

## **Adhesives for load-bearing timber structures - Test methods - Part 4: Determination of the effects of wood shrinkage on the shear strength**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 302-4:2004 sisaldab Euroopa standardi EN 302-4:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 302-4:2004 consists of the English text of the European standard EN 302-4:2004.</p> <p>This document is endorsed on 26.10.2004 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><b>Käsitlusala:</b></p> <p>This part of EN 302 specifies a method for determining the extent to which wood shrinkage under drying conditions will weaken an adhesive bond.</p>	<p><b>Scope:</b></p> <p>This part of EN 302 specifies a method for determining the extent to which wood shrinkage under drying conditions will weaken an adhesive bond.</p>
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ICS 83.180

Võtmesõnad:

English version

**Adhesives for load-bearing timber structures - Test methods -  
Part 4: Determination of the effects of wood shrinkage on the  
shear strength**

Adhésifs pour structures portantes en bois - Méthodes  
d'essai - Partie 4: Détermination de l'influence du retrait du  
bois sur la résistance au cisaillement

Klebstoffe für tragende Holzbauteile - Prüfverfahren - Teil 4:  
Bestimmung des Einflusses von Holzschwindung auf die  
Scherfestigkeit

This European Standard was approved by CEN on 16 April 2004.

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.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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## Foreword

This document (EN 302-4:2004) has been prepared by Technical Committee CEN/TC 193 “Adhesives”, the secretariat of which is held by AENOR.

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 January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

This document supersedes EN 302-4:1992.

This document is one of a series dealing with adhesives for use with timber structures, and is published in support of Eurocode No. 5 “Common unified rules for timber structures”. The series consists of a classification and performance requirements for two types of phenolic and aminoplastic adhesives for use in different climatic conditions (EN 301), four test methods (EN 302 Parts 1 to 4) used to assess the performance of adhesives after specified heat and humidity treatments, and three test methods (ENV 302-5 and EN 302 Parts 6 and 7) to characterise the working properties of the adhesive.

EN 301 and EN 302 Parts 1 to 4 and Parts 6 and 7 have the following titles.

EN 301 *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements*

EN 302 *Adhesives for load-bearing timber structures — Test methods —*

Part 1: *Determination of bond strength in longitudinal tensile shear strength*

Part 2: *Determination of resistance to delamination*

Part 3: *Determination of the effect of acid damage to wood fibres by temperature and humidity cycling on the transverse tensile strength*

Part 4: *Determination of the effects of wood shrinkage on the shear strength*

Part 6: *Determination of the conventional pressing time*

Part 7: *Determination of the conventional working life*

ENV 302-5:2001 has the title '*Adhesives for load-bearing timber structures — Test methods — Part 5: Determination of the conventional assembly time*'.

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

## 1 Scope

This part of EN 302 specifies a method for determining the extent to which wood shrinkage under drying conditions will weaken an adhesive bond.

It is suitable for the following applications:

- a) for assessing the compliance of adhesives with EN 301;
- b) for assessing the suitability and quality of adhesives for load-bearing timber structures;
- c) for determining if the adhesive is capable of withstanding stresses due to wood shrinkage without unacceptable loss of strength.

This test is intended primarily to obtain performance data for the classification of adhesives for load-bearing timber structures according to their suitability for use in defined climatic environments. This test is carried out on spruce (*Picea abies* L.).

This method is not intended for use to provide numerical design data and does not necessarily represent the performance of the bonded member in service. It is not intended to be used to assess the suitability of adhesives for the manufacture of wood-based panels.

## 2 Normative references

The following referenced documents are indispensable for the application 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 301, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements.*

EN 13183-1, *Moisture content of a piece of sawn timber — Part 1: Determination by oven dry method.*

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification.*

## 3 Principle

A crosswise double joint with a 0,5 mm thick glue line is submitted to a dry storage treatment and then strained to failure by a compressive shear force.

## 4 Safety

Persons using this document shall be familiar with normal laboratory practice.

This document does not purport to address all safety problems, if any, associated with its use.

It is the responsibility of the user to establish safety and health practices and to ensure compliance with any European or national regulatory conditions.