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Standards

Irish Standard
I.S. EN 544:2011

Bitumen shingles with mineral and/or synthetic reinforcements - Product specification and test methods

I.S. EN 544:2011

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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English Version

Bitumen shingles with mineral and/or synthetic reinforcements - Product specification and test methods

Bardeaux bitumés avec armature minérale et/ou
synthétique - Spécifications des produits et méthodes
d'essai

Bitumenschindeln mit mineralhaltiger Einlage und/oder
Kunststoffeinlage - Produktspezifikation und Prüfverfahren

This European Standard was approved by CEN on 26 May 2011.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 544:2011) has been prepared by Technical Committee CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, 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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by March 2013.

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 544:2005.

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(s) 89/106/EEC, see informative Annex ZA, which is an integral part of this document.

Annex C provides details of significant technical changes between this European Standard and the previous edition.

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

Introduction

The performance of a roof covering manufactured from these products depends not only on the properties of the product as specified in this European Standard, but also on the design, application and performance of the roof considered as a whole, in conjunction with the environment and conditions of use.

1 Scope

This European Standard specifies the properties, performance and methods of test of the finished bitumen shingles prior to them being laid on the roof.

It also includes rules for marking, labelling and provides a clause for evaluation of conformity.

This European Standard does not include design requirements, installation techniques and roof system performance.

This European Standard applies to bitumen shingles where the watertightness of the system is ensured by overlapping, by different adhesive systems or a combination of these, according to manufacturer's installation instructions, intended to be laid as covering for pitched roofs and/or wall cladding.

This European Standard applies only to bitumen shingles with a mineral reinforcement, synthetic reinforcement or a mixture of the two.

In case of multilayer shingles each layer need to have the same type of reinforcement and same type of coating (ref. to Clause 8).

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 1110, *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flow resistance at elevated temperature*

ENV 1187, *Test methods for external fire exposure to roofs*

EN 1297, *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water*

EN 12039, *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of adhesion of granules*

EN 12310-1, *Flexible sheets for waterproofing — Part 1: Bitumen sheets for waterproofing — Determination of resistance to tearing (nail shank)*

EN 12311-1, *Flexible sheets for waterproofing — Part 1: Bitumen sheets for roof waterproofing — Determination of tensile properties*

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

EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roofs tests*

3 Terms and definitions

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

3.1

shingle

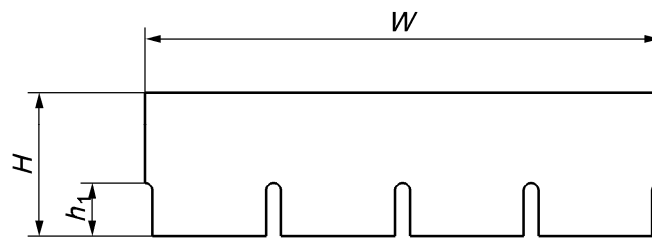
reinforced flat bitumen material, of a global rectangular shape, of width W and height H , having or not bitumen adhesive points or areas

NOTE 1 This material can have a solid part and several tabs.

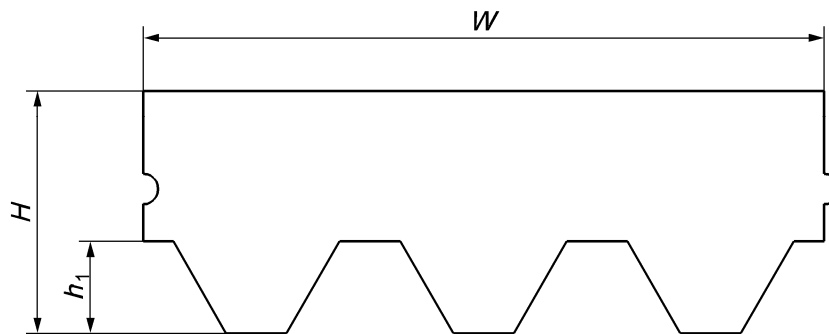
NOTE 2 These tabs can be rectangular and separated by slits of height h_1 (see Figure 1).

NOTE 3 This material can be composed out of one layer (monolayer shingle) or several layer (multilayer or laminated shingles).

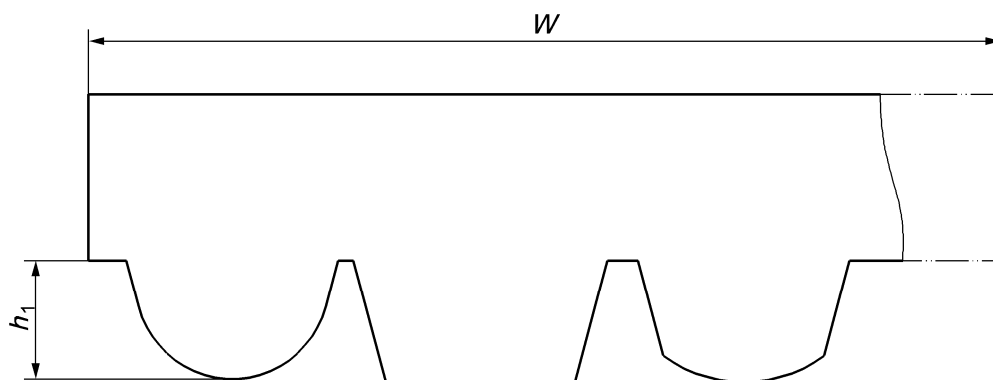
NOTE 4 In case of multilayer shingles, the layers are bonded by an adhesive and the overlapping of the lower layer by the upper layer in the visible part will amount to a minimum of 40 %.



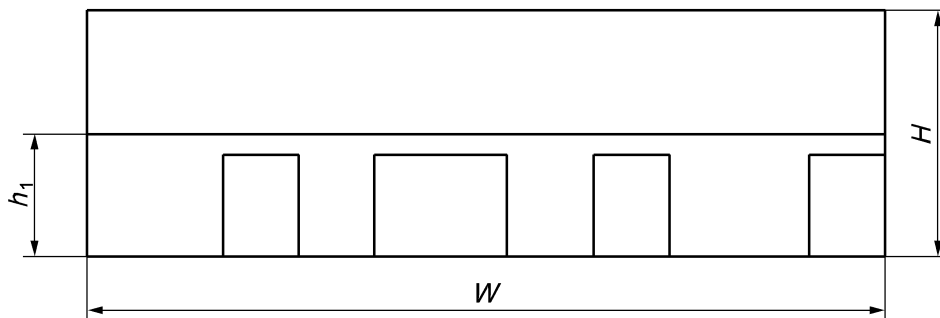
a) example of monolayer shingle



b) example of monolayer shingle



c) example of monolayer shingle



d) Example of multilayer shingle

Key

H height

W width

h_1 height of slits

Figure 1 — Different shapes of shingles

3.2

tab

part of the flat material separated by slits and intended to be visible on the roof

3.3

slit

gap separating the tabs

3.4

reinforcement

substance incorporated into the bitumen material ensuring its dimensional stability and mechanical resistance

3.5

impregnation

saturation of the reinforcement by bitumen

3.6

mass of bitumen

bitumen or modified bitumen (in general all material soluble in the test described in 6.2) used for impregnation, coating and adhesive if any

3.7

upperside surfacing

factory-applied protection of the face of the material exposed to the weather provided by, for example, mineral granules, flakes of slate or a metal foil

3.8

underside surfacing

factory-applied protection of the concealed underside of the material, either continuous or discontinuous, by means of sand, talc, paper, plastic film or any other material

3.9 Adhesive system

3.9.1

adhesive point; strip

point, or continuous or discontinuous strip, intended to ensure the adhesion of the tabs after installation on the roof

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