

# Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Rules for sampling

The European Standard EN 13416:2001 has the status of a  
British Standard

ICS 91.100.50

## National foreword

This British Standard is the official English language version of EN 13416:2001.

The UK participation in its preparation was entrusted by Technical Committee B/546, Flexible sheets for waterproofing, to Subcommittee B/546/1, Bituminous roofing felts, 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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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 August 2001

### Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 7 and a back cover.

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### Amendments issued since publication

Amd. No.	Date	Comments

EUROPEAN STANDARD

EN 13416

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2001

ICS 91.100.50

English version

## Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Rules for sampling

Feuilles souples d'étanchéité - Feuilles d'étanchéité de toiture bitumineuses, plastiques et élastomères - Règles d'échantillonnage

Abdichtungsbahnen - Bitumen-, Kunststoff- und Elastomerbahnen für Dachabdichtungen - Regeln für die Probenentnahme

This European Standard was approved by CEN on 10 May 2001.

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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of an identical text or by endorsement, at the latest by December 2001, and conflicting national standards shall be withdrawn at the latest by July 2002.

No existing European Standard is superseded.

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 standard is intended for characterisation of flexible sheets for waterproofing as manufactured or supplied before use. This standard 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.

## 1 Scope

This European Standard specifies the general rules how to select the samples of bitumen, plastic or rubber sheets for roof waterproofing from which the test pieces are taken. It also specifies the conditioning procedures to be followed before the test piece is cut from the sample.

This standard is applicable in conjunction with product characteristics on bitumen, plastic and rubber sheets for roof waterproofing from which the test specimens are taken.

## 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 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 1850-1

Flexible sheets for waterproofing - Determination of visible defects - Part 1: Bitumen sheets for roof waterproofing

EN 1850-2

Flexible sheets for waterproofing - Determination of visible defects - Part 2: Plastic and rubber sheets for roof waterproofing

## 3 Terms and definitions

For the purpose of this European Standard, the following terms and definitions apply.

### 3.1

#### consignment

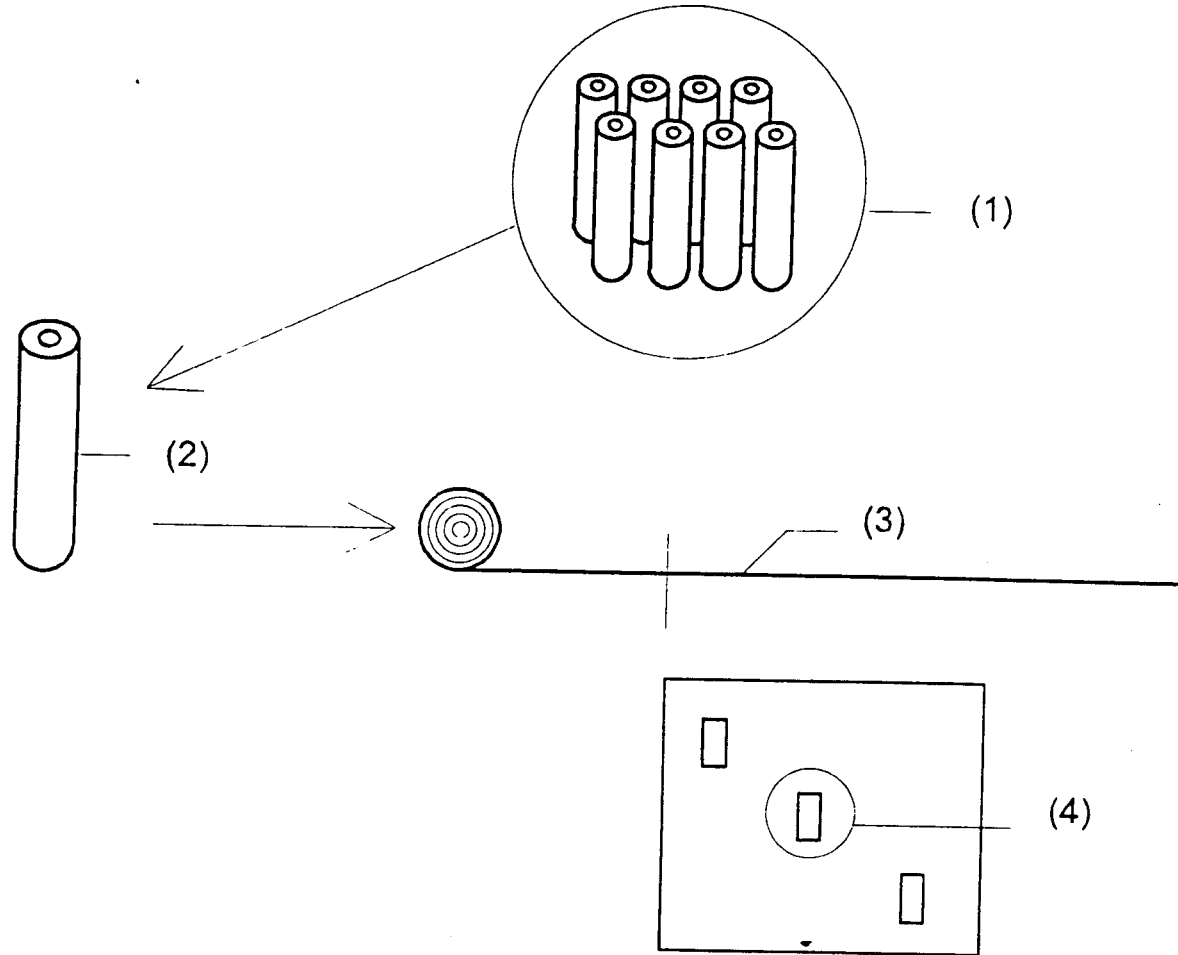
batch or delivery of roofing sheets which are tested

**3.2  
sample**

roll of a flexible sheet from which a test piece is taken

**3.3  
sampling**

procedure used to select or to constitute a sample from a consignment for third party testing in accordance with Figure 1



**Key**

- 1 Consignment
- 2 Sample
- 3 Test piece
- 4 Test specimen

**Figure 1 - Sampling**

### 3.4

#### test piece

part of the sample from which test specimens are taken

### 3.5

#### test specimen

piece of accurate dimensions taken from test piece

### 3.6

#### longitudinal direction

direction in the plane of the sheet parallel to the axis of manufacture

### 3.7

#### transversal direction

direction in the plane of the sheet at right angles to the axis of manufacture

## 4 Principle

The method describes the sequence of actions which to be followed to produce test pieces and test specimens.

## 5 Sampling

The sampling should be agreed by the parties involved. In absence of such an agreement it can be carried out as indicated in Table 1.

**Table 1 - Sampling**

Consignment m <sup>2</sup>		Number of samples
over	up to	
-	1 000	1
1 000	2 500	2
2 500	5 000	3
5 000	-	4

Rolls that are damaged shall not be selected for sampling.

## 6 Test pieces and test specimens

### 6.1 Temperature conditioning

The sample(s) shall be stored for at least 24 h at  $(20 \pm 10)$  °C before the test pieces are cut.

### 6.2 Test pieces

Unroll the selected sample(s) on a flat surface and cut off a test piece over the full width and of a suitable length to allow the required test specimens to be cut. The outer turn of the roll shall be rejected unless protected by suitable wrapping.

The test piece shall be marked to identify the material, the top surface of the sheet and the direction of manufacture. The test piece shall be stored for at least 20 h at  $(23 \pm 2)$  °C before the test specimens are cut, unless otherwise specified in relevant European Standards for flexible sheets for roof waterproofing.

### **6.3 Test specimens**

Before cutting the test specimens the test piece shall be inspected; the test piece shall show no signs of creasing as a consequence of the sampling procedure or transportation and it shall be ensured that the test piece is free of any visible defects in accordance with EN 1850-1 or prEN 1850-2:2000 respectively.

Cut test specimens in accordance to the procedure, specified in the relevant European Standards for flexible sheets for roof waterproofing depending on the properties to be determined and the required number of test specimens.

The test specimens shall be marked to identify the material, the top surface of the sheet and the direction of manufacture.

### **7 Sampling report**

The sampling report shall contain at least the following information:

- a) all details necessary to identify the product tested in accordance with the European Standard on flexible sheets for waterproofing;
- b) a reference to this European Standard (EN 13416) and any deviation from it;
- c) any signs of creasing or any defects, which are a consequence of the production or conditioning process;
- d) date and place of sampling.



## **Bibliography**

ISO 3534-1:1993, *Statistics - Vocabulary and symbols - Part 1: Probability and general statistical terms.*

ISO 3534-2:1993, *Statistics - Vocabulary and symbols - Part 2: Statistical quality control.*

ISO 3534-3:1985, *Statistics - Vocabulary and symbols - Part 3: Design of experiments.*

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