

BETOONVALMISTOOTED. KLAASKIUDBETOONI
KATSEMEETODID

Precast concrete products - Test methods for
glassfibre reinforced concrete

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 1170:2024 sisaldab Euroopa standardi EN 1170:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.12.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 1170:2024 consists of the English text of the European standard EN 1170:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 18.12.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

EN 1170

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 1170-1:1997, EN 1170-2:1997, EN 1170-3:1997, EN 1170-4:1997, EN 1170-5:1997, EN 1170-6:1997, EN 1170-7:1997, EN 1170-8:2008

English Version

Precast concrete products - Test methods for glassfibre reinforced concrete

Produits préfabriqués en béton - Méthodes d'essai des composites ciment-verre

Betonfertigteile - Prüfverfahren für Glassfaserbeton

This European Standard was approved by CEN on 1 December 2024.

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

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

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European foreword

This document EN 1170:2024 has been prepared by Technical Committee CEN/TC 229 “Precast Concrete Products”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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 supersedes EN 1170-1:1997, EN 1170-2:1997, EN 1170-3:1997, EN 1170-4:1997, EN 1170-5:1997, EN 1170-6:1997, EN 1170-7:1997 and EN 1170-8:2008.

EN 1170:2024 includes the following significant technical changes with respect to EN 1170-1:1997, EN 1170-2:1997, EN 1170-3:1997, EN 1170-4:1997, EN 1170-5:1997, EN 1170-6:1997, EN 1170-7:1997 and EN 1170-8:2008:

- removal of the tests described previously in parts 1 to 4, not referred to in EN 1169;
- modification of the dimensions of the mould for test boards;
- increase of the load speed for the flexural strength test;
- introduction of a sample volume determination by weighing in water;
- provisions to allow the cutting of test coupons directly from products.

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, Türkiye and the United Kingdom.

1 Scope

This document specifies test methods for identifying the performance of a glassfibre reinforced concrete (GRC) composition in terms of bending strength, water absorption, dry density and dimensional variations.

These methods can be used for type testing or for the evaluation of the uniformity of the production process. They can be used on GRC coupons prepared as described in this document, or on samples cut out of GRC products.

NOTE A test to assess the influence of time on the mechanical properties (i.e. LOP and MOR) is described for information in Annex C. Other methods can be found in scientific literature.

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 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)*

EN 15191, *Precast concrete products — Classification of glassfibre reinforced concrete performance*

3 Symbols and abbreviated terms

For the purposes of this document, the terms, definitions, symbols and abbreviated terms given in EN 15191 and the following symbols apply.

ISO and IEC maintain terminology 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/>

b	width of test piece, in millimetres
d	thickness of test piece, in millimetres
F_{LOP}	load at limit of proportionality, in newtons
F_{MOR}	failure load, in Newtons
l	length of test piece, in millimetres
L	span, in millimetres
$L_{n,0}$	distance between washers measured at the beginning of the test, in micrometres
$L_{n,1}$	distance between washers measured after 96 h immersion, in micrometres
$L_{n,2}$	distance between washers measured after 21 days drying in oven and 6 h stabilization, in micrometres
m_a	mass of a test piece in air, in grammes
m_d	mass of a test piece after drying, “dry mass”, in grammes
m_{st}	apparent mass of the immersed stirrup, in grammes
m_w	apparent mass of the immersed test piece, in grammes