



SLOVENSKI STANDARD
SIST EN 3094:2017

01-december-2017

Aeronavtika - Tesnilne mase - Preskusne metode - Določitev časa obdelave

Aerospace series - Sealants - Test method - Determination of the application time

Luft- und Raumfahrt - Dichtmassen - Prüfverfahren - Bestimmung der Verarbeitungszeit

Série aérospatiale - Produits d'étanchéité - Méthode d'essai - Détermination du temps d'application

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Ta slovenski standard je istoveten z: EN 3094:2017

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ICS:

49.025.99 Drugi materiali Other materials

SIST EN 3094:2017

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3094

October 2017

ICS 49.025.99

English Version

**Aerospace series - Sealants - Test method - determination
of the application time**

Série aérospatiale - Produits d'étanchéité - Méthode
d'essai - Détermination du temps d'application

Luft- und Raumfahrt - Dichtmassen - Prüfverfahren -
Bestimmung der Bearbeitungszeit

This European Standard was approved by CEN on 26 June 2017.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 3094:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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 April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

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.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 3094:2017 (E)**1 Scope**

This European Standard specifies two methods for the determination of the application time of sealants.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2555:1989, *Plastics — Resins in the liquid state or as emulsions or dispersions — Determination of apparent viscosity by the Brookfield Test method*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1**application time**

application time is the time interval, at a specified temperature and humidity, between the mixing of the base material with the curing system and the point where the sealant has cured to a state where application by normal methods is no longer possible

4 Principle of the test method

The application time is determined by two different methods, depending on the viscosity of the sealant.

4.1 Method A (viscosity)

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For sealants with a viscosity lower than 75 Pa.s, the viscosity is measured with a BROOKFIELD viscometer or equivalent at the end of the specified application time according to ISO 2555.

4.2 Method B (extrusion)

For sealants with a viscosity higher than 75 Pa.s, the mass extruded through a nozzle under specified conditions is measured at the end of the stated application time.

5 Method A (viscosity)**5.1 Conditioning**

The base compound and the curing system shall be stabilized at (23 ± 2) °C in closed containers for at least 8 h before testing.

5.2 Procedure

The base compound shall be mixed with the proper amount of the curing system and filled into a can. The can shall be kept at (23 ± 2) °C and tightly covered until the testing of the viscosity.

At the end of the specified application time, measured from the beginning of the mixing period, the viscosity of the sealant shall be determined according to ISO 2555 using spindle, rotation speed and stirring procedures as defined in the material specification.

5.3 Calculation and expression of results

The reading taken on the viscometer shall be converted into a viscosity value using the procedure stated for the viscometer, spindle and speed.

6 Method B (extrusion)

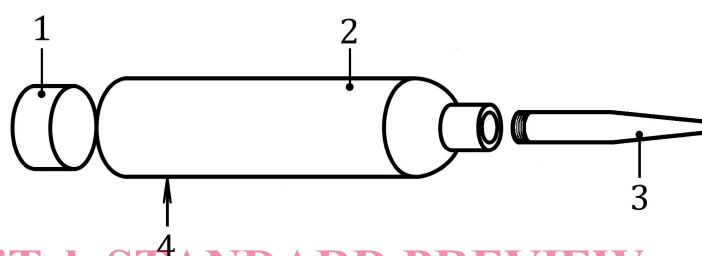
6.1 Apparatus

6.1.1 Sealant application gun

6.1.2 Sealant cartridge

See Figure 1.

Dimensions in millimetres



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Key

- 1 Piston
- 2 Cartridge
- 3 Nozzle
- 4 Diameter $40 \pm 0,1$

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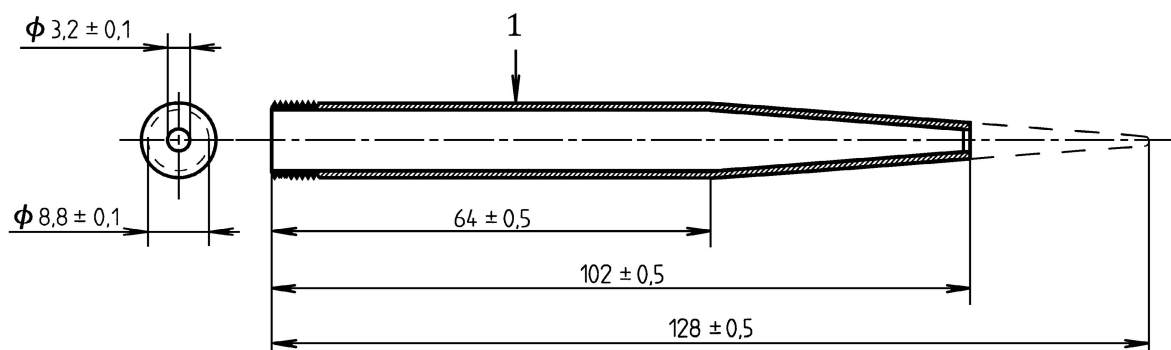
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Figure 1 — Sealant cartridge

6.1.3 Nozzle

See Figure 2.

Dimensions in millimetres



Key

- 1 Nozzle

Figure 2 — Nozzle

EN 3094:2017 (E)**6.1.4 Air supply with a pressure of (620 ± 35) kPa****6.1.5 Balance with an accuracy of 0,1 g.****6.2 Conditioning**

The base compound and the curing system shall be stabilized at (23 ± 2) °C in closed containers for at least 8 h before testing.

6.3 Procedure

At least 250 g of the base compound shall be mixed with the proper amount of the curing system. The mixed sealant shall promptly be filled into a cartridge (see 7.1.2) with a nozzle (see 7.1.3) and placed in a gun. The gun and sealant shall be maintained at (23 ± 2) °C throughout the test. The gun shall be attached to a constant air supply of (620 ± 35) kPa. Initially 50 mm to 80 mm of sealant shall be extruded to clear trapped air.

At the end of the specified application time, measured from the beginning of the mixing period, the sealant shall be extruded into a suitable receptacle for (60 ± 2) s and the amount of extruded sealant determined by weighing.

6.4 Calculation and expression of results

The amount of extruded sealant shall be expressed in $\text{g} \cdot \text{min}^{-1}$.

7 Designation

EXAMPLE

Number of this standard _____

Type of method (A or B) _____

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8 Test report

The test report shall include the following information:

- identification of the sample, batch number,
- number of this standard and test method (A or B),
- viscometer, spindle, rotating speed used, time for rotating (if more than 1 min) and stirring procedures, when testing according to method A,
- temperature and humidity,
- number of test specimens,
- test results,
- whether or not the results are within the limits of the material specification,
- date of testing.