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Buildings and civil engineering works — Determination of extrudability for sealant —

Part 2: Using standardized apparatus

Bâtiments et ouvrages de génie civil — Détermination de l'extrudabilité des mastics —

Partie 2: À l'aide d'un appareil normalisé

Reference number
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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 8, *Sealants*.

This second edition cancels and replaces the first edition (ISO 8394-2:2010), which has been technically revised.

The main change compared to the previous edition is as follows:

— figures in this document have been modified.

A list of all parts in the ISO 8394 series can be found on the ISO website.

Buildings and civil engineering works — Determination of extrudability for sealant —

Part 2: Using standardized apparatus

1 Scope

This document specifies a method for determining the extrudability of sealants independently of the package in which they are supplied.

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*

3 Terms and definitions

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

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Principle

The tested sealant is filled in a standardized apparatus.

The sealant is extruded under defined conditions. The mass of the extruded sealant is determined.

This document specifies reference test conditions, such as temperature, pressure, extrusion time and geometry of cylinder. Deviation from these conditions is possible. Deviation modifies the final result; therefore, any deviation shall be described in the test report. The comparison of results is possible, only if all the test conditions are the same.

5 Apparatus

5.1 Regulated enclosure, regulated to (5 ± 2) °C, (23 ± 2) °C, (35 ± 2) °C or a temperature agreed on by the parties concerned.

5.2 Pneumatic standardized apparatus, with a test volume of 250 ml or 400 ml and with an orifice diameter from 2 mm to 10 mm, as agreed on by the parties concerned (see Figure 1 and Figure 2).

5.3 Compressed air, up to 700 kPa.

5.4 Stopwatch, accurate to 0,1 s.

5.5 Balance, accurate to 0,1 g.

6 General

Perform all the measurements under the same conditions (same batch number, temperature, volume of cylinder and orifice diameter, same pressure, etc.) for the following cases.

a) Single-component sealants:

   1) for each single-component sealant, perform three extrusion tests;

   2) for each extrusion test, use one standardized apparatus.

b) Multi-component sealants:

   1) for each multi-component sealant, determine an extrusion test at three different times (see 8.3);

   2) at each time, perform an extrusion test from three different standardized apparatus;

   3) carry out nine extrusion tests (with three standardized apparatus for each of the three different times).

7 Preparation of the standardized apparatus

Select the volume of the cylinder and the diameter of the orifice, according to the viscosity of the tested sealant, or as agreed on by the parties concerned.

Fit the plunger and ring of the standardized apparatus and insert in the cylinder, with the ring towards the orifice.

8 Conditioning of the sealant

8.1 General

Condition the single- or multi-component sealant and the cylinder at the testing temperature in the regulated enclosure (5.1) for a minimum of 12 h before testing.

The default conditioning temperature is (23 ± 2) °C.

This test temperature may be at (5 ± 2) °C, (23 ± 2) °C or (35 ± 2) °C, or a temperature agreed on by the parties concerned.

8.2 Single-component sealants

Fill the cylinder of the standardized apparatus with the sealant, avoiding the formation of air bubbles.

8.3 Multi-component sealants

Follow the instructions of the sealant manufacturer concerning the mixing procedure of the sealant.

Using the instructions of the sealant manufacturer, calculate the extrusion times corresponding to:

— the quarter of pot life at the corresponding testing temperature;

— the middle of pot life at the corresponding testing temperature;

— the third quarter of pot life at the corresponding testing temperature.