

Fibre-cement products - Determination of pull through and shear resistance and bending strength calculations
- Part 2: Profiled sheets

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17468-2:2022 sisaldab Euroopa standardi EN 17468-2:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 17468-2:2022 consists of the English text of the European standard EN 17468-2:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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ICS 91.100.40

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English Version

Fibre-cement products - Determination of pull through and shear resistance and bending strength calculations - Part 2: Profiled sheets

Produits en fibres-ciment - Détermination des calculs de résistance au déboutonnage, au cisaillement et à la flexion - Partie 2 : Plaques profilées

Faserzementprodukte - Bestimmung des Durchzugs- und Querkraftwiderstandes und der Biegefestigkeit - Teil 2: Wellplatten

This European Standard was approved by CEN on 10 January 2022.

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European foreword

This document (EN 17468-2:2022) 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of an identical text or by endorsement, at the latest by September 2022, and conflicting national standards shall be withdrawn at the latest by September 2022.

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 is part 2 of the EN 17468 series and deals with profiled sheets, whereas part 1 deals with flat sheets.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

Introduction

Different fibre-cement profiled sheets on the market are assessed for pull through resistance.

Fibre-cement profiled sheets have been evaluated for pull through and shear resistance by a number of test methods designed to simulate conditions of use.

The results from the different existing methods are not directly comparable.

This document establishes an agreed method for evaluation of the pull through resistance of fibre-cement profiled sheet products, based on the experiences obtained over the last number of years in different countries. The document is partly based on the French national standard NF P30-311.

This is a testing standard with no classifications, but this test procedure may be used by national regulators to set classifications for roof and wall assemblies.

The performance of an assembly constructed with these products depends not only on the properties of product as required by this document, but also on the design, construction and performance of an assembly to be assessed by appropriate methods such as calculations or testing.

1 Scope

This document specifies test methods for pull through (tension/compression testing for fasteners through the sheets) and shear resistance of fibre-cement profiled sheets according to EN 494. The results are only applicable to the fibre-cement product and not to the complete fixing assembly.

It applies only to products as delivered.

The field of application for pull through resistance is defined in 7.6.

The field of application for shear resistance is defined in 8.6.

NOTE For design purposes of fibre-cement profiled sheets in the final application, the failure modes pull-out and breaking of the fixings or substructure are not in the scope of this standard. They might become decisive and need to be tested or calculated according to the relevant design standards for fixings (e.g. Eurocode 3 for steel, Eurocode 5 for wood and Eurocode 9 for aluminium substructures) and compared with the results for pull-through and shear resistance.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 494:2012+A1:2015, *Fibre-cement profiled sheets and fittings - Product specification and test methods*

EN 1990, *Eurocode - Basis of structural design*

EN ISO 7500-1, *Metallic materials - Calibration and verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Calibration and verification of the force-measuring system (ISO 7500-1)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 profiled sheet

as defined in EN 494

3.2 type test

test carried out to demonstrate conformity with the requirements of this document or for approval of a new product and/or when a fundamental change is made in formulation and/or method of manufacture the effects of which cannot be predicted on the basis of previous experience

Note 1 to entry: The test is performed on the delivered product, but is not required for each batch.

3.3 as delivered

same condition as the fibre-cement producer intends to supply the product after completing all aspects of the process including maturing and, when appropriate, painting