



NSAI
Standards

Irish Standard
I.S. EN 12467:2012+A2:2018

Fibre-cement flat sheets - Product specification and test methods

I.S. EN 12467:2012+A2:2018

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 12467:2012+A2:2018

Published:

2018-04-25

*This document was published
under the authority of the NSAI
and comes into effect on:*

2018-05-14

ICS number:

91.100.40

NOTE: If blank see CEN/CENELEC cover page

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

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 12467:2012+A2:2018 is the adopted Irish version of the European Document EN 12467:2012+A2:2018, Fibre-cement flat sheets - Product specification and test methods

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12467:2012+A2

April 2018

ICS 91.100.40

Supersedes EN 12467:2012+A1:2016

English Version

Fibre-cement flat sheets - Product specification and test methods

Plaques planes en fibres-ciment - Spécifications du produit et méthodes d'essai

Faserzement-Tafeln - Produktspezifikation und Prüfverfahren

This European Standard was approved by CEN on 24 November 2015 and includes Amendment 2 approved by CEN on 9 November 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.


This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Symbols and abbreviations	8
5 Requirements	9
5.1 General.....	9
5.1.1 Composition	9
5.1.2 Appearance and finish.....	9
5.2 Classification.....	10
5.2.1 General.....	10
5.2.2 Category A.....	10
5.2.3 Category B.....	10
5.2.4 Category C	10
5.2.5 Category D.....	10
5.2.6 Groups of sizes	10
5.3 Dimensions and tolerances	10
5.3.1 General.....	10
5.3.2 Nominal length and width.....	10
5.3.3 Thickness	11
5.3.4 Tolerances on nominal dimensions	11
5.3.5 Tolerances on shape	12
5.4 Physical requirements and characteristics	12
5.4.1 General.....	12
5.4.2 Apparent density	13
5.4.3 Moisture movement.....	13
5.4.4 Mechanical characteristics – Bending strength (<i>MOR</i>) – Modulus of elasticity (<i>MOE</i>).....	13
5.4.5 Water impermeability for Categories A, B and D.....	14
5.4.6 Water vapour permeability for Category D	14
5.5 Durability requirements	14
5.5.1 General.....	14
5.5.2 Freeze-thaw for Categories A, B and D	14
5.5.3 Heat-rain for Categories A and B.....	14
5.5.4 Warm water for Categories A, B, C and D.....	14
5.5.5 Soak-dry for Categories A, B, C and D.....	14
5.6 Fire and safety	14
5.6.1 Reaction to fire.....	14
5.6.2 Release of dangerous substances.....	15
5.7 Product information	15
6  Assessment and verification of constancy of performance — AVCP.....	15
6.1 General.....	15
6.2 Type testing.....	16
6.2.1 General.....	16
6.2.2 Test samples, testing and compliance criteria	17
6.2.3 Test reports.....	17

6.3	Factory production control (FPC)	17
6.3.1	General	17
6.3.2	Requirements	18
6.3.3	Product specific requirements	20
6.3.4	Initial inspection of factory and of FPC	21
6.3.5	Continuous surveillance of FPC	21
6.3.6	Procedure for modifications	21
6.4	Inspection of a consignment of finished products	22
7	Test methods	22
7.1	General	22
7.2	Dimensional and geometrical tests	22
7.2.1	Preparation of specimen	22
7.2.2	Apparatus	22
7.2.3	Procedure	22
7.2.4	Expression and interpretation of results	25
7.3	Tests for physical performance and characteristics	26
7.3.1	Apparent density	26
7.3.2	Mechanical characteristics - Bending strength – Modulus of elasticity (Bending modulus)	26
7.3.3	Water impermeability	31
7.3.4	Water vapour permeability	32
7.3.5	Warm water	32
7.3.6	Soak-dry	33
7.3.7	Moisture movement test	34
7.4	Tests for climatic performance	34
7.4.1	Freeze-thaw	34
7.4.2	Heat-rain	36
7.5	Test for reaction to fire performance	37
7.5.1	Sheets satisfying the requirements for the fire reaction Class A1 without the need for testing	37
7.5.2	Other sheets	37
8	Marking, labelling and packaging	45
Annex A (normative)	Consignment inspection sampling	46
Annex B (normative)	Statistical method for determining the corresponding wet values or revised dry specifications for the MOR when carrying out the dry method of test or when tested prior to coating for quality control purposes	47
B.1	Procedure	47
B.2	Determination of the correlation between the results of testing wet and dry specimens	47
B.3	Determination of the regression line	48
B.4	Determination of a value for wet testing from an obtained value for dry testing	48
B.5	Determination of the minimum value specified for dry testing x_{std} corresponding to the minimum value specified for wet testing in this document y_{std}	49
Annex C (normative)	Test method for the determination of moisture movement characteristic of fibre-cement sheets	51
C.1	General	51
C.2	Principle	51
C.3	Apparatus	51
C.4	Specimen preparation	51
C.5	Test procedure	51
C.6	Calculation of results	52
C.7	Test report	52

EN 12467:2012+A2:2018 (E)

Annex ZA (informative)	Relationship of this European Standard with Regulation [EU]	
No. 305/2011		53
ZA.1	Scope and relevant characteristics	53
ZA.2	System of Assessment and Verification of Constancy of Performance [AVCP]	54
ZA.3	Assignment of AVCP tasks	54
Bibliography		57

European foreword

This document (EN 12467:2012+A2:2018) 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 October 2018, and conflicting national standards shall be withdrawn at the latest by January 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 24 November 2015 and Amendment 2, approved by CEN on 9 November 2017.

This document supersedes A2 EN 12467:2012+A1:2016 A2.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1 and A2 A2.

A1 In comparison with EN 12467:2004, the following sections in EN 12467:2012 had been changed or added: A1 3.9, 3.10, 4, 5.1.1, 5.4.3, 5.4.4, Table 7, Table 8, 7.3.2, 7.3.2.4.2, 7.3.3.3, 7.3.3.4, 7.3.7, 7.5.2.2 and Annex C.

Annex ZB concerning the EC Directive 76/769/EEC A1 had been deleted A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

For relationship with A2 EU Regulation No 305/2011 A1, see informative Annex ZA, which is an integral part of this document.

A distinction A1 had been made A1 between product appraisal (type tests) and factory production control requirements (acceptance tests).

The performance of a building part constructed with these sheets depends not only on the properties of the product as required by this document, but also on the design, construction and installation of the component as a whole in relation to the environment and conditions of use.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 12467:2012+A2:2018 (E)

1 Scope

This European Standard specifies the technical requirements and establishes methods of inspection and test as well as acceptance conditions for fibre-cement flat sheets, siding shingles and planks (referred to as sheets later in this document) for one or more of the following uses:

- internal wall and ceiling finishes;
- external wall and ceiling finishes.

Products covered by this European Standard can be used for other purposes provided they comply with the relevant application standard, e.g. rigid underlays.

This European Standard covers sheets reinforced with fibres of different types as specified in 5.1.1.

This European Standard does not cover sheets for fire protection purposes.

This European Standard does not include calculations with regard to works, design requirements, installation techniques, wind uplift or rain proofing of the installed sheets.

2 Normative references

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

EN 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test 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 ISO 1716, *Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value) (ISO 1716)*

EN ISO 12572, *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties — Cup method (ISO 12572)*

ISO 2602, *Statistical interpretation of test results — Estimation of the mean — Confidence interval*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3951-1, *Sampling procedures for inspection by variables — Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-