



SLOVENSKI STANDARD
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Wallcoverings in roll form - Specification for finished wallpapers, wall vinyls and plastics wallcoverings

Wallcoverings in roll form - Specification for finished wallpapers, wall vinyls and plastics wallcoverings

Wandbekleidungen in Rollen - Festlegungen für fertige Papier-, Vinyl- und Kunststoffwandbekleidungen

Revetements muraux en rouleaux - Spécification des papiers peints finis, des revêtements muraux vinyles et des revêtements muraux en plastique

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91.180 Interior finishing

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EUROPEAN STANDARD
 NORME EUROPÉENNE
 EUROPÄISCHE NORM

EN 233

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English version

Wallcoverings in roll form - Specification for finished wallpapers,
 wall vinyls and plastics wallcoverings

Revêtements muraux en rouleaux - Spécification des
 papiers peints finis, des revêtements muraux vinyles et des
 revêtements muraux en plastique

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 Papier-, Vinyl- und Kunststoffwandbekleidungen

This European Standard was approved by CEN on 24 April 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 99 "Wallcoverings", 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 november 1999, and conflicting national standards shall be withdrawn at the latest by november 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This European Standard replaces EN 233:1989 and EN 233:1989/A1:1996.

It specifies the requirements for finished wallpapers, wall vinyls and plastics wallcoverings. The relevant test methods: dimensions, straightness, spongeability and washability are described in EN 12956.

EN 233 includes an annex A, Sampling (normative) and an informative annex B, A-deviation which are integral parts of the standard.



Introduction

A finished wallcovering is one that is not intended to be decorated after hanging.

There are many types of wallcovering and varied processes used in their manufacture. To ensure satisfactory performance, it is important that the decorators follow the manufacturer's recommended hanging instructions for each particular product.

Various grades of washability and colour fastness to light of finished wallcoverings are permitted. These grades will facilitate the selection by the user of an appropriate wallcovering and guide the decorator.

Other European Standards on the vocabulary used in the wallcovering industry, wallcoverings for subsequent decoration, textile wallcoverings and heavy duty wallcoverings are also published:

EN 235 *Wallcoverings in roll form - Vocabulary and symbols*

EN 234 *Wallcoverings in roll form - Specification for wallcoverings for subsequent decoration*

EN 259 *Wall coverings in roll form - Specification for heavy duty wall coverings*

EN 266 *Wall coverings in roll form - Specification for textile wall coverings*

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

EN 12956 *Wallcoverings in roll form - Determination of dimensions, straightness, spongeability and washability*

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1 Scope

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This European Standard

- specifies requirements for finished wallpapers, wall vinyls and plastics wallcoverings,
- specifies requirements for marking,
- gives the designation system.

The marking requirements of this standard are primarily for the consumer's information to enable optimum selection of the product.

This standard applies to finished wallpapers, wall vinyls and plastics wallcoverings not intended for subsequent decoration supplied in rolls for hanging on walls and ceilings by means of an adhesive covering the whole of the interface between the wallcovering and the support (wall or ceiling).

Excluded from this standard are rigid materials, materials not attached or not wholly attached by adhesive, wallcoverings for subsequent decoration, textile wallcoverings and non-decorative wallcoverings such as wall linings or those with special properties, e.g. thermal or acoustic insulation.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 12149	Wallcoverings in roll form - Determination of migration of heavy metals and certain other elements, of vinyl chloride monomer and of formaldehyde release
EN 12956	Wallcoverings in roll form - Determination of dimensions, straightness, spongeability and washability
EN 20105-B02	Textiles - Tests for colour fastness - Part B02: Colour fastness to artificial light (Xenon arc fading lamp test) (ISO 105-B02 : 1988)
EN ISO 186	Paper and board - Sampling to determine average quality (ISO 186:1994)

3 Definitions

3.1 Definitions

For the purposes of this standard the definitions given in EN 235 apply, together with the following:

3.1.1 frieze: Decorative element in roll form, of width not less than 32 mm and not greater than 500 mm.

3.1.2 reference sample: Sample used for reference purposes to evaluate the changes that have occurred after the various tests carried out on the specimens

4 Categories **iTeh STANDARD PREVIEW**

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Category 1 designates the wallcoverings covered by this standard and characterized by a specific width and area.

Category 2 designates the wallcoverings covered by this standard and characterized by a minimum nominal width threshold,

and

Category 3 designates friezes.

5 Specifications

5.1 General

The dimensions specified for the three categories of covering shall be measured in accordance with the requirements of EN 12956. See annex A.

5.2 Dimensions

5.2.1 Category 1

The area of the roll shall be $5,326 \text{ m}^2 \pm 3 \%$.

The nominal width and length of a roll shall be marked. The actual width and length shall not deviate from the nominal values by more than 1,5 %.

The nominal width shall be not less than 50 cm and not greater than 53 cm.

5.2.2 Category 2

The nominal width and length of a roll shall be marked. The tolerance on the actual width and length shall be $\pm 1,5\%$.

The nominal width shall be not less than 60 cm.

5.2.3 Category 3 (friezes)

The nominal length of a roll shall be marked. The tolerance on the actual length shall be $\pm 1,5\%$ in the case of roll of length not less than 10 m, otherwise $\pm 3\%$.

The nominal width shall be not less than 32 mm.

5.3 Straightness and parallelity of the edges

The straightness and parallelity of the edges shall be measured in accordance with the requirements of EN 12956.

The edges of the roll shall be straight and parallel over its entire length, with the following tolerances:

- straightness: over any 1 m length, the edges shall not deviate more than 1 mm from straight;
- parallelity: the 3 width measurements taken in accordance with the requirements of EN 12956 shall not differ by more than 1 mm.

5.4 Spongeability

For a wallcovering conforming to this standard, it shall be possible to wipe off the hanging adhesive while it is still damp from the front face of the wallcovering with a damp cloth or sponge without causing visible damage.

Accordingly, a wallcovering subjected to the spongeability test described in EN 12956 shall exhibit no damage or change likely to alter its appearance as a wallcovering.

This symbol indicating this 'spongeable' level shall be as given in EN 235.

5.5 Washability

5.5.1 If a wallcovering is claimed to be washable during its life after hanging, it shall be qualified as 'washable', 'extra-washable' or 'scrubbable' according to its grade of washability.

5.5.2 When tested under the test conditions specified for each level of washability by EN 12956, a wallcovering shall exhibit no damage or change likely to alter its appearance as a wallcovering compared with the reference sample.

5.5.3 The symbols indicating the washability levels shall be as given in EN 235

5.6 Colour fastness to light

5.6.1 The numerical rating for colour fastness to light shall be determined in accordance with the requirements of EN 20105-B02 at a relative humidity of 60 % to 70 % and a maximum black panel temperature of 45 °C.

A wallcovering conforming to this standard shall have a rating of not less than 4.

5.6.2 The symbols illustrating the levels of colour fastness to light shall be as given in EN 235.

5.7 Maximum migration of heavy metals and certain other elements**5.7.1 Test method**

The test method shall be method A of EN 12149.

5.7.2 Requirements

The migration of heavy metals and specific elements, expressed as mg/kg of wallcovering, shall not exceed the values in table 1.

5.7.3 Interpretation of results

The analytical results obtained from the tests specified in EN 12149 shall be corrected by subtracting the value of the analytical correction factors given in table 2 in order to obtain a corrected analytical result.

Wallcoverings shall be considered to meet the requirements of this European Standard if the corrected analytical result does not exceed the limits indicated in table 1.

NOTE 1: Given the precision of the methods specified in this European Standard, it is necessary to use the corrected analytical result to take into account the results of interlaboratory tests (see annex D of EN 71-3 : 1994).

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

Corresponding analytical correction in table 2 : 30 %.

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

NOTE 2: The measuring methods used in EN 12149 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.

Table 1: Maximum migration of heavy metals and other elements

Heavy metal or element	Symbol	Maximum migration in mg/kg of wallcovering
Antimony*	Sb	20
Arsenic**	As	8
Barium	Ba	1000
Cadmium	Cd	25
Chromium	Cr	60
Lead	Pb	90
Mercury	Hg	20
Selenium	Se	165
<p>* The limit for Sb is not applicable to wallcoverings that have fire reaction properties that appear in an evaluation test report.</p> <p>** The limit for As is not applicable to wallcoverings that claim to have undergone anti-fungal or anti-bacterial treatment.</p>		

Table 2 : Analytical correction factor

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

5.8 Maximum vinyl chloride monomer (VCM) content

5.8.1 Test method

The test method shall be method B of EN 12149.

5.8.2 Requirements

The maximum vinyl chloride monomer (VCM) content, measured as mg/kg of wallcovering, shall not exceed 0,2.

5.9 Maximum formaldehyde release

5.9.1 Test method

The test method shall be method C of EN 12149.

5.9.2 Requirements

The maximum formaldehyde release, measured as mg/kg of wallcovering, shall not exceed 120.

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6 Matching, application of adhesive, removal and miscellaneous symbols

6.1 The symbols indicating pattern matching shall be as given in EN 235.

6.2 The symbols indicating means of application of the adhesive shall be as given in EN 235.

6.3 The symbols indicating the method of removal shall be as given in EN 235.

6.4 A symbol indicating overlapping joins and double cutting and a symbol indicating a duplex embossed wallcovering shall be as given in EN 235.

7 Marking, labelling, packaging

7.1 Visible marking

When compliance with this standard is claimed, the roll, its packaging or a label inside the packaging of the roll shall state the specific characteristics of the wallcovering in such a way that the information below can be read by the purchaser without removing the roll from the packaging.

- a) The number of this European Standard, i.e. EN 233.
- b) The name or identification mark of the manufacturer, supplier or distributor.
- c) The product description, using where appropriate, the terms from EN 235.
- d) The product identification, i.e. pattern number and batch number.