

Irish Standard I.S. EN 492:2012

# Fibre-cement slates and fittings - Product specification and test methods

© CEN 2012

No copying without NSAI permission except as permitted by copyright law.

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: EN 492:2004

This document is based on:

Published:

EN 492:2012

22 October, 2012

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

22 October, 2012

ICS number:

91.100.40

NSAI

T +353 1 807 3800

Sales:

1 Swift Square, Northwood, Santry

F +353 1 807 3838 E standards@nsai.ie T +353 1 857 6730 F +353 1 857 6729

Dublin 9

W standards.ie

W NSAl.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

**EUROPEAN STANDARD** 

**EN 492** 

NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

October 2012

ICS 91.100.40

Supersedes EN 492:2004

#### **English Version**

# Fibre-cement slates and fittings - Product specification and test methods

Ardoises en fibres-ciment et leurs accessoires en fibresciment - Spécification du produit et méthodes d'essai Faserzement-Dachplatten und dazugehörige Formteile -Produktspezifikation und Prüfverfahren

This European Standard was approved by CEN on 4 August 2012.

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



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

# EN 492:2012 (E)

Contents		Page		
Foreword4				
1	Scope	5		
2	Normative references			
	Terms and definitions			
3		_		
4	Symbols and abbreviations			
5	Product requirements			
5.1	General			
5.1.1 5.1.2	Composition			
5.1.Z 5.2	Dimensions and tolerance			
5.2.1	General			
5.2.2	Thicknesses			
5.2.3	Tolerances on nominal dimensions			
5.3	Physical requirements and characteristics for fibre-cement slates			
5.3.1	General			
5.3.2	Apparent density			
5.3.3	Mechanical characteristics			
5.3.4	Water impermeability			
5.4	Durability requirements			
5.4.1 5.4.2	General			
5.4.2 5.4.3	Freeze-thaw Heat-rain			
5.4.3 5.4.4	Warm water			
5.4.5	Soak-dry			
5.5	Fire and safety			
5.5.1	External fire performance			
5.5.2	Reaction to fire	10		
5.5.3	Release of dangerous substances			
5.6	Product information	10		
6	Evaluation of conformity	11		
6.1	General			
6.2	Initial type testing	11		
6.3	Factory Production Control (FPC)			
6.3.1	General			
6.3.2	Acceptance tests			
6.3.3	Equipment			
6.3.4	Raw materials and components			
6.3.5 6.3.6	Product testing and evaluation  Non-conforming products			
6.4	Inspection of a consignment of finished products			
	Test methods			
7 7.1	General			
7.1 7.2	Dimensional tests			
7.2.1	Preparation of specimen			
7.2.1	Apparatus			
7.2.3	Procedure			
7.2.4	Expression and interpretation of results			
7.3	Tests for physical performance and characteristics			

7.3.1	Apparent density	14
7.3.2	Mechanical characteristics: Breaking load test	15
7.3.3	Water impermeability	18
7.3.4	Warm water	18
7.3.5	Soak-dry	19
7.4	Tests for climatic performance	20
7.4.1	Freeze-thaw	20
7.4.2	Heat-rain	22
7.5	Test for fire performance	23
7.5.1	Test for external fire performance	23
7.5.2	Test for reaction to fire	23
8	Marking, labelling and packaging	31
Annex	A (normative) Consignment inspection sampling	32
Annex	B (normative) Statistical method for determining the corresponding wet values or revised dry specifications for the bending moment when carrying out the dry method of test for	
	quality control purposes	
B.1	Procedure	
B.2	Determination of the correlation between the results of testing wet and dry specimens	
B.3	Determination of the regression line	
B.4 B.5	Determination of a value for wet testing from an obtained value for dry testing  Determination of the minimum value specified for dry testing <i>x</i> <sub>std</sub> corresponding to the	34
<b>D</b> .0	minimum value specified for wet testing in this standard $y_{std}$	35
Annov	C (informative) Examples	
C.1	Examples of dimension h	
C.2	Examples of fibre-cement slates installed showing lines of fixing	ə1
		33
Annex	D (normative) Requirements of Decision 2001/671/EC regarding the external fire	
	performance of roof coverings expressed following the classes defined in EN 13501-5	40
Annex	ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	44
744		
ZA.1	Scope and relevant characteristics	
ZA.2	Procedure for the attestation of conformity of fibre cement slates and fittings	
	Systems of attestation of conformity  EC Declaration of conformity	
ZA.2.2 ZA.3	CE marking	
	•	
Ribling	ıranhv	49

EN 492:2012 (E)

### **Foreword**

This document (EN 492:2012) 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 IBN.

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 April 2013, and conflicting national standards shall be withdrawn at the latest by April 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 492:2004.

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), see informative Annex ZA, which is an integral part of this document.

In comparison with the previous edition of the standard, the following sections have been changed or added: 2, 3.6, 3.7, 5.1.1, 5.3.3, 5.5.3, 6.3.2, 6.4, 7.3.4.4, 7.3.5.4, 7.5.1.2, 7.5.2.2, Annex A, Annex D.

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

A distinction has been made between product appraisal (type tests) and routine quality control requirements (acceptance tests).

The performance of a roof or another building part constructed with these products depends not only on the properties of the product as required by this standard, but also on the design, construction and installation of the components as a whole in relation to the environment and conditions of use.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

# 1 Scope

This European Standard specifies the technical requirements and establishes methods of control and test as well as acceptance conditions for fibre-cement slates and their fibre-cement fittings for one or more of the following uses:

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

This European Standard applies to fibre-cement slates with a height dimension h (see Clause 4) not exceeding 850 mm for overlapping assembly. For the purpose of this European Standard, fibre-cement slates have been classified according to their bending moment.

This European Standard covers fibre-cement slates reinforced with fibres of different types as specified in 5.1.1.

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

## 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

CEN/TS 1187:2012, Test methods for external fire exposure to roofs

EN 13501-1, Fire classification of construction products and building elements — Part 1: Classification using test 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

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)

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



**Product Page** 

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