SLOVENSKI STANDARD
SIST EN 2757:2011

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Aeronavtika - Strukturni sistem lepil - Preskusna metoda - Ugotavljanje sušenja in ostankov vžiga predhodnih premazov

Aerospace series - Structural adhesives system - Test method - Determination of the drying and ignition residues of primers

Luft- und Raumfahrt - Strukturelle Klebstoffsysteme - Prüfverfahren - Bestimmung des Trocknungs- und Glührückstandes von Haftgrundmitteln

Série aérospatiale - Système d'adhésifs structuraux - Méthode d'essai - Détermination des résidus de séchage et de calcination des primaires

Ta slovenski standard je istoveten z: **EN 2757:2011**

ICS:

49.025.50	Lepila	Adhesives
49.040	Prevleke in z njimi povezani postopki, ki se uporabljajo v letalski in vesoljski industriji	Coatings and related processes used in aerospace industry

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English Version

Aerospace series - Structural adhesives system - Test method - Determination of the drying and ignition residues of primers

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This European Standard was approved by CEN on 12 February 2011.

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

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Foreword

This document (EN 2757:2011) 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of an identical text or by endorsement, at the latest by November 2011, and conflicting national standards shall be withdrawn at the latest by November 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard defines the general requirements for the determination of drying residues (solid content) (Method A) and residues after ignition (corrosion inhibitor content) (Method B) of primers for aerospace applications.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 2642, *Aerospace series — Structural adhesive systems — Adhesive film — Technical specification*[1)]

3 Definitions and abbreviations

See EN 2642.

4 Health and safety

This standard does not necessarily include all health and safety requirements, if any, associated with its use.

Persons using this standard shall be familiar with normal laboratory/test house practices.

It is the responsibility of the user to establish satisfactory health and safety practices and to ensure conformity with any European, National and/or local laws or regulations.

5 Principle/Technique

5.1 Method A

The drying residue (or solid content) is determined by weighing before and after a drying process, and is expressed as a percentage of initial weight.

The drying residue contains the proportions of all non volatile components of the primer, i.e. polymers and, in the case of corrosion inhibiting primers, inhibitors.

5.2 Method B

The residue after ignition of corrosion inhibiting primers (corrosion inhibitor content) is determined by weighing the drying residue before and after a glowing process, and is expressed as a percentage of the drying residue.

1) Published as AECMA Prestandard at the date of publication of this standard

6 Resources

6.1 Apparatus/facilities/calibration

— Heat resistant crucible or container, resistant to the constituents of the primer;

— Oven capable of maintaining a temperature of (200 ± 5) °C, with air circulation;

— Oven capable of maintaining a temperature of (595 ± 15) °C;

— Balance, with an accuracy of 1 mg;

— Dessicator.

6.2 Materials/reagents

Drying agent: silica gel, phosphorus pentoxyde, …

7 Test samples

Primers which are stored at temperature below ambient shall be brought to this temperature in their original tightly closed containers.

Shake or mix the primer in its original container before taking a sample.

Three samples, approx. 5 grams to 10 grams are required for each determination of drying residue and residue after ignition.

8 Testing procedure

Heat up the crucible to the constant mass point at a temperature 10 °C higher than the drying temperature in 8.1.3 for drying residue determination, or than the ignition temperature in 8.2.1 if the residue after ignition is to be determined.

Then cool the crucible to ambient temperature in the dessicator fitted with the suitable drying agent.

8.1 Drying residue

NOTE Use appropriate air extraction.

8.1.1 Weigh the crucible to the nearest milligram (m_1).

8.1.2 Place the sample of primer in the crucible and weigh simultaneously to the nearest milligram (m_2).

8.1.3 Dry the sample of primer to the constant mass point at the processing temperature defined in the relevant material standard. Care shall be taken during heat up to avoid boiling of the sample.

8.1.4 Cool the crucible and sample to ambient temperature in the dessicator, and weigh to the nearest milligram (m_3).

8.2 Residue after ignition

Use the residue obtained in 8.1 for the determination of residue after ignition.

8.2.1 Heat the crucible and drying residue to the constant mass point at (595 ± 15) °C.

8.2.2 Cool to ambient temperature in the dessicator, and weigh to the nearest milligram (m_4).

9 Expression of results

9.1 The drying residue of each sample is calculated according to the formula:

$$\text{drying residue (in \%)} = \frac{m_1 - m_3}{m_1 - m_2} \cdot 100$$

9.2 residue after ignition of each sample is calculated according to the formula:

$$\text{residue after ignition (in \%)} = \frac{m_1 - m_4}{m_1 - m_3} \cdot 100$$

10 Designation

If necessary, the designation shall be as follows:

11 Test report

It shall include:

— reference to the test method standard;

— identification and traceability of the primer, in accordance with the technical specification;

— identification and traceability of test samples;

— expression of results (individual and mean values);

— traceability of individual performing the test work;

— any incident which may have affected the results;

— any deviation from the test method standard;

— date of test.