BRITISH STANDARD

BS EN
1107-2:2001

Flexible sheets for waterproofing — Determination of dimensional stability —

Part 2: Plastic and rubber sheets for roof waterproofing

The European Standard EN 1107-2:2001 has the status of a British Standard

ICS 91.100.50

National foreword

This British Standard is the official English language version of EN 1107-2:2001.

The UK participation in its preparation was entrusted by Technical Committee B/546, Flexible sheets for waterproofing, to Subcommittee B/546/2, Roof sheeting and sealing sheeting, 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 subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

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This British Standard, having been prepared under the direction of the Sector Committee for Building and Civil Engineering, was published under the authority of the Standards Committee and comes into effect on 15 March 2001

Summary of pages

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English version

Flexible sheets for waterproofing - Determination of dimensional stability - Part 2: Plastic and rubber sheets for roof waterproofing

Feuilles souples d'étanchéité - Détermination de la stabilité dimensionelle - Partie 2: Feuilles d'étanchéité de toiture plastiques et élastomères

Abdichtungsbahnen - Bestimmung der Maßhaltigkeit - Teil 2: Kunststoff- und Elastomerbahnen für Dachabdichtungen

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 254 "Flexible sheets for waterproofing", 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 July 2001, and conflicting national standards shall be withdrawn at the latest by July 2002.

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

This European Standard is intended for characterisation of plastic and rubber sheets as manufactured or supplied before use. This test method relates exclusively to products, or to their components where appropriate, and not to waterproofing membrane systems composed of such products and installed in the works.

This test is intended to be used in conjunction with European Standard "Definitions and Characteristics" for plastic and rubber sheets for roof waterproofing.

1 Scope

This European Standard specifies a method for the determination of dimensional variation after heating of plastic and rubber sheets for roof waterproofing.

2 Normative references

This European Standard incorporates, by dated or undated references, 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 editions of the publication referred to applies (including amendments).

prEN 13416:1998 Flexible sheets for waterproofing – Bitumen, plastic and rubber sheets for roof waterproofing – Rules for sampling.

3 Terms and definitions

For the purpose of this standard, the following definition applies:

3.1
top surface
upper side of the sheet, as used in situ. It is usually the inside of the roll

4 Principle

The principle of the test is measurement of the initial longitudinal and transversal dimensions of the test specimen. Heating of the test specimen for a specified time at a specified temperature. Measurement of the resulting longitudinal and transversal dimensions of the test specimens after reconditioning and calculation of the dimensional variations.

5 Apparatus

The testing equipment consists of parts indicated in 5.1 and 5.2

5.1 Ventilated air oven

The oven shall be regulated in such a way that the test specimens can be maintained at the specified temperature ± 2 °C during the full testing period. A thermometer or a thermocouple shall be placed near the test specimens recording the real test temperature.

The oven shall be so equipped that test specimens can be placed in it without hindering their dimensional variations during the test period for example by placing the test specimen on a glass plate coated with talcum powder can for example effect this.

5.2 Mechanical or optical measuring device

The measuring device shall be capable of determining the longitudinal and transversal dimensions of the test specimens with an accuracy of at least 0,1mm.

6 Sampling

Test samples shall be taken in accordance with prEN 13416:1998.

7 Preparation of test specimens

Take at least three square test specimens of approximately 250 mm x 250 mm, evenly distributed across the width of the sheet, the outer ones (100 ± 10) mm from the edges.

NOTE Larger test specimens may be required when the surface profile makes this necessary.

Apply in the middle of the test specimens permanent markings in the longitudinal and transversal direction as indicated in Figure 1.

Any method of marking shall allow accuracy of measurement with the chosen measurement device to at least 0,1 mm as prescribed in 5.2.

Condition the test specimens, prior to testing, for at least 20 h in a standard atmosphere of (23 ± 2) °C and (50 ± 5) % relative humidity.

8 Procedure

8.1 Test conditions

The test specimens shall be subjected to a temperature of (80 ± 2) °C for 6 h ± 15 min.

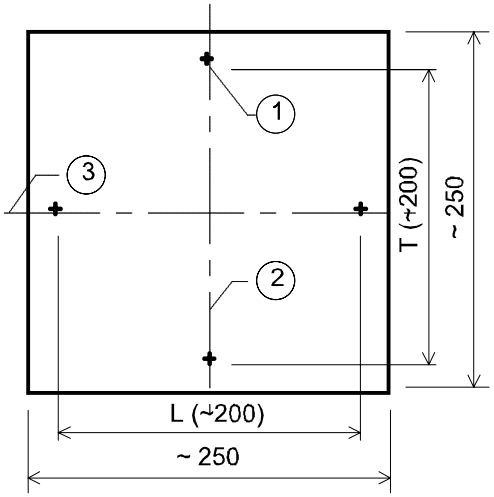
8.2 Test method

Measure the initial longitudinal and transversal dimensions (L_0 and T_0) of the conditioned test specimens as indicated in Figure 1 with an accuracy of 0,1mm.

Place the test specimens on the plate with the top surface uppermost in the oven as described in 5.1 regulated at (80 ± 2) °C.

After 6 h ± 15 min, take the test specimens out of the oven on the plate and recondition them for at least 60 min in a standard atmosphere of (23 ± 2) °C and (50 ± 5) % relative humidity. Measure again the longitudinal and transversal dimensions (L_t and T_t) as indicated in Figure 1 with an accuracy of 0,1mm.

Dimensions in millimetres



Key

1 Permanent marking
2 Transversal centre line
3 Longitudinal centre line

Figure 1 - Measurement of dimensions of test specimen

9 Expression of results

9.1 Evaluation

For each test specimen, calculate and state the variation in dimension (ΔL) and (ΔT), expressed as a percentage of initial dimensions, using the equations

$$\Delta L = \frac{L_t - L_0}{L_0} \times 100 \text{ and} \quad (1)$$

$$\Delta T = \frac{T_t - T_0}{T_0} \times 100 \quad (2)$$

where

L_0 and T_0 are initial dimensions in millimetres, measured with an accuracy of 0,1 mm.

L_t and T_t are dimensions after exposure to elevated temperature, in millimetres, measured with an accuracy of 0,1mm.

ΔL and ΔT can be positive or negative and shall be rounded to 0,1 percent.

State the mean values of ΔL and ΔT for the samples tested.

9.2 Precision of the test method

No information is available at this time.

10 Test report

The test report shall include the following information:

a) reference to this European Standard (EN 1107-2) and any deviation from it;
b) all details necessary to identify the product tested;
c) information on sampling in accordance with clause 6;
d) details of preparation of the test specimen in accordance with clause 7;
e) the test results in accordance with clause 9 ;
f) any peculiarities in the method employed or encountered during the test;
g) the date of the test(s).

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389 Chiswick High Road
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