



BSI Standards Publication

**Polymer modified  
bituminous thick coatings  
for waterproofing —  
Determination of flexibility at  
low temperatures**

**National foreword**

This British Standard is the UK implementation of EN 15813:2011.

The UK participation in its preparation was entrusted to Technical Committee B/546, Flexible sheets for waterproofing and water vapour control.

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

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## Polymer modified bituminous thick coatings for waterproofing - Determination of flexibility at low temperatures

Revêtements bitumineux épais modifiés aux polymères  
pour imperméabilisation - Détermination de la souplesse à  
basse température

Kunststoffmodifizierte Bitumendickbeschichtungen zur  
Bauwerksabdichtung - Bestimmung der Flexibilität bei  
niedrigen Temperaturen

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## Foreword

This document (EN 15813:2011) has been prepared by Technical Committee CEN/TC 361 "Project Committee — Polymer modified bituminous thick coatings for waterproofing — Definitions/ requirements and test methods", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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## 1 Scope

This European Standard specifies a procedure for determining the flexibility of polymer modified bituminous thick coatings for waterproofing at low temperature.

## 2 Normative references

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

FprEN 15814:2011, *Polymer modified bituminous thick coatings for waterproofing — Definitions and requirements*

EN ISO 1519, *Paints and varnishes — Bend test (cylindrical mandrel) (ISO 1519:2002)*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

## 3 Term and definition

For the purposes of this document, the terms and definitions given in FprEN 15814:2011 and the following apply.

### 3.1

#### **cold resistance**

property of a bitumen sheet to resist cracking during bending tests at low temperatures

## 4 Principle

After preparing flexible sheets of the polymer-modified bitumen emulsion, the specimens are placed in a refrigerated box at a defined low temperature for a period of at least  $1\text{ h} \pm 10\text{ min}$ .

After that time the specimens are bent around the bending steel.

## 5 Apparatus

**5.1 Refrigerated box**, the temperature of which can be regulated between  $(-10 \pm 1)^\circ\text{C}$  and  $(+10 \pm 1)^\circ\text{C}$  (minimum range).

**5.2 Mandrel** according to EN ISO 1519 of wood or steel with a diameter of 30 mm (see Figure 1).

**5.3 Foil** (e.g. polyethylene) as a substrate for the application.

**5.4** Frame or gauge.

Dimensions in millimetres

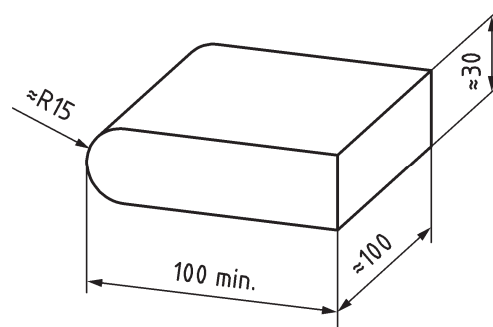


Figure 1 — Bending plate

## 6 Test specimens

Five specimens with a size of 50 mm × 200 mm.

## 7 Preparation

The components of the PMBC shall be conditioned prior to preparation in a standard climate of  $(23 \pm 2) ^\circ\text{C}$  and a relative humidity of  $(50 \pm 5) \%$  in accordance with ISO 554 for 24 h.

To provide the specified dry layer thickness the wet coating has to be levelled off with the aid of a frame or a gauge on the foil at room temperature as specified in the manufacturer's instructions.

The thickness of the wet layer shall be such that the dry layer is  $(3 \pm 0,3)$  mm.

The preparation is to be carried out without any reinforcement.

The specimens shall then be stored in a standard climate of  $(23 \pm 2) ^\circ\text{C}$  and a relative humidity of  $(50 \pm 5) \%$  for 28 days in accordance with ISO 554. Remove the foil after 14 days.

## 8 Procedure

After 28 days the test specimens shall be cut to the size specified in Clause 6. The five specimens shall be placed in a refrigerated box with a temperature of  $(0 \pm 0,5) ^\circ\text{C}$  with the mandrel for a period of at least  $1 \text{ h} \pm 5 \text{ min}$ . Each specimen shall be bent with constant speed around the mandrel inside the refrigerated box for 3 s.

## 9 Expression of results and precision

### 9.1 Expression of results

After the bending the specimens shall be checked visually to determine whether any cracks occur in the surface of the coating.

### 9.2 Precision

Precision data are currently not available.

## 10 Test report

The test report shall include at least the following information:

- a) a reference to this European Standard (i.e. EN 15813);
- b) all details needed to identify the product tested;
- c) test procedure including:
  - wet layer thickness;
  - dry layer thickness;
  - test temperature;
  - any deviations from the test conditions;
- d) the test results in accordance with Clause 9;
- e) the date of the tests.





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