

# Wallcoverings in roll form — Heavy duty wallcoverings —

## Part 1: Specifications

The European Standard EN 259-1:2001 has the status of a British Standard

ICS 91.180

## National foreword

This British Standard is the official English language version of EN 259-1:2001. Together with BS EN 259-2:2001, it supersedes BS EN 259:1997 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CW/35, Wallcoverings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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## Wallcoverings in roll form — Heavy duty wallcoverings — Part 1: Specifications

Revêtements muraux en rouleaux — Revêtements muraux  
à usage intense — Partie 1: Spécifications

Wandbekleidungen in Rollen — Hoch beanspruchbare  
Wandbekleidungen — Teil 1: Anforderungen

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## Foreword

This European Standard has been prepared by Technical Committee 99, Wallcoverings in roll form, 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of an identical text or by endorsement, at the latest by October 2001, and conflicting national standards shall be withdrawn at the latest by October 2001.

This European Standard supersedes European Standard EN 259:1991 and Amendment EN 259:1991/A1:1996. Part 1 covers the specifications for heavy duty wallcoverings. Part 2 specifies the method of test for the determination of impact resistance, which is particular to heavy duty wallcoverings. The other test methods common to several types of wallcoverings are contained in EN 12956.

EN 259-1 includes an annex A, Sampling (normative), which is an integral part of the standard.

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.

## Introduction

A heavy duty wallcovering is a wallcovering intended for use in areas of heavy traffic or in commercial premises.

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

Various degrees of colour fastness to light of heavy duty wallcoverings are recognized. Symbols to illustrate these grades are given in prEN 235:1998, as well as symbols to indicate washability, impact resistance, pattern matching, means of application and methods of subsequent removal. This will facilitate the selection by the user of wallcoverings appropriate to his particular needs and guide the decorator.

## 1 Scope

This European Standard:

- specifies requirements for dimensions, washability, impact resistance and grades of colour fastness to light, and for the maximum migration of heavy metals and certain other elements, the vinyl chloride monomer content and formaldehyde release;
- establishes the method of marking;
- gives a designation system.

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

This standard applies to heavy duty wallcoverings 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 and that are not intended to be decorated after hanging.

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 European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 105-B02	<i>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).</i>
EN ISO 186	<i>Paper and board — Sampling to determine average quality (ISO 186:1994).</i>
EN 12956	<i>Wallcoverings in roll form — Determination of dimensions, straightness, spongeability and washability.</i>

prEN 235:1998	<i>Wallcoverings in roll form — Vocabulary and symbols.</i>
EN 259-2	<i>Wallcoverings in roll form — Heavy duty wallcoverings — Part 2: Determination of impact resistance.</i>
EN 12149	<i>Wallcoverings in roll form — Determination of migration of heavy metals and certain other elements, of vinyl chloride monomer and of formaldehyde release.</i>

### 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN 235:1998 apply.

## 4 Specifications

### 4.1 Dimensions

#### 4.1.1 Methods of measuring dimensions

The length, width and area of the roll shall be determined in accordance with EN 12956.

#### 4.1.2 Requirements

The area of the roll is not standardized but shall be declared [see 5.1 e)], the permitted deviation from the declared values shall not be more than  $\pm 3$  %.

The nominal width, or the useable width for untrimmed wallcoverings, and the nominal length, shall be declared; the permitted deviation from the declared values shall not be more than  $\pm 1,5$  %.

### 4.2 Washability

#### 4.2.1 Method of determining washability

The washability shall be determined in accordance with the general provisions of the clause on scrubability in EN 12956 except that the number of cycles is increased to 300.

#### 4.2.2 Requirements

For a wallcovering to comply with this standard, its grade of washability shall be:

extra-scrubbable.

Accordingly, the wallcovering shall not exhibit any visible damage or change in comparison with the reference test piece after 300 cycles.

The symbol to be used to indicate this grade of washability is given in prEN 235:1998.

### 4.3 Colour fastness to light

#### 4.3.1 Method of determining fastness to light

The numerical rating for colour fastness to light shall be determined in accordance with EN ISO 105-B02 at a relative humidity of 60 % to 70 % and a maximum black panel temperature of 45 °C.

#### 4.3.2 Requirements

Two grades of colour fastness to light of wallcoverings to this standard are accepted.

Very good: numerical rating not less than 6.

Excellent: numerical rating not less than 7.

The symbols to be used to indicate the grade of colour fastness to light are given in prEN 235:1998.

### 4.4 Impact resistance

#### 4.4.1 Method of determining impact resistance

The method of determining impact resistance is described in EN 259-2.

#### 4.4.2 Requirements

A wallcovering complying with this standard shall be declared "impact resistant" under the conditions specified in EN 259-2.

The symbol to be used to indicate the impact resistance is given in prEN 235:1998.

### 4.5 Maximum migration of heavy metals and certain other elements

#### 4.5.1 Method of test

The method of test is method A of EN 12149.

#### 4.5.2 Requirements

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

#### 4.5.3 Interpretation of results

The analytical results obtained 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 are 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 results to take into account the results of interlaboratory tests (see annex D of EN 71-3:1994 [1]).

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 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. It will be worthwhile to refer to it.

**Table 1 — Maximum migration of heavy metals and other elements**

Heavy metal or element	Symbol	Maximum migration in mg/kg of wallcovering
Antimony <sup>a</sup>	Sb	20
Arsenic <sup>b</sup>	As	8
Barium	Ba	500
Cadmium	Cd	25
Chromium	Cr	60
Lead	Pb	90
Mercury	Hg	20
Selenium	Se	165
<sup>a</sup> The limit for Sb is not applicable to wallcoverings which have fire reaction properties that appear in an evaluation test report.		
<sup>b</sup> The limit for As is not applicable to products which have received a special anti-fungal or anti-bacterial treatment.		

**Table 2 — Analytical correction factor**

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

#### 4.6 Maximum vinyl chloride monomer (VCM) content

##### 4.6.1 Test method

The test method is method B of EN 12149.

##### 4.6.2 Requirements

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

#### 4.7 Maximum formaldehyde release

##### 4.7.1 Test method

The test method is method C of EN 12149.

##### 4.7.2 Requirements

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

## 5 Marking, labelling, packaging

### 5.1 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 259-1.
- b) The name or identification mark of the manufacturer, supplier or distributor.
- c) The product description, i.e. "Heavy duty wallcovering", with the impact resistance symbol as defined in prEN 235:1998.
- d) The product identification, i.e. pattern number and batch number.
- e) The nominal width and length of the roll.
- f) The symbol from prEN 235:1998 corresponding to its grade of washability, i.e. "Extra-scrubbable".
- g) The symbol from prEN 235:1998 corresponding to its grade of colour fastness to light, i.e. Very good or Excellent.
- h) The symbol(s) from prEN 235:1998 corresponding to the means of applying the adhesive.
- j) The symbol from prEN 235:1998 indicating the need for hanging in reverse alternate lengths if this is essential to give a satisfactory appearance.
- k) The type of adhesive to be used.
- l) The symbol from prEN 235:1998 for design repeat and match.

### 5.2 Additional marking

If necessary, the following information shall be given on the roll, on a label or on an information sheet inside the packaging of the roll.

- a) The symbol from prEN 235:1998 giving additional hanging instructions, for example overlap and double cut.
- b) The symbol from prEN 235:1998 corresponding to the method of removal.

### 5.3 Marking of fire behaviour

If any claim is made concerning fire behaviour (which shall be according to the test method(s) and classification system(s) valid in the place of use of the product), the testing procedure used to determine this, and the classification achieved, shall be given.

### 5.4 Marking of treatment against micro-organisms

If any claim is made concerning this treatment, it shall also be indicated explicitly in the marking.

### 5.5 Consistency of marking

The information given in promotional literature, in the pattern book, marked on the pattern slip and on cartons shall be consistent with the information given with the roll as defined in 5.1 to 5.4.

## 6 Classification and designation

If a designation system is used for the wallcoverings covered by this standard, it shall meet the following requirements.

### 6.1 Description

The designation comprises the optional explanatory terms defined in prEN 235:1998 and a normative identification system made up of an “EN number” box and specific boxes as follows:

<b>Wallcovering</b>	<b>EN 259-1</b>	1	1	1	X	2	2	2	2	3	4	5	6
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where:

- 1 designates the width boxes (3 boxes) where the numbers giving the width of the roll rounded to the nearest centimetre are inserted;
- 2 designates the length boxes (4 boxes) where the numbers giving the length of the roll rounded to the nearest centimetre are inserted;
- 3: washability box: insert the letter E (extra-scrubbable) from prEN 235:1998;
- 4: colour fastness to light box: insert the corresponding figure (6 or 7) from prEN 235:1998;
- 5: application of adhesive box: insert the corresponding letter from prEN 235:1998;
- 6: removal box: insert the corresponding figure from prEN 235:1998.

### 6.2 Example

A heavy duty wallcovering, of width 1,30 m and length 15,00 m, with “excellent” colour fastness, with adhesive to be applied both to the wallcovering and the support, and wet removable is designated as follows:

**Wallcovering EN 259-1 - 130 X 1500 E 7 J 3**

## **Annex A** (normative)

### **Sampling for testing**

Samples for testing shall be taken from wallcoverings not less than 14 days after manufacture, in accordance with EN ISO 186, except that:

- a) for the purposes of this standard, a **making** is regarded as equivalent to a **lot**, and a **roll** is a **unit**. Each lot making up part of a consignment consisting of more than one shall be sampled separately;
- b) the rolls selected for sampling may be chosen at random or if the manufacturer, in marking, indicates the order of packing, the selection may be made with reference to this order of packing;
- c) unless otherwise specified, the method of cutting the samples shall be modified so that each test piece is cut from at least 1 m from the end of the roll and the test pieces are distributed over the whole width of the roll and extending at least 500 mm along the length;
- d) the total area of the material taken from each roll shall be at least twice the area required for the tests in order to permit repeat tests without resampling.

## Bibliography

- [1] EN 71-3:1994 *Safety of toys — Part 3: Migration of certain elements.*

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