



SLOVENSKI STANDARD
SIST EN 15814:2011+A2:2015
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Nadomešča:
SIST EN 15814:2011+A1:2012

Bitumenske debeloslojne prevleke, modificirane s polimeri - Definicije in zahteve

Polymer modified bituminous thick coatings for waterproofing - Definitions and requirements

Kunststoffmodifizierte Bitumendickbeschichtungen zur Bauwerksabdichtung - Begriffe und Anforderungen

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Revêtements bitumineux épais modifiés aux polymères pour imperméabilisation - Définitions et exigences

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ICS:

91.100.50 Veziva. Tesnilni materiali Binders. Sealing materials

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EUROPEAN STANDARD
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Polymer modified bituminous thick coatings for waterproofing - Definitions and requirements

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pour imperméabilisation - Définitions et exigences

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Bauwerksabdichtung - Begriffe und Anforderungen

This European Standard was approved by CEN on 14 July 2011 and includes Amendment 1 approved by CEN on 20 August 2012 and Amendment 2 approved by CEN on 6 October 2014.

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Foreword

This document (EN 15814:2011+A2:2014) has been prepared by Technical Committee CEN/TC 361 "Project Committee - Thick synthetic modified bitumous coating masses - Definitions and requirements/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of an identical text or by endorsement, at the latest by June 2015, and conflicting national standards shall be withdrawn at the latest by September 2016.

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 includes Amendment 1, approved by CEN on 2012-08-20 and Amendment 2, approved by CEN on 2014-10-06.

This document supersedes $\boxed{A_2}$ EN 15814:2011+A1:2012 $\boxed{A_2}$.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A_1}$ $\boxed{A_1}$ and $\boxed{A_2}$ $\boxed{A_2}$.

$\boxed{A_1}$ This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of EU Directive(s).

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document. $\boxed{A_1}$

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.

EN 15814:2011+A2:2014 (E)**1 Scope**

This European Standard specifies the definitions and requirements of prefabricated polymer modified bituminous thick coatings used for the waterproofing of below ground structures. It applies to both one-component and two-component products. These products can be used with or without inlay.

This European Standard does not apply to products that are to be used for roof waterproofing.

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.

EN 459-2:2010, *Building lime - Part 2: Test methods*

EN 1931, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties*

EN 13238, *Reaction to fire tests for building products - Conditioning procedures and general rules for selection of substrates*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 15812, *Polymer modified bituminous thick coatings for waterproofing - Determination of crack bridging ability*

EN 15813, *Polymer modified bituminous thick coatings for waterproofing - Determination of flexibility at low temperatures*

EN 15815, *Polymer modified bituminous thick coatings for waterproofing - Resistance to compression*

EN 15816, *Polymer-modified bituminous thick coatings for waterproofing - Resistance to rain*

EN 15817, *Polymer modified bituminous thick coatings for waterproofing - Water resistance*

EN 15818, *Polymer modified bituminous thick coatings for waterproofing - Determination of dimensional stability at high temperature*

EN 15819, *Polymer modified bituminous thick coatings for waterproofing - Reduction of the thickness of the layer when fully dried*

EN 15820, *Polymer modified bituminous thick coatings for waterproofing - Determination of watertightness*

EN ISO 1183-1, *Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1)*

ISO 2811-1:2011, *Paints and varnishes — Determination of density — Part 1: Pycnometer method (ISO 2811-1:1997)*

A2 deleted text A2

EN ISO 3251, *Paints, varnishes and plastics - Determination of non-volatile-matter content (ISO 3251:2008)*

EN ISO 3451-1, *Plastics - Determination of ash - Part 1: General methods (ISO 3451-1:2008)*

EN ISO 3923-1, *Metallic powders - Determination of apparent density - Part 1: Funnel method (ISO 3923-1:2008)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO/FDIS 11925-2:2010)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

crack bridging ability

ability of a product to bridge a crack that originates below ground under specified conditions and without damage

3.2

free film

cured polymer modified bituminous coating emulsion based, which is tested without being applied to a substrate

3.3

inlay

industrially produced material, which is incorporated as an intermediate layer when applying the coating

3.4

PMBC

A1 Polymer **M**odified **B**ituminous thick **C**oating emulsion based, with or without admixtures, such as additives and mineral aggregates, comprising of one or two components A1

3.5

pressure water

water in ground with hydrostatic pressure

4 Requirements

A2

4.1 General A2

All PMBC according to this European Standard have to fulfil the general requirements of Table 1.

Table 1 — A_2 Essential characteristics and requirements A_2

Column	1	2				3
Line	A_2 Essential characteristic A_2	Requirement				Test method
1	Crack bridging ability	Class CB 0 No requirement	Class CB 1 No damage Crack width ≥ 1 mm dry layer thickness ≥ 3 mm (MLV)	Class CB 2 No damage Crack width ≥ 2 mm dry layer thickness ≥ 3 mm (MLV)		EN 15812 Method A or B NOTE The test method has to be declared with the classification.
2	Resistance to rain	Class R0 No requirement	Class R1 ≤ 24 h wet layer thickness ≥ 3 mm (MLV)	Class R2 ≤ 8 h wet layer thickness ≥ 3 mm (MLV)	Class R3 ≤ 4 h wet layer thickness ≥ 3 mm (MLV)	EN 15816
3	Water resistance	1.No colouration of the water 2.No debonding from inlay, if used dry layer ≥ 4 mm A_2 3. No changes to the material A_2				EN 15817
4	Flexibility at low temperature A_1 deleted text A_1	No cracks SIST EN 15814:2011+A2:2015				EN 15813
5	Dimensional stability at high temperature A_1 deleted text A_1	No sliding or draining down				EN 15818
6	Reduction of layer thickness when fully dried	≤ 50 % (MLV)				EN 15819
7	Reaction to fire	Class to be declared according to EN 13501-1				Testing in accordance with the specifications in the classification standard EN 13501-1 and Annex A.

Column	1	2			3	
Line	Essential characteristic	Requirement			Test method	
8	Watertightness ^a	Class W1 ≥ 24 h at 0,0075 N/mm ² dry layer thickness without inlay ≥ 3 mm (MLV)	Class W2A ≥ 72 h at 0,075 N/mm ² dry layer thickness with inlay ≥ 4 mm with inlay (MLV)	Class W2B ≥ 72 h at 0,075 N/mm ² dry layer thickness without inlay ≥ 4 mm without inlay (MLV)	EN 15820	
9	Resistance to compression ^a	Class C0 No requirement	Class C1 Stabilization at ≤ 50 % (change maximum 3 % within 3 subsequent days) 0,06 MN/m ² dry layer thickness ≥ 3 mm (MLV)	Class C2A Stabilization at ≤ 50 % (change maximum 3 % within 3 subsequent days) 0,30 MN/m ² dry layer thickness ≥ 4 mm with inlay (MLV)	Class C2B Stabilization at ≤ 50 % (change maximum 3 % within 3 subsequent days) 0,30 MN/m ² dry layer thickness without inlay (MLV)	EN 15815
<p>A1^a The testing procedure of characteristics are also related to durability aspects. A1</p> <p>manufacturer's limiting value (MLV) value stated by the manufacturer to be met during testing. The manufacturer's limiting value can be a minimum or a maximum value according to statements made under product characteristics of this document</p>						

When required, the water vapour diffusion resistance shall be tested in accordance with EN 1931.

A2

4.2 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets. In the absence of European harmonised test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA accessed through: <http://ec.europa.eu/enterprise/construction/cpd-ds/>. **A2**

EN 15814:2011+A2:2014 (E)



5 Assessment and verification of the constancy of performance – AVCP

5.1 General

The compliance of PMBC with the requirements of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

- determination of the product type;
- factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

NOTE The assignment of tasks to the notified bodies and the manufacturer is shown in Table ZA.3.1 to Table ZA.3.3.

5.2 Type testing

5.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

NOTE 1 Same AVCP system means testing by an independent third party [only for products covered by system 1+, 1 and 3], under the responsibility of a notified product certification body.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for those same characteristics for all products within that same family.

NOTE 2 Products may be grouped in different families for different characteristics.

NOTE 3 It is advised to make reference to the assessment method standards to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

- at the beginning of the production of a new or modified PMBC (unless a member of the same product range), or
- at the beginning of a new or modified method of production (where this may affect the stated properties); or

- they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the PMBC design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the PMBC manufacturer to ensure that the PMBC as a whole is correctly manufactured and its component products have the declared performance values.

5.2.2 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the PMBC to which they relate.

5.3 Factory production control (FPC)

5.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.

This factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with the declared performances of the essential characteristics.

5.3.2 Requirements

5.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product constancy, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-constancies from occurring, actions in case of non-constancies and to identify and register product constancy problems.

Personnel performing work affecting the constancy of performance of the product shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

- identify procedures to demonstrate conformity of the product at appropriate stages;