

---

---

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

*Mastics pour bâtiments et ouvrages de génie civil — Détermination  
des propriétés d'adhésivité/cohésion des mastics après immersion  
dans l'eau*



This document is a preview generated by EUS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword.....	iv
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Principle.....	1
5 Apparatus.....	1
6 Preparation of test specimens.....	3
7 Conditioning of test specimens.....	4
7.1 General.....	4
7.2 Conditioning method A.....	4
7.3 Conditioning method B.....	4
8 Test procedure.....	4
9 Expression of results.....	4
10 Test report.....	5

## 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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](http://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  $(50 \pm 10)$  %;
- 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](http://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](#)).