

Autoklaavse mullbetooni paindetugevuse määramine

Determination of flexural strength of autoclaved
aerated concrete

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1351:1999 sisaldab Euroopa standardi EN 1351:1997 ingliskeelset teksti.	This Estonian standard EVS-EN 1351:1999 consists of the English text of the European standard EN 1351:1997.
Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard esitab meetodi autoklaavse mullbetooni paindetugevuse määramiseks, kasutades selleks prismakujulisi proovikehi, mis on võetud valmiselementidest.	Scope:
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ICS 91.100.30

Võtmesõnad: betoon, meetod, mehaanilised teimid, mullbetoon, määramine, paindeteimid, tõmbetugevus

ICS 91.100.30

Descriptors: Concrete, autoclaved aerated concrete, flexural strength, testing.

English version

**Determination of flexural strength of autoclaved
aerated concrete**

Détermination de la résistance à la flexion
du béton cellulaire autoclavé

Bestimmung der Biegezugfestigkeit von
dampfgehärtetem Porenbeton

This European Standard was approved by CEN on 1996-12-13.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

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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 lightweight 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 standard for prefabricated components of autoclaved aerated concrete, 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, and conflicting national standards withdrawn, by July 1997 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, 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 flexural (tensile) strength of autoclaved aerated concrete (AAC) by means of prismatic specimens taken from prefabricated components¹⁾.

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 the dry density of autoclaved aerated concrete

3 Principle

The flexural strength is determined by applying a uniform bending moment in the middle third of the span of a simply supported prismatic specimen by means of two-point loading. The maximum load sustained is recorded and the flexural strength calculated.

The method of centre-point loading may also be used and is specified in annex A.

The procedure using two-point loading shall be the reference test method.

NOTE: In general, the method of centre-point loading as described in annex A yields higher values of the flexural strength than the method of two-point loading.

4 Apparatus

The following apparatus shall be used:

- Saw suitable for cutting reinforced AAC components.
- Calipers, capable of reading the dimensions of the specimens to an accuracy of 0,1 mm.
- Straightedge, with a length of approximately 300 mm, a 0,5 mm-feeler gauge, a 0,1 mm-feeler gauge, and a square, for checking the flatness and the squareness of specimens.
- Balance, capable of determining the mass of the specimens to an accuracy of 0,1 %.
- Testing machine, capable of applying a vertical compressive load at the required uniform rate without shock or interruption. The limit of error of the machine and the load indication shall be such that the ultimate load can be determined to an accuracy of ± 2 %. The measuring range shall be such that the ultimate load is higher than one-tenth of the range used.
- Loading device as shown in figure 1, for transmitting the load of the testing machine to the specimen.

The loading device shall consist of two supporting rollers and two loading rollers. The rollers shall be manufactured from steel and shall have a circular cross section with a diameter between 15 mm and 40 mm. They shall be at least 10 mm longer than the width of the specimen. The axes of all rollers shall be parallel to each other. Each roller, except one of the supporting rollers, shall be capable of rotating around its longitudinal axis.

¹⁾ A European Standard for prefabricated reinforced components of autoclaved aerated concrete is in preparation.