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**Autoklaavsest mullbetoonist või avatud
pooridega kergbetoonist (või
kombineeritud põikkoormusega)
sarrustatud tariementide
töökindlusteim peamiselt pikikoormuse
korral (püstelemendid)**

Performance test for prefabricated reinforced components made of autoclaved aerated concrete or lightweight aggregate concrete with open structure under predominantly longitudinal load (vertical components)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1740:1999 sisaldab Euroopa standardi EN 1740:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1740:1999 consists of the English text of the European standard EN 1740:1998.</p> <p>This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: See Euroopa standard esitab mehaanilise töökindluse määramise meetodi Euroopa eelstandardile prEN 12602 vastavast autoklaavsest mullbetoonist või Euroopa eelstandardile pr EN 1520 vastavast avatud pooridega kergbetoonist sarrustatud, pikikoormusega (või kombineeritud põikkoormusega) tariementide jaoks.</p>	<p>Scope:</p>
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ICS 91.100.30

Võtmesõnad: betoon, mehaaniline tugevus, mehaanilised teimid, mullbetoon, määramine, purustav koormus, sarrusematerjalid, tariementid, täiteained

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Descriptors: Concrete, prefabricated components, testing.

English version

Performance test for prefabricated reinforced components made of autoclaved aerated concrete or lightweight aggregate concrete with open structure under predominantly longitudinal load (vertical components)

Détermination de la résistance des éléments préfabriqués réalisés en béton cellulaire autoclavé ou en béton de granulats légers à structure ouverte sous charge longitudinale prédominante (composants verticaux)

Bestimmung des Tragverhaltens von vorgefertigten bewehrten Bauteilen aus dampfgehärtetem Porenbeton oder aus haufwerksporigem Leichtbeton unter vorwiegend in Längsrichtung wirkender Belastung (vertikale Bauteile)

This European Standard was approved by CEN on 1998-03-25.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 177 " Prefabricated reinforced components of autoclaved aerated concrete or light-weight aggregate concrete with open structure", the secretariat of which is held by DIN.

In order to meet the performance requirements as laid down in the product standards for prefabricated components of autoclaved aerated concrete and of lightweight aggregate concrete with open structure, a number of standardized test methods are necessary.

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 1998, and conflicting national standards shall be withdrawn at the latest by October 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method of determining the mechanical performances of pre-fabricated components made of autoclaved aerated concrete (AAC) according to prEN 12602 or lightweight aggregate concrete with open structure (LAC) according to prEN 1520 under longitudinal load which may be combined with transverse load. These performances include:

- the deflections and maximum crack width in the serviceability limit state;
- the loadbearing capacity (failure load);
- the load-(vertical)deformation diagram, if required.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter.

For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 678	Determination of dry density of autoclaved aerated concrete
EN 679	Determination of the compressive strength of autoclaved aerated concrete
EN 991	Determination of the dimension of prefabricated reinforced components of autoclaved aerated concrete or lightweight aggregate concrete with open structure
EN 992	Determination of dry density of lightweight aggregate concrete with open structure
EN 1353	Determination of moisture content of autoclaved aerated concrete

EN 1354 Determination of compressive strength of lightweight aggregate concrete with open structure

prEN 1520 Prefabricated components of lightweight aggregate concrete with open structure

prEN 12602 Prefabricated reinforced components of autoclaved aerated concrete

3 Principle

The component is simply supported at its ends in a vertical position and loaded until collapse by a vertical line load with the required eccentricity with respect to the plane of the component, in order to determine the deflection, cracking behaviour, and the loadbearing capacity.

Alternatively, the support at the bottom of the component may be chosen as a rigid support.

The component may be loaded additionally in a horizontal direction by two line loads acting in the outer quarter points of the span and distributed over the full width of the component through rigid steel sections.

4 Apparatus

- a) a device for applying the load continuously and without shock, with an accuracy of 3 %;
- b) devices for distributing the vertical load and, if required, the vertical support reaction uniformly over the width of the component through pivot arrangements consisting of a steel rod, resting in v-shaped notches of flat steel bars or held otherwise in lateral direction, and two sufficiently stiff load-distribution plates, all these parts extending over the full width of the component (see figure 1);
- c) a device for measuring the horizontal midspan deflection to an accuracy of 0,01 mm;
- d) (optional) a device for measuring the vertical compression (compressive strain) at midheight near the vertical edges of both faces of the component over a gauge length of at least 150 mm to an accuracy of 0,01 mm;
- e) a device for measuring the camber (deflection at midspan in unloaded state before testing), if any, to an accuracy of 1 mm;
- f) a device for determining the weight of the component to an accuracy of 3 %, if required.

5 Test specimens

5.1 Sample

The test specimen is a prefabricated reinforced component (whole unit).

It shall be selected in such a manner that it is representative of the product to be investigated.

5.2 Measurement of component

Before the load test, the dimensions of the component shall be measured according to EN 991 and, if required, its weight shall be determined to an accuracy of 3 %.