BRITISH STANDARD

BS EN
259-2:2001

Wallcoverings in roll form — Heavy duty wallcoverings —

Part 2: Determination of impact resistance

The European Standard EN 259-2:2001 has the status of a British Standard

ICS 91.180

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National foreword

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 Together with BS EN 259-1:2001, it supersedes BS EN 259:1997 which is withdrawn.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

A list of organizations represented on this committee can be obtained on request to its secretary.

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This British Standard, having been prepared under the direction of the Consumer Products and Services Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 June 2001

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 8, an inside back cover and a back cover.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 259-2

April 2001

ICS 91.180

Supersedes EN 259:1991

English version

Wallcoverings in roll form — Heavy duty wallcoverings — Part 2: Determination of impact resistance

Revêtements muraux en rouleaux — Revêtements muraux à usage intense — Partie 2: Détermination de la résistance à l'impact

Wandbekleidungen in Rollen — Hoch beanspruchbare Wandbekleidungen — Teil 2: Bestimmung der Stoßfestigkeit

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Ref. No. EN 259-2:2001 E

Contents

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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of an identical text or by endorsement, at the latest by October 2001, and conflicting national standards shall be withdrawn at the latest by October 2001.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 EN 259:1991 and Amendment EN 259:1991/A1:1996. It comprises two parts. 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.

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.

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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.

1 Scope

This European Standard describes a method for the determination of the impact resistance of heavy duty wallcoverings.

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 publication 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 12956 *Wallcoverings in roll form — Determination of dimensions, straightness, spongeability and washability.*

prEN 235:1998 *Wallcoverings in roll form — Vocabulary and symbols.*

3 Terms and definitions

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

4 Principle

A test piece cut from a heavy duty wallcovering bonded to 12,5 mm thick plasterboard is subjected to impacts by a striker corresponding to an energy of 1 Joule. After the impacts, the condition of the test piece surface is assessed.

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5 Materials

Plasterboard, extra-hard grade, of thickness (12,5 ± 0,4) mm and weight/unit area (10,25 ± 1,75) kg/m^2.

Before preparing the test pieces as described below, check that the plasterboard used is suitable for the purpose by subjecting a representative sample of the board, without any wallcovering attached, to the impact test under the conditions described in the standard.

The board is considered as suitable for the wallcovering testing if at least four of the five impacts do not cause marks of considerable depth.

6 Apparatus

The apparatus is of the “falling weight” type and a typical example is shown in Figure 1.

It consists of the following elements:

- a heavy rigid base fitted with levelling screws enabling the guide tube to be positioned vertically, i.e. at (90 ± 0,1)° to the horizontal in all directions;

- a specimen support consisting of a sheet of carbon steel 5 mm thick, not less than 75 mm wide and not less than 145 mm high, rigidly fixed to the base at an angle of (30 ± 1)° to the horizontal. This specimen support shall be fitted with clamps to permit rigid fixing of the test piece;

- a rigid superstructure carrying the release mechanism and the tubular guide (440 ± 2) mm long and (39 ± 0,5) mm in diameter for the striker;

- a weighted striker of mass (300 ± 3) g, diameter (36 ± 0,5) mm and length (100 ± 2) mm with a hardened steel striking surface (20 ± 0,1) mm in diameter and edges rounded to a radius of (2 ± 0,08) mm;

- a plumb line or other system for verifying the verticality of the tubular guide.

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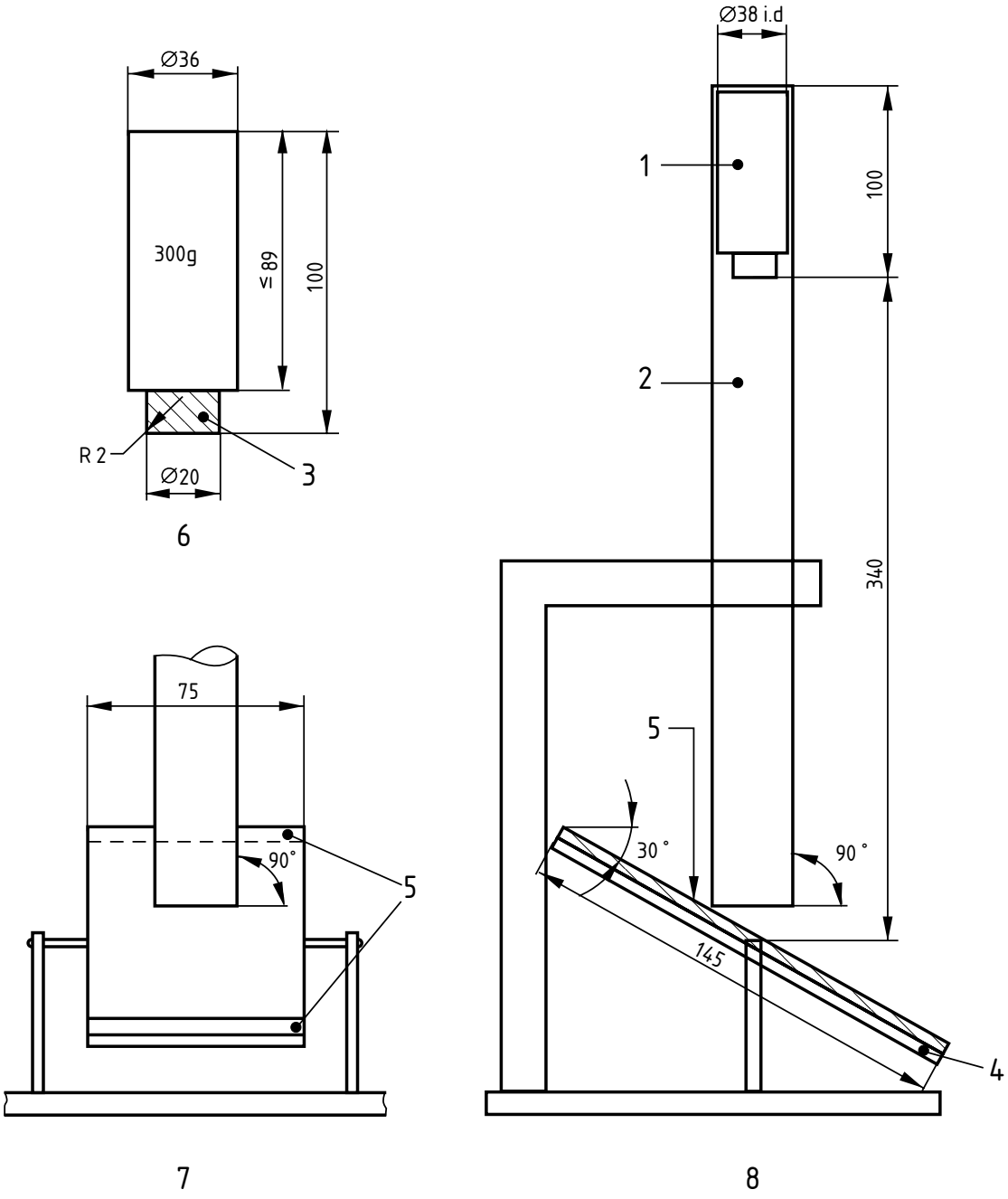
Dimensions in millimetres



Tolerances are given in clause 6.

Key

1 Striker
2 Tubular guide
3 Striking surface
4 Steel specimen holder
5 Test piece

Figure 1 — Typical impact test apparatus

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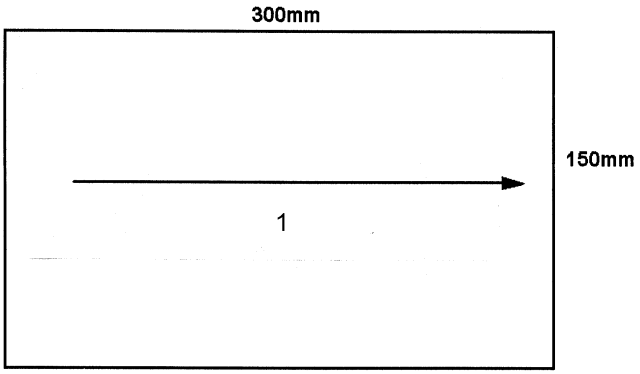
7 Preparation and conditioning of test pieces

Samples of the wallcovering to be tested shall be bonded to the decorating face of the plasterboard described in clause 5 using an adhesive recommended by the manufacturer and in accordance with the manufacturer's instructions. The arrangement of the coating on the plasterboard shall be as shown in Figure 2.



Key

1 Machine direction of sample

Figure 2 — Sample preparation

After bonding, place the samples horizontally to dry for a minimum of 72 h under ambient conditions.

After drying, condition the bonded samples at (23 ± 2) °C and (50 ± 5) % relative humidity for 24 h.

8 Procedure

Care should be taken when carrying out this test as small differences in the substrate or techniques can affect the reproducibility of the test.

Carry out the tests at (23 ± 2) °C and (50 ± 5) % relative humidity.

Clamp a test piece prepared and conditioned as described in clause 7 to the specimen support so that it is rigidly fixed and adjust the tubular guide so that its bottom edge is in contact with the surface of the test piece.

Place a clean striker in the top of the guide so that the underneath of the striking surface is (340 ± 2) mm from the bottom of the guide (see Figure 1) and release it.

Remove the test piece from the apparatus to examine it in a viewing cabinet as described and shown in EN 12956.

Move the test piece at least 50 mm on the steel support and reclamp it for the next impact. Carry out five separate impacts in this way with at least 50 mm between each impact.

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9 Evaluation and expression of results

Examine the test piece with the naked eye in the viewing cabinet (1 ± 0,1) h after each impact. Check whether the covering surface is intact or has suffered irreversible damage; this is generally indicated by bursting or cracking of the surface layer which can extend down to the substrate of the wallcovering.

Any damage accompanied by deterioration of the plasterboard as a result of a defect in it (void or other) shall not be taken into account and a further impact shall be carried out so that the assessment is made on five valid impacts.

NOTE Any purely mechanical crushing of the grain is generally reversible over time. In cases of doubt, the test piece should be re-examined after 24 h. If traces of the impact have disappeared or have largely worn off, this is confirmation of the reversible character of the change.

Any impact not resulting in irreversible damage is counted as good. The result shall be expressed as “impact resistant” if at least four of the five impacts are good. Otherwise, the result shall be expressed as “not impact resistant”.

10 Test report

When the wallcovering is subjected to the impact test only, a specific test report shall be prepared. It shall contain at least the following information:

a) identification (source and reference) of the wallcovering tested;

b) the date of testing;

c) the result obtained, i.e. either:

“impact resistant in accordance with EN 259-2”; or

“not impact resistant in accordance with EN 259-2”;

d) any deviation, intentional or not, from this procedure.

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