BS EN 13553:2015

BSI Standards Publication

Resilient floor coverings — Polyvinyl chloride floor coverings for use in special wet areas — Specification

bsi.

...making excellence a habit.™

National foreword

This British Standard is the UK implementation of EN 13553:2015. It supersedes BS EN 13553:2002 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/60, Resilient and Laminate Floor Coverings.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2015

ISBN 978 0 580 86708 8

ICS 97.150

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2015.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13553

April 2015

ICS 97.150

Supersedes EN 13553:2002

English Version

Resilient floor coverings - Polyvinyl chloride floor coverings for use in special wet areas - Specification

Revêtements de sol résilients - Revêtements de sol à base de polychlorure de vinyle pour zones humides spéciales - Spécification

Elastische Bodenbeläge - Polyvinylchlorid-Bodenbeläge zur Anwendung in besonderen Nassräumen - Spezifikation

This European Standard was approved by CEN on 1 February 2015.

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

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 13553:2015 E

Contents

Page

Foreword

This document (EN 13553:2015) has been prepared by Technical Committee CEN/TC 134 “Resilient, textile and laminate floor coverings”, the secretariat of which is held by NBN.

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 2015 and conflicting national standards shall be withdrawn at the latest by October 2015.

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 supersedes EN 13553:2002.

Significant changes compared to the previous edition are:

- Superseded EN standards were replaced by corresponding EN ISO standards.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European standard specifies the minimum additional characteristics which are necessary for:

— polyvinyl chloride floor coverings in roll form according to EN ISO 10581 or EN ISO 10582 and

— polyvinyl chloride floor coverings with foam backing in roll form to EN 651

to be installed satisfactorily in special wet areas to form a watertight installation with a long life. It specifies two categories (A and B) for use on different substrates.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 651, *Resilient floor coverings - Polyvinyl chloride floor coverings with foam layer - Specification*

EN 661, *Resilient floor coverings - Determination of the spreading of water*

EN 684, *Resilient floor coverings - Determination of seam strength*

EN 12466, *Resilient floor coverings - Vocabulary*

EN ISO 10581, *Resilient floor coverings - Homogeneous poly(vinyl chloride) floor covering - Specifications (ISO 10581)*

EN ISO 10582, *Resilient floor coverings - Heterogeneous poly(vinyl chloride) floor coverings - Specification (ISO 10582)*

EN ISO 24340, *Resilient floor coverings - Determination of thickness of layers (ISO 24340)*

EN ISO 24344, *Resilient floor coverings - Determination of flexibility and deflection (ISO 24344)*

EN ISO 24346, *Resilient floor coverings - Determination of overall thickness (ISO 24346)*

3 Terms and definitions

For the purposes of this document the terms and definitions of EN 12466 and the following term and definition apply:

3.1
special wet area
area where floors are designed to be frequently or permanently wet and equipped with a floor-based drain

EXAMPLE Bathrooms with free-standing tubs and shower rooms without partitions.

4 Requirements

4.1 General requirements

Products covered by this standard shall conform to the requirements of EN ISO 10581, EN ISO 10582 or EN 651.

4.2 Additional performance requirements

Floor coverings conforming to the requirements of EN ISO 10581, EN ISO 10582 or EN 651 are suitable for special wet areas when they meet the additional requirements specified in Table 1.

Table 1 — Products suitable for special wet areas

Characteristic	Identity code W1	Identity code W2	Identity code W3	Test method
Floor covering type [a)]	Floor coverings conforming to EN ISO 10581 or EN ISO 10582	Floor coverings conforming to EN ISO 10581 or EN ISO 10582	Floor coverings conforming to EN 651	
Substrate type [b)]	Category A	Category B	Category A	
Nominal overall thickness (in mm)	≥ 1,5	≥ 2,0		EN ISO 24346
Total thickness of compact layers (in mm)	as for overall thickness	as for overall thickness	≥ 1,0	EN ISO 24340
Spreading of water (in days)	-	-	≥ 7	EN 661
Seam strength, when welded in accordance with the manufacturer's instructions (in N/50 mm)	≥ 240	≥ 400	≥ 240	EN 684
Flexibility	When bent around a mandrel of 10 mm diameter, no cracking or other surface deterioration shall be visible with the naked eye For heterogeneous materials the test shall be made with the surface side as well as with the reverse side outwards.			EN ISO 24344
Water tightness	The welded product shall be classified watertight.			Annex A

[a)] For installation see Annex C

[b)] For choice of category see Annex B

4.3 Installation

See Annex C.

5 Marking

Floor coverings covered by this standard and/or their packaging shall bear the following marking in addition to the marking according to EN ISO 10581, EN ISO 10582 or EN 651;

a) number and year of publication of this European Standard (EN 13553:2015);

b) identity code W1, W2 or W3;

c) category A or B.

Annex A
(normative)
Water tightness test

A.1 Scope

This annex describes a method for testing the water tightness of floor coverings.

A.2 Apparatus

A.2.1 A base of non-porous material such as metal or glass, on which the sample rests during testing.

NOTE If the base is transparent and suitably supported, it will enable any leakage to be observed from below.

A.2.2 A watertight, bottomless box-frame, to be placed on top of the test specimen. The box-frame shall have vertical sides at least 300 mm and shall cover a surface area of at least 300 mm x 500 mm. The box-frame will be supporting water pressure and should therefore be held in place by clamps or weights. The box-frame shall be sealed to achieve water tightness between the floor covering and the box-frame.

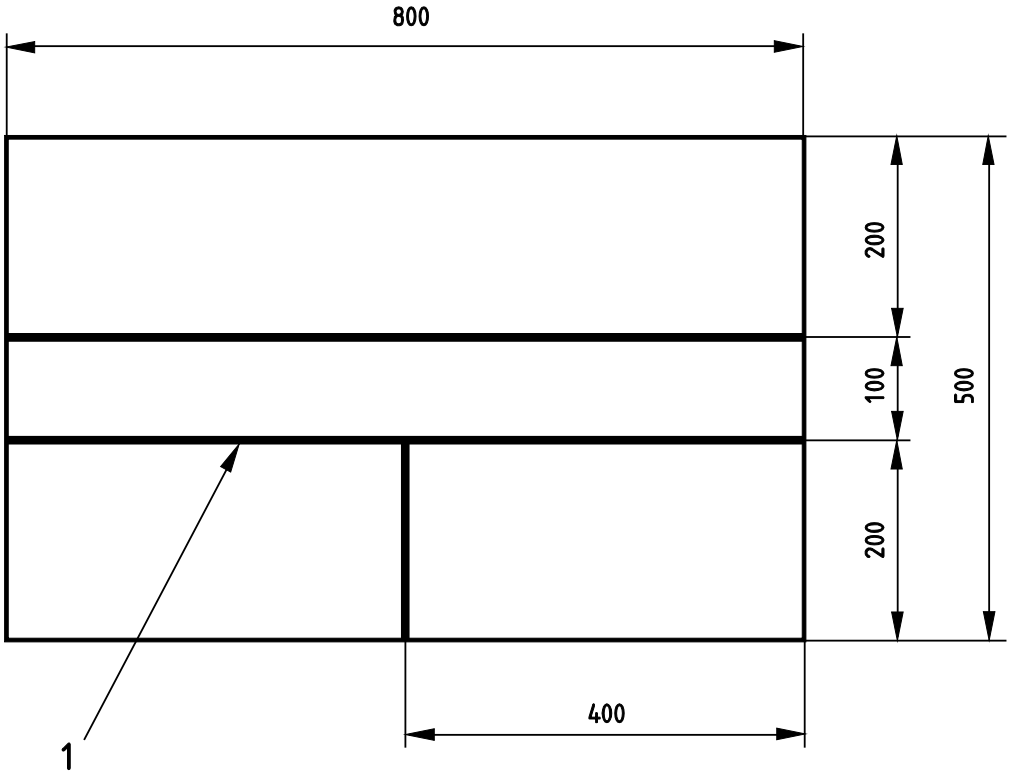
A.2.3 Indicator paper, sensitive to moisture.

A.3 Test specimen

The test specimen shall be flat or capable of being flattened so that it lies flat on the base. The base may be covered by polyethylene foil or similar material. When preparing test specimens the manufacturer's instructions shall be observed.

The size of the specimen shall be at least 500 mm x 800 mm and it shall be provided with seams welded in accordance with manufacturer's recommendations (see Figure A.1).

Dimensions in mm



Key

1 welded seam

Figure A.1 — Specimen with welded seams

A.4 Conditioning

Special conditioning is not required. The test specimen shall be dry on visual inspection and be at a temperature of 15 ºC to 25 ºC.

A.5 Testing

The temperature of the water during testing shall be 15 ºC to 25 ºC.

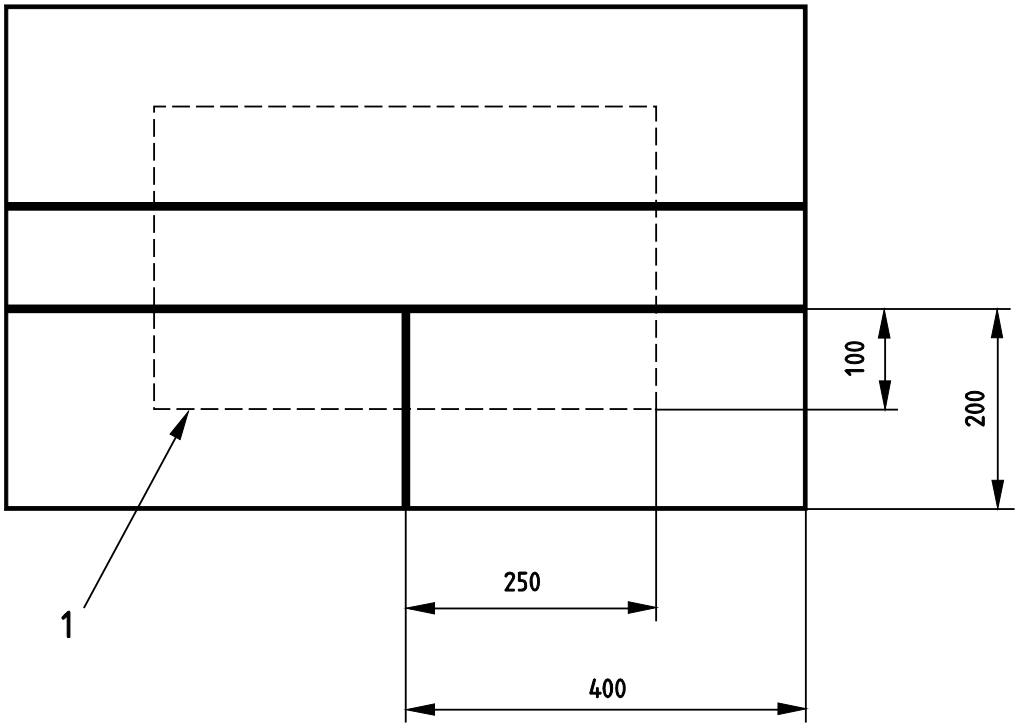
Cover the supporting base with the indicator paper. Place the test specimen on the indicator paper with the use surface upwards. Place the box-frame over the test specimen and press the support towards the box-frame to ensure water tightness (see A.2 and Figure A.2).

Fill the box-frame with water to a level of 200 mm ± 10 mm above the upper surface of the test specimen. This water level is maintained for 24 h ± 1 h after which the water is drained off.

The moisture indicator and the test specimen are examined for any signs of water penetrating the specimen.

The test specimen is considered watertight if there is no sign of penetrating water.

Dimensions in mm



Key

1 position of box-frame on specimen

Figure A.2 — Position of box-frame on specimen

A.6 Test report

The test report shall contain the following information:

a) reference to this method i.e. EN 13553, Annex A;

b) the material tested (type, source, colour and manufacturer's reference numbers);

c) preparation of the sample for testing;

d) result of inspection according to A.5.

Annex B
(informative)
Choice of floor covering category

The choice of category should be made according to national codes of practice. If a code of practice does not exist the criteria of choice should be the following:

— Category A: For use on all substrates where traffic intensity or risk of mechanical damage is normal.

— Category B: For use on all substrates where traffic intensity or risk of mechanical damage is higher than normal.

Annex C
(informative)
Installation

Products according to this standard should be installed according to manufacturers' instructions for wet area installation for the product, and any national codes of practice.

The installations should be carried out by an installer skilled in wet area installations and in a manner that ensures a correct installation

Annex D
(informative)
Determination of elongation at break (optional property)

D.1 Apparatus, sampling and preparation of test pieces

As specified in EN 684

D.2 Procedure

The procedure described in EN 684 shall be used. Additionally the length of the test specimen at break shall be measured.

D.3 Calculation and expression of result

Calculate the elongation at break for each test specimen as follows:

$$\varepsilon = \frac{(L_1 - L_0) \times 100}{L_0} \quad \text{(D.1)}$$

where

- ε is the elongation at break in %;
- L_0 is the initial test length between jaws, i.e. (100 ± 0,5) mm;
- L_1 is the test length at break.

Calculate the mean value of the five tests and express the result to the nearest ± 1% of the distance between jaws. Also record the minimum of the individual values.

D.4 Requirement

Elongation at break shall be ≥ 15% for each specimen.

D.5 Test report

The test report shall contain the following information:

a) reference to this test method, EN 13553 Annex D;

b) complete identification of the product tested, including type, source, colour and manufacturer's reference numbers;

c) previous history of the sample;

d) description of the welding process;

e) mean value of the elongation at break;

f) minimum value of the elongation at break;

g) type of failure if not in the seam, e.g. failure due to breaking of test specimen;

h) any deviation from this standard which may have affected the results.

This page deliberately left blank

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards -based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email bsmusales@bsigroup.com.

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Copyright

Useful Contacts:

Customer Services
Tel: +44 845 086 9001
Email (orders): orders@bsigroup.com
Email (enquiries): cservices@bsigroup.com

Subscriptions
Tel: +44 845 086 9001
Email: subscriptions@bsigroup.com

Knowledge Centre
Tel: +44 20 8996 7004
Email: knowledgecentre@bsigroup.com

Copyright & Licensing
Tel: +44 20 8996 7070
Email: copyright@bsigroup.com

bsi.

...making excellence a habit.™