

# SLOVENSKI STANDARD SIST EN 15102:2008+A1:2011

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# Dekorativne stenske obloge - Zvitki in plošče

Decorative wall coverings - Roll and panel form

Dekorative Wandbekleidungen - Rollen- und Plattenform

Revêtements muraux décoratifs - Rouleaux et panneaux VIEW

Ta slovenski standard je istoveten z: EN 15102:2007+A1:2011

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#### **English Version**

# Decorative wall coverings - Roll and panel form

Revêtements muraux décoratifs - Rouleaux et panneaux

Dekorative Wandbekleidungen - Rollen- und Plattenform

This European Standard was approved by CEN on 23 September 2007 and includes Amendment 1 approved by CEN on 4 August 2011.

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

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## **Foreword**

This document (EN 15102:2007+A1:2011) has been prepared by Technical Committee CEN/TC 99 "Wallcoverings", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by June 2013.

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.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document includes Amendment 1, approved by CEN on 2011-08-04.

This document supersedes EN 15102:2007.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A. (4).

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, Slovakia, Spain, Sweden, Switzerland and United Kingdom. 94c85ac012/sist-en-15102-2008a1-2011

### 1 Scope

This European Standard applies to all forms of wallcovering products in roll and panel form as defined in EN 235 supplied for hanging onto internal walls, partitions or ceilings, by means of an adhesive, whose primary purpose is decorative. However, certain wallcovering products may confer minor sound absorbtion and thermal resistance properties.

It also provides for the evaluation of conformity of products to the requirements of this standard.

It does not apply to wall coverings whose primary purpose is structural or protective (e.g. vapour or moisture barriers).

#### 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 71-3:1994, Safety of toys — Part 3: Migration of certain elements

EN 12149:1997, Wallcoverings in roll form — Determination of migration of heavy metals and certain other elements, of vinyl chloride monomer and of formaldehyde release

EN 12524, Building materials and products — Hygrothermal properties — Tabulated design values

EN 12667, Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods 970 Products of high and medium thermal resistance b394c85ac0f2/sist-en-15102-2008a1-2011

EN 12781:2001, Wallcoverings — Specification for cork panels

EN 13085:2001, Wallcoverings — Specification for cork rolls

EN 13238, Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates

EN 13501-1, Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests

EN 13823, Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item (4)

EN ISO 354, Acoustics — Measurement of sound absorption in a reverberation room (ISO 354:2003)

EN ISO 9001:2000, Quality management systems — Requirements (ISO 9001:2000)

EN ISO 11654, Acoustics — Sound absorbers for use in buildings — Rating of sound absorption (ISO 11654:1997)

#### Terms and definitions 3

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

#### A<sub>1</sub> 3.1

#### direct field of application of tests results

outcome of a process (involving the application of defined rules) whereby a test result is deemed to be equally valid for variations in one or more of the product properties and/or intended end use applications

#### 3.2

#### extended field of application of test results

outcome of process (involving the application of defined rules that may incorporate calculation procedures) that predicts, for a variation of a product property and/or its intended end use application(s), a test result on the basis of one or more test results to the same test standard

#### 3.3

#### product group

range of products within defined limits of variability (defined by the manufacturer or a technical specification) of the product parameters and, if relevant, end-use parameters, for which the reaction to fire performance remains unchanged (does not get worse)

#### 3.4

#### product parameter

aspect of a product (for example thickness, composition, density) which can vary and have an influence on the product's fire performance TIEN STANDARD PREVIEW

#### 3.5

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#### end use application

real application of a product, in relation to all aspects that influence the behaviour of that product under different fire situations https://standards.iteh.ai/catalog/standards/sist/970dcbe3-da24-4a0d-8ea8-

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It covers aspects such as its quantity, its orientation, its position in relation to other adjacent products and its method of fixing (EN 13501-1).

#### 3.6

#### end use application parameter

aspect of the mounting and fixing arrangement of a product reflecting/simulating its end-use application (for example type of substrate, fixing method, position and type of joints) which can affect the fire performance (A)

#### **Characteristics**

## A Reaction to fire

Where use of a wall covering product as internal finishes on walls, partitions and/or ceilings is subject to the reaction to fire regulation requirements, its reaction to fire class (including the additional classification on smoke production and flaming droplets/particles, if any) shall be determined and declared according to EN 13501-1:

a) either without the need for further testing (CWFT), as given in Table 1 1), if the wall covering product is proved to meet the requirements of the class given therein;

<sup>1)</sup> Table is the same as given in the Decision of the Commission 2010/82/EU of 2010-02-09 (see OJEU L38 of 2010-02-11).

b) or based on testing of the wall covering product according to the standards referred to in EN 13501-1, when the wall covering product does not meet the requirements of Table 1 or where a higher class than the one in a) is sought.

NOTE Class F may be declared, which is an equivalent to "No Performance Determined" (NPD) for this characteristic, when use of wall covering product is not subject to the national regulatory requirements on reaction to fire.

Table 1 — Classes of reaction to fire performance for decorative wall coverings in roll and panel form

| Product <sup>a</sup>   | Maximum<br>mass per<br>unit area<br>(g/m²) | Maximum<br>thickness<br>(mm) | Class <sup>b</sup> |
|--|--|------------------------------|--------------------|
| Wallcoverings on cellulose fibre base  | 190  | 0,9                          |                    |
| Wallcoverings on cellulose fibre base and polymer coated or printed  | 470  | 0,7                          |                    |
| Wallcoverings on a mixture of cellulose and polyester fibre base   | 160  | 0,3                          |                    |
| Wallcoverings on a mixture of cellulose and polyester fibre base and polymer coated or printed               | 410  | 0,5                          | D-s3, d2           |
| Wallcoverings on polymer coated fabric base  | 510  | 0,7                          |                    |
| Wallcoverings of woven textile with a backing consisting of cellulose fibre or cellulose and polyester fibre | 450  | 0,8                          |                    |
| Wallcoverings of foamed PVC with a backing consisting of cellulose fibre or cellulose and polyester fibre    | <b>310</b> W                               | 1,8                          |                    |

a Products in accordance with EN 15102 mounted on a substrate of at least class A2-s1,d0 with a minimum thickness 12 mm and with minimum density 800 kg/m³ using starch, or starch/PVA, or cellulose/PVA adhesive applied at a maximum 200 g/m².

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When option b) is applied and where required by the test methods, the wallcovering product shall be tested in its end use conditions according to Annex B. In this case, the class declared shall be followed also by the associated mounting and fixing conditions (only if relevant for this class). (A)

## 4.2 Release of formaldehyde

The release of formaldehyde from the wallcovering product shall be declared when subject to regulatory requirement and may be declared otherwise. The formaldehyde release, when tested in accordance with Test C of EN 12149:1997 (as modified in Annex A of EN 12781:2001 or EN 13085:2001 for cork wallcovering products in panel form and roll form respectively) shall not exceed 120 mg/kg of wallcovering.

If no formaldehyde or products containing formaldehyde are added during the manufacturing process of the wallcovering product, and the raw materials are declared by the supplier to contain less than 120 mg/kg of formaldehyde, then testing is not necessary.

#### 4.3 A Release of other dangerous substances (A)

# 4.3.1 Heavy metals and specific elements

#### 4.3.1.1 Requirements

The migration of heavy metals and specific elements from the wallcovering product, expressed as mg/kg of wallcovering, shall not exceed the values given in Table 2 (after correction according to 4.3.1.2) when measured in accordance with Test A of EN 12149:1997. If none of these substances are added during the

b Class as provided for in Table 1 of the Annex to Commission Decision 2000/147/EC-8ea8-

wallcovering manufacturing process, and all the raw materials are declared by the supplier to meet the requirements of  $\boxed{\mathbb{A}}$  Table 2  $\boxed{\mathbb{A}}$ , then testing is not necessary.

## 4.3.1.2 Interpretation of results

The wallcovering product shall be considered to meet the requirements of this European Standard if the corrected analytical result does not exceed the limits indicated in [A] Table 2 (A).

Given the precision of the methods specified in this European Standard, the corrected analytical result to take into account the results of inter-laboratory tests (see Annex D of EN 71-3:1994) shall be used.

EXAMPLE: Analytical result for lead: 120 mg/kg.

Corresponding analytical correction in Table 3: 30 %.

Corrected analytical result =  $120 - (120 \times 30)/100 = 120 - 36 = 84$  mg/kg. This is regarded as satisfying the requirements of the standard (i.e. lead  $\leq 90$  mg/kg).

NOTE The measuring methods used in EN 12149:1997 are derived directly from EN 71-3:1994 on the safety of toys. Annex D of EN 71-3:1994, in particular D.4 'Statistical uncertainty of the test procedure and interpretation of results' justifies the introduction of a correction factor.

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# A Table 2 — Maximum migration of heavy metals and specific elements of wallcovering products

| Heavy metal or element SI                      | ST Symbol 2:20                        | Maximum migration in mg/kg<br>08+A1:2011                    |
|--|---------------------------------------|---|
| https://standards.iteh.ai/<br>Antimony b394c85 | catalog/standards<br>ac0f2/Sist-en-15 | /sist/970dcbe3-da24-4a0d-8ea8-<br>102-2008a1 No upper limit |
| Arsenic  | As                                    | 25  |
| Barium   | Ва                                    | 500   |
| Cadmium  | Cd                                    | 25  |
| Chromium                                       | Cr                                    | 60  |
| Lead   | Pb                                    | 90  |
| Mercury  | Hg                                    | 20  |
| Selenium                                       | Se                                    | 165   |

# Analytical correction factor

| Element                                      | Sb | As | Ва | Cd | Cr | Pb | Hg | Se |
|--|----|----|----|----|----|----|----|----|
| Analytical correction factor (in percentage) | 60 | 60 | 30 | 30 | 30 | 30 | 50 | 60 |

#### 4.3.2 Release of vinyl chloride monomer

The release of vinyl chloride monomer (VCM) from the wallcovering product shall be declared when subject to regulatory requirement and may be declared otherwise. The maximum VCM release when tested to Test B of EN 12149:1997 shall not exceed 0,2 mg/kg of wallcovering.

If no polyvinyl chloride or products containing vinyl chloride are used during the manufacturing process of the wallcovering product or if the raw materials used are declared by the supplier to contain less than 1 mg/kg of vinyl chloride monomer, then testing on VCM release is not necessary.

## 4.4 Sound absorption

The sound absorption of the wallcovering product shall be declared when its intended end use is subject to regulatory requirement and may be declared otherwise. It shall be measured in accordance with EN ISO 354 and expressed as a single number rating according to EN ISO 11654.

#### 4.5 Thermal resistance

The thermal resistance of the wallcovering product shall be declared when its intended end use is subject to regulatory requirement and may be declared otherwise. The value shall either be taken from EN 12524 or the products shall be tested in accordance with EN 12667 and a value declared in m<sup>2</sup>K/W or W/(mK).

# 5 Evaluation of conformity

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#### 5.1 General

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The conformity of the wallcovering product with the requirements of this standard and with the stated values (including classes) shall be demonstrated by 15102:2008+A1:2011

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- initial type testing,
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- factory production control by the manufacturer, including product assessment (see Annex A).

For the purposes of testing, wallcovering products may be grouped into families [A] (see 3.3) (A].

#### 5.2 Initial type testing

## 5.2.1 General

Initial type testing shall be performed to show conformity of the wallcovering product with this standard. Tests previously performed in accordance with the provisions of this standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity, etc.) may be taken into account. In addition, initial type testing shall be performed at the beginning of the production of a new product type (unless a member of the same family) or at the beginning of a new method of production (where this may affect the stated properties).

All characteristics in Clause 4 shall be subject to initial type testing.

Whenever a change occurs in the product raw materials, raw material suppliers, or the production process (subject to the definition of a family), which may change significantly one or more of the characteristics given in Clause 4, then the initial type testing shall be repeated for the appropriate characteristic(s).