditioning of test specimens.....	5
7.1 Preconditioning.....	5
7.2 Specific conditioning.....	5
8 Procedure.....	5
9 Test report.....	5

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ISO/DIS 9046:2020(E)

Foreword

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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/TC59, *buildings and civil engineering works*, Subcommittee SC 8, *sealants*.

This third edition cancels and replaces the second edition (ISO 9046:2002), which has been technically revised.

The main changes compared to the previous edition are as follows:

- modified the title
- modified the rate of test machine
- modified the requirement of relative humidity
- modified the anti-adherent substrate

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.

Buildings and civil engineering works — Sealants — Determination of adhesion/cohesion properties at constant temperature

1 Scope

The document specifies a method for the determination of the adhesion/cohesion properties of sealants with predominantly plastic behaviour which are used 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, *Buildings and civil engineering works — 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.

No terms and definitions are listed in this document.

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

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

4 Principle

Test specimens are prepared in which the sealant to be tested adheres to two parallel surfaces. After submission to cycles of compression and extension, the test specimens are examined for evidence of loss of adhesion or cohesion.

5 Apparatus

5.1 Substrate material

The mortar or anodized aluminium or glass, used for the preparation of test specimens are defined in ISO 13640. 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 dimensions as shown in Figures 1 and 2. Test substrates of other dimensions may be used, but 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 dimensions 12mm × 12mm × 12.5mm with anti-adherent surface (see Figures 1 and 2).

ISO/DIS 9046:2020(E)

5.3 Anti-adherent substrate

For the preparation of test specimens, e.g. polyethylene (PE) film, PTFE or microporous PTFE , preferably according to the advice of the sealant manufacturer.

5.4 Ventilated convection-type oven

The oven with capable of being maintained at $(70 \pm 2)^\circ\text{C}$.

5.5 Container for water immersion

For water immersion of the specimen, for conditioning according to method B.

5.6 Test machine

The machine has the capable of carrying out extension/compression cycles at a rate of (1 ± 0.2) mm/min.

5.7 Measuring device

It scaled in 0.5 mm.

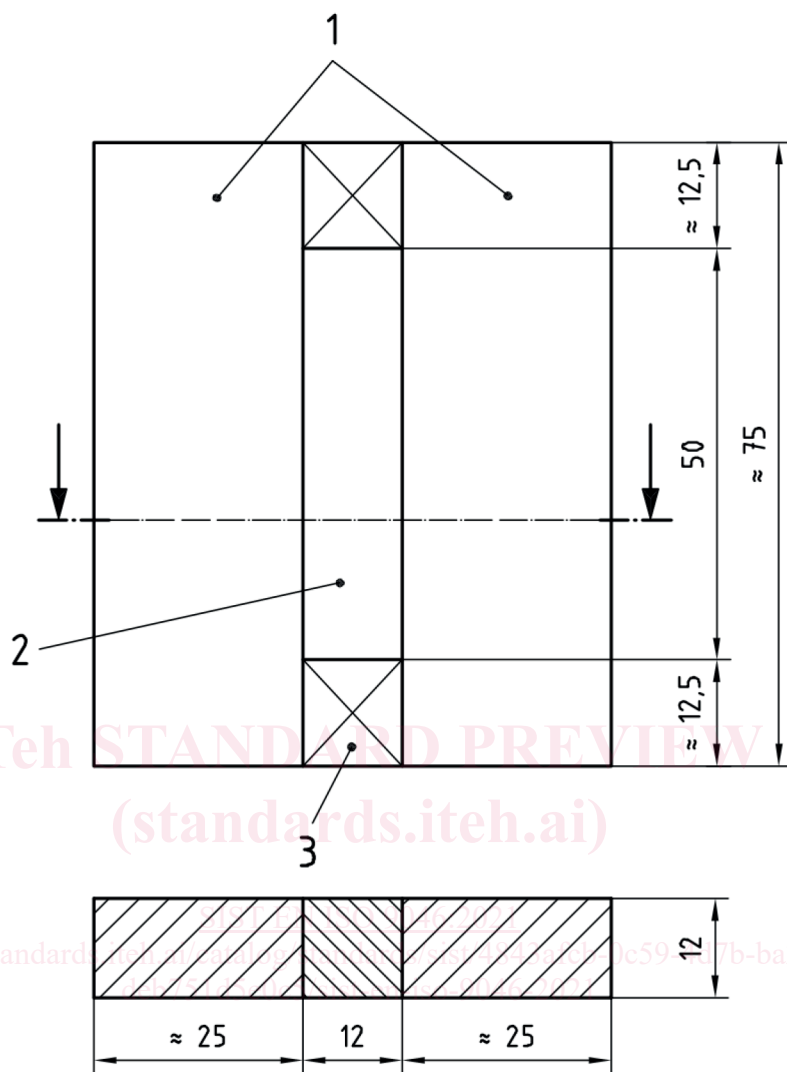
6 Preparation of test specimens

The sealant and the substrate shall be brought to $(23 \pm 2)^\circ\text{C}$. For each substrate material selected, three test specimens shall be prepared.

For each test specimen, two substrates (5.1) and two spacers (5.2) shall be assembled (see Figures 1 and 2) and set up on the anti-adherent substrate (5.3).

The instructions of the sealant manufacturer concerning, for instance, whether a primer is to be used and the mixing procedure for multi-component sealants shall be followed. The hollow formed by the substrates shall be filled with the sealant.

Dimensions in millimetres

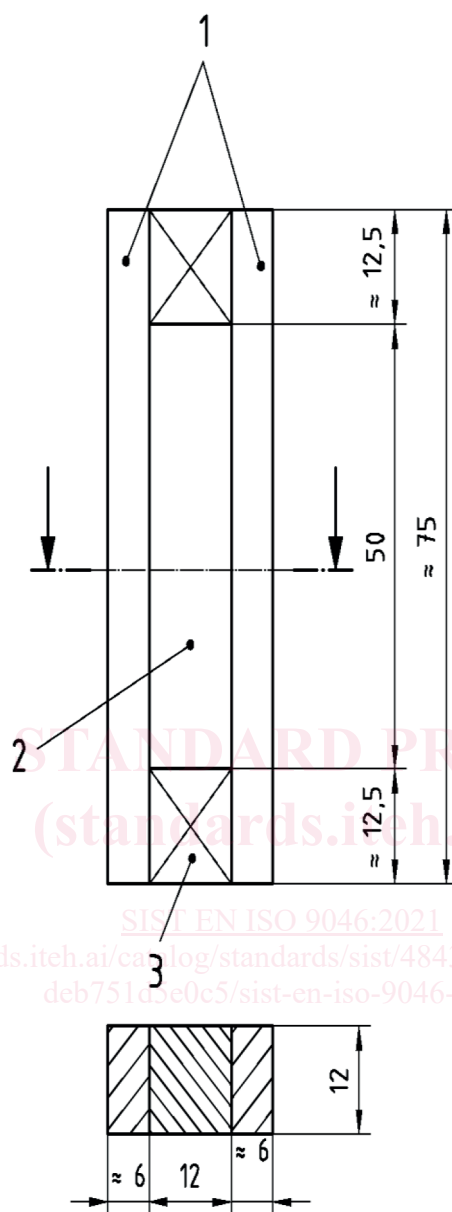


Key

- 1 Mortar substrates
- 2 Sealant
- 3 Space

Figure 1 — Test specimen with mortar substrates

Dimensions in millimetres



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Key

- 1 Anodized aluminium or glass substrates
- 2 Sealant
- 3 Space

Figure 2 — Test specimen with anodized aluminium or glass substrate

The following precautions shall be taken:

- a) the formation of air bubbles shall be avoided;
- b) the sealant shall be pressed to the contact surfaces of the substrates;
- c) the sealant surface shall be trimmed so that it is flush with the faces of the substrates and the spacers.