



SLOVENSKI STANDARD

SIST EN 15618:2023

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Nadomešča:

SIST EN 15618:2009+A1:2012

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

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

Ta slovenski standard je istoveten z: **EN 15618:2022**

ICS:

59.080.40	Površinsko prevlečene tekstilije	Coated fabrics
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en,fr,de

EUROPEAN STANDARD

EN 15618

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Supersedes EN 15618:2009+A1:2012

English Version

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

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plastique - Étoffes d'ameublement - Classification et
méthodes d'essai

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This European Standard was approved by CEN on 21 November 2022.

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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-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 15618:2022) 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of an identical text or by endorsement, at the latest by June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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.

This document supersedes EN 15618:2009+A1:2012.

The main changes compared to the previous edition are as follows:

- in the Introduction, the term “categories” has been changed to “requirement levels”;
- in Clause 2, the reference to ISO 5981 and prEN ISO 26081 have been deleted. Some references have been replaced (ISO 3303 by EN ISO 3303-2, EN ISO 5402 by EN ISO 32100 and EN ISO 26082 by EN ISO 26082-1). New references have been added (EN ISO 105-C06, EN ISO 105-E16, EN ISO 5077 and ISO 105-F09);
- in Clause 4, the former Table 1 has been split into separate Tables including a change to a new requirement level format to avoid misunderstanding of product categories. Supplementary properties have been added (colour fastness to water spotting, to domestic and commercial laundering, determination of dimensional change in washing and drying) with their related normative references. The requirements of resistance to soil detailed according to EN ISO 26082-1 are mandatory (the former Table 2 of optional properties has been deleted).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document introduces a system of performance levels. It is not possible to divide upholstery fabrics into just a few performance categories, 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 performance level for each property. This allows to choose the appropriate level 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.

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1 Scope

This document specifies a set of properties relevant to the assessment of coated upholstery 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 document is applicable to upholstery fabrics both in domestic and public use, except when used for the seats of road or railway vehicles, boats or aeroplanes.

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

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

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.

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 15973:2011, *Rubber- or plastic-coated fabrics — Upholstery fabrics — Resistance to soiling*

EN ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02)*

EN ISO 105-C06, *Textiles — Tests for colour fastness — Part C06: Colour fastness to domestic and commercial laundering (ISO 105-C06:2010)*

EN ISO 105-E16, *Textiles — Tests for colour fastness — Part E16: Colour fastness to water spotting on upholstery fabrics (ISO 105-E16:2006)*

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

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

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

EN ISO 3303-2, *Rubber- or plastics-coated fabrics — Determination of bursting strength — Part 2: Hydraulic method (ISO 3303-2)*

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

EN ISO 5077, *Textiles — Determination of dimensional change in washing and drying (ISO 5077)*

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

EN ISO 26082-1, *Leather — Physical and mechanical test methods for the determination of soiling - Part 1: Rubbing (Martindale) method (ISO 26082-1)*

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EN ISO 32100, *Rubber- or plastics-coated fabrics — Physical and mechanical tests — Determination of flex resistance by the flexometer method (ISO 32100)*

ISO 105-F09, *Textiles — Tests for colour fastness — Part F09: Specification for cotton rubbing cloth*

3 Terms and definitions

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

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

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1**coated fabric**

fabric with an adherent, discrete continuous layer of rubber and/or plastic based material on one or both surfaces

[SOURCE: EN 13360:2002, 3.1.3]

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

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4 Requirements

This document proposes different levels of performance for each characteristic. This allows to choose the appropriate level for each characteristic and so to compose a “product profile”, adapted to each specific type of use. The levels indicated by shaded boxes in Table 8 are not applicable, e.g. a colour fastness to light less than 4 is considered insufficient.

To ensure safe and durable performance, each characteristic of the coated fabric for upholstery shall comply with the value and class declared by the coated fabric producer in accordance with the requirements of Tables 1 to 10.

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

Table 1 — Fire behaviour requirements for coated fabrics intended for upholstery

Property	Test method	Requirements		Units
		level B ₁	level B ₂	
Fire behaviour ^a	EN 1021-1 and EN 1021-2	Pass (- 1) + Pass (- 2)	Pass (- 1) + Fail (- 2)	/
^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.				

Table 2 — Tensile strength requirements for coated fabrics intended for upholstery

Property	Test method	Requirements			Units
		level F ₁	level F ₂	level F ₃	
Tensile strength	EN ISO 1421 Method 1				N/5 cm
longitudinal		≥ 380	≥ 250	≥ 200	
transverse		≥ 280	≥ 180	≥ 140	

Table 3 — Tear strength requirements for coated fabrics intended for upholstery

Property	Test method	Requirements			Units
		level T ₁	level T ₂	level T ₃	
Tear strength	EN ISO 4674-1 Method A (double tears)				N
longitudinal		≥ 50	≥ 44	≥ 31	
transverse		≥ 50	≥ 44	≥ 31	

Table 4 — Bursting strength requirements for coated fabrics intended for upholstery

Property	Test method	Requirements		Units
		level Bs ₁	level Bs ₂	
Bursting strength	EN ISO 3303-2	≥ 700	≥ 400	kPa

Table 5 — Abrasion resistance requirements for coated fabrics intended for upholstery

Property	Test method	Requirements			Units
		level W ₁	level W ₂	level W ₃	
Abrasion resistance ^a	EN ISO 5470-2 method 1 Grade P180 silicon carbide paper No apparition of the foam layer	≥ 700	≥ 500	≥ 300	Number of cycles
Abrasion resistance of the finishing	EN ISO 5470-2 method 1 Wool abradant Grade 2 minimum (direct assessment, without magnification device)	at 102 400	at 51 200	at 38 400	Number of cycles

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

Table 6 — Flexing requirements for coated fabrics intended for upholstery

Property	Test method	Requirements		Units
		level R ₁	level R ₂	
Flexing	EN ISO 32100 Grade 2 minimum	at 100 000	at 50 000	Number of cycles

Table 7 — Adhesion requirements for coated fabrics intended for upholstery

Property	Test method	Requirements					Units
		level A ₁	level A ₂	level A ₃	level A ₄	level A ₅	
Coating adhesion	EN ISO 2411						N
longitudinal		≥ 35	≥ 30	≥ 25	≥ 20	≥ 15	
transverse		≥ 35	≥ 30	≥ 25	≥ 20	≥ 15	