



SLOVENSKI STANDARD

SIST EN 15618:2009

01-julij-2009

Gumirane ali plastificirane tekstilije - Dekorativni in tapetniški materiali - Klasifikacija in preskusne metode

Rubber- or plastic-coated fabrics - Upholstery fabrics - Classification and methods of test

Mit Kautschuk oder Kunststoff beschichtete Textilien - Möbelstoffe - Klassifizierung und Prüfverfahren

iTeh STANDARD PREVIEW

Supports textiles revêtus de caoutchouc ou de plastique - Etoffes d'ameublement -
Classification et méthodes d'essais

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Ta slovenski standard je istoveten z: **EN 15618:2009**

ICS:

59.080.40	Površinsko prevlečene tekstilije	Coated fabrics
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EUROPEAN STANDARD

EN 15618

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2009

ICS 59.080.40; 97.140

English Version

Rubber- or plastic-coated fabrics - Upholstery fabrics - Classification and methods of test

Supports textiles revêtus de caoutchouc ou de plastique -
Etoffes d'ameublement - Classification et méthodes d'essai

Mit Kautschuk oder Kunststoff beschichtete Textilien -
Möbelstoffe - Klassifizierung und Prüfverfahren

This European Standard was approved by CEN on 17 January 2009.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 15618:2009) has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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, 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.

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Introduction

This European Standard introduces a system of categories. It is not possible to divide upholstery fabrics into just a few performance classes, because of the enormous variety of conditions of use. In addition, the type of upholstery (firm or soft) influences the abrasion of the upholstery fabric and hence the requirements to the abrasion resistance. There is, for example, a tremendous difference between furniture used in a room without windows and furniture which is directly exposed to sunlight, or between furniture used by elder people and furniture used by a family with small children. These differences in conditions and severity of use necessitate a flexible approach. This is done by defining a number of categories for each property. This allows to choose the appropriate category for each parameter and so to compose a "product profile", adapted to each specific type of use. This means that high resistance to abrasion can be combined with, for example, low colour fastness. However, due to the interrelation of some parameters, not all combinations will be possible. The categorisation system should not be interpreted as if an upholstery fabric needs to be rated "A" for all properties in order to obtain an "A" category.

Contrary to EN 14465, the fire behaviour of the coated fabrics has been taken into account.

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1 Scope

This standard specifies a set of properties relevant to the assessment of upholstery coated fabrics for indoor furniture and the appropriate test methods to determine these properties. It also describes a matrix system to express the material properties of an upholstery fabric.

This standard applies to upholstery fabrics both in domestic and public use, except when used for the seats of road or railway vehicles, boats or aeroplanes.

This standard applies to upholstery fabrics with a coating on the wear face.

This standard does not apply to textile upholstery fabrics covered by EN 14465.

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 1021-1, *Furniture – Assessment of the ignitability of upholstered furniture – Part 1: Ignition source smouldering cigarette*

EN 1021-2, *Furniture – Assessment of the ignitability of upholstered furniture – Part 2: Ignition source match flame equivalent*

EN ISO 105-B02, *Textiles – Tests for colour fastness – Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:1994, including amendment 1:1998)*

EN ISO 105-X12, *Textiles – Tests for colour fastness – Part X12: Colour fastness to rubbing (ISO 105-X12:2001)*

EN ISO 1421, *Rubber- or plastics-coated fabrics – Determination of tensile strength and elongation at break (ISO 1421:1998)*

EN ISO 2411, *Rubber- or plastics-coated fabrics – Determination of coating adhesion (ISO 2411:2000)*

EN ISO 4674-1, *Rubber- or plastics-coated fabrics – Determination of tear resistance – Part 1: Constant rate of tear methods (ISO 4674-1:2003)*

EN ISO 5402, *Leather – Physical and mechanical tests – Determination of flex resistance by flexometer method (ISO 5402:2002)*

EN ISO 5470-2, *Rubber- or plastics-coated fabrics – Determination of abrasion resistance – Part 2: Martindale abrader (ISO 5470-2:2003)*

EN ISO 5981, *Rubber- or plastics-coated fabrics – Determination of resistance to combined shear flexing and rubbing (ISO 5981:2007)*

prEN ISO 26081, *Leather – Physical and mechanical tests – Determination of soiling for domestic and contract upholstery leather (ISO/DIS 26081:2008)*

EN ISO 26082, *Leather – Physical and mechanical tests – Determination of soiling with rubbing for automotive leather (ISO 26082:2007)*

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ISO 3303, *Rubber- or plastics-coated fabrics – Determination of bursting strength*

3 Terms and definitions

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

3.1 coated fabric
fabric with an adherent, discrete continuous layer of rubber and/or plastic based material on one or both surfaces [EN 13360]

3.2 stain
result of the type of soiling by particles or liquids

3.3 cleanability
property of the coated fabric to be restored to its original appearance after cleaning

4 Requirements

Upholstery coated fabrics shall meet the requirements of Table 1, determined in relation to the performance profile claimed by the manufacturer or required by the user's product specification. The levels indicated by shaded boxes in Table 1 are not applicable, e.g. a colour fastness to light less than 4 is considered insufficient.

NOTE 1 A material profile is composed of the different categories obtained for each of the properties, i.e. the 'category' columns in Table 1 should not be understood as if a fabric has to meet or exceed all the requirements specified in the first column (best performance) to be qualified as a first class product. The material profile is merely a way of expressing properties in categories rather than in figures. Hence these categories can vary for the different properties, e.g. a fabric can obtain a certain category for tensile strength and a totally different category for seam slippage.

If additional properties are claimed by the manufacturer or required by the user's product specification, test results shall be provided based on the test methods specified in this standard (see optional properties in Table 2).

NOTE 2 Detachable covers, as mentioned in EN 14465, can be made of coated fabrics, but no specification has been requested.

Table 1 – Material properties

Property	Test method	Units	Performance level				
			A _{cf}	B _{cf}	C _{cf}	D _{cf}	E _{cf}
Fire behaviour ^a	EN 1021-1 + EN 1021-2	/	Pass (- 1) + Pass (- 2)	Pass (- 1) + Fail (- 2)			
Tensile strength longitudinal transverse	EN ISO 1421	N	≥ 580 ≥ 580	≥ 450 ≥ 450	≥ 250 ≥ 150		
Tear strength longitudinal transverse ^b	EN ISO 4674-1 method A (double tears)	N	≥ 50 ≥ 50	≥ 44 ≥ 44	≥ 31 ≥ 31		
Bursting strength ^c	ISO 3303	kPa	≥ 700	≥ 400			
Abrasion resistance ^d	EN ISO 5470-2 Grade P180 silicon carbide paper No apparition of the foam layer	Number of cycles	≥ 700	≥ 500	≥ 300		
Abrasion resistance of the finishing	EN ISO 5470-2 Wool abradant Grade 2 minimum (direct assessment, without magnification device)	Number of cycles	at 102 400	at 51 200	at 38 400		
Resistance to shear flexing and rubbing	EN ISO 5981 method B or EN ISO 5402 No crack in the coated fabric, no separation of the layers (without magnification device)	Number of cycles	≥ 50 000				
		Number of cycles	≥ 100 000	≥ 50 000			
Coating adhesion longitudinal transverse	EN ISO 2411	N	≥ 35 ≥ 35	≥ 30 ≥ 30	≥ 25 ≥ 25	≥ 20 ≥ 20	≥ 15 ≥ 15
Colour fastness to light	EN ISO 105-B02 (method 2) ^e	grade 1 to 8	≥ 6	≥ 5			
Colour fastness to rubbing (dry)	EN ISO 105-X12 ^f	grade 1 to 5	≥ 4-5	≥ 4			
Colour fastness to rubbing (wet)	EN ISO 105-X12 ^f	grade 1 to 5	≥ 4				

^a Fire behaviour is based on a composite material made of the coated fabric and a filling material. The used filling material shall be reported as different filling materials can lead to other fire behaviour performance (refer to Clause 1 of EN 1021-1).

^b Only for coated woven fabrics.

^c Only for coated knitted fabrics.

^d Number of cycles without exposure of an intermediate layer under the outer skin.

^e Method 3 may be used for quality control purposes.

^f Both staining and change in colour shall be assessed.