SLOVENSKI STANDARD
SIST EN 4504:2014

01-februar-2014

Aeronavtika - Nekovinski materiali - Tekstilije - Preskusne metode - Določanje fleksibilnosti ozkih tkanin

Aerospace series - Non-metallic materials, Textiles - Test method - Determination of flexibility of narrow fabrics

Luft- und Raumfahrt - Nichtmetallische Werkstoffe, Textilien - Prüfverfahren - Bestimmung der Flexibilitat von Schmalgeweben

Série aérospatiale - Matériaux non-métalliques, Textiles - Méthode d'essai - Détermination de la flexibilité des tissus étroits

Ta slovenski standard je istoveten z: **EN 4504:2013**

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49.025.60	Tekstilije	Textiles

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English Version

Aerospace series - Non-metallic materials, Textiles - Test method - Determination of flexibility of narrow fabrics

Série aérospatiale - Matériaux non-métalliques, Textiles - Méthode d'essai - Détermination de la flexibilité des tissus étroits

Luft- und Raumfahrt - Nichtmetallische Werkstoffe, Textilien - Prüfverfahren - Bestimmung der Flexibilitat von Schmalgeweben

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Foreword

This document (EN 4504:2013) 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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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Introduction

This standard is part of the series of EN non-metallic materials for aerospace applications. The general organisation of this series is described in EN 4385. This standard is a level 3 document as defined in EN 4385.

1 Scope

This European Standard defines the requirements for the determination of the flexibility of narrow fabrics.

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.

prEN 4385, *Aerospace series — Non-metallic materials — General organisation of standardisation — Links between types of standards*[1)]

EN ISO 139, *Textiles — Standard atmospheres for conditioning and testing (ISO 139)*

3 Terms and definitions

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

3.1
flexibility
the degree of pliancy exhibited by a fabric (as indicated in the diagram at Figure 1)

4 Health and safety

This standard does not necessarily include all health and safety requirements 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, safety and environment practices and to ensure conformity with any European, National or local laws/regulations.

5 Principle/Technique

The test consists in measuring the flexibility of a narrow woven fabric on a block of wood or similar suitable material.

6 Resources/Facilities

6.1 Apparatus

6.1.1 A block, having a smooth upper horizontal plane face and an inclined plane length joining it at an angle of (138 ± 1)° as shown in Figure 1. The width of the block should be wide enough to fully support the sample under test.

NOTE The upper surface should have a minimum length of 200 mm and the inclined plane should have a minimum length of 400 mm.

6.1.2 Two plate glass sheets of dimensions at least twice the maximum bending length specified in the individual textile specification and of suitable width.

6.1.3 Ruler or suitably sized block of wood, the underside of which is sufficiently rough to grip specimen.

1) Published as ASD-STAN Prestandard at the date of publication of this standard

6.2 Materials/Reagents

No requirements.

6.3 Qualification of personnel

No specific technical requirements.

7 Test samples/Test pieces

7.1 Cut five specimens each approximately twice the maximum bending length specified in the individual textile specification and of full width from the test sample ensuring cut is perpendicular to the longitudinal direction. Mark each sample on its face side.

7.2 The samples are conditioned and tested in a standard atmosphere of (65 ± 2) % r.h. and (20 ± 2) °C in accordance with EN 20139 — Standard Temperate Atmosphere For Testing.

8 Test procedure

8.1 Conduct the test within the Standard Temperate Atmosphere For Testing (65 ± 2) % r.h. and (20 ± 2) °C.

8.2 Place the specimen between two plate glass sheets for at least 2 hours and then remove.

8.3 Lay the specimen on the horizontal surface terminated at one end by a straight edge so that the length of the specimen is at right angles to, and one end is level with, that edge. Place a ruler or suitable block of wood on top resting against the fabric guide and with its edge level with the edge of the sample, the underside of which is sufficiently rough to grip the specimen.

NOTE 1 In order to achieve a better grip on the specimen adhesive, double sided adhesive tape or fine emery paper may be applied to the rule or block of wood to aid grip on sample.

NOTE 2 The 0 mm mark of the ruler should coincide with the edge of the specimen at the change of slope.

8.4 Move the specimen lengthwise over the edge at a uniform rate of approximately 25 mm/5 s until the end of the sample touches the inclined plane when bending.

8.5 Record the length of fabric protruding beyond the edge as shown in Figure 1.

8.6 Make a similar determination with the other face of the same end of the specimen uppermost.

8.7 Test the other four specimens as described in 8.1 to 8.5.

9 Expression of results

9.1 Calculate the mean of the five results obtained.

9.2 Record the highest and lowest individual result.

10 Measurement uncertainties

Not applicable.

11 Designation

Not applicable.