Timber structures - Calculation and verification of characteristic values

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 14358:2016 sisaldab Euroopa standardi EN 14358:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 14358:2016 consists of the English text of the European standard EN 14358:2016.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.06.2016.	Date of Availability of the European standard is 22.06.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 79.040, 91.080.20

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14358

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Supersedes EN 14358:2006

English Version

Timber structures - Calculation and verification of characteristic values

Structures en bois - Détermination et vérification des valeurs caractéristiques

Holzbauwerke - Berechnung und Kontrolle charakteristischer Werte

This European Standard was approved by CEN on 23 January 2016.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 14358:2016) has been prepared by Technical Committee CEN/TC 124 “Timber structures”, 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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14358:2006.

This document is based on Annex D of EN 1990:2002, *Eurocode – Basis of structural design*.

Compared to EN 14358:2006, the following modifications have been made:

— integration of normal distributions, and non parametric estimation;

— proposals for simplified equations to evaluate correction factors;

— estimation of mean values;

— acceptance procedure for verification of a lot (taken from EN 384: 2010).

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

1 Scope

This standard gives statistical methods for the determination of characteristic values from test results on a sample drawn from a clearly defined reference population of e.g. solid wood, fasteners, connectors and wood-based products. The characteristic value is an estimate of the property of the reference population and can be based on a 5-percentile value of strength, resistance or density as well as on a mean value for stiffness.

Parametric methods are given for the determination of lower and upper 5-percentiles. The upper 5-percentile is the 95-percentile.

This standard is suitable for use with any structural product in the frame of type testing as well as factory production control.

Sampling is not covered by this document, but reference is made to the relevant product standards.

This standard also provides the acceptance procedure for verification of a lot.

Depending on the product, characteristic values determined in accordance with this standard may be used directly or may need additional adjustments specified in the relevant product standards.

Note: For example, in the case of solid timber, specific adjustment factors for calculation of characteristic values are given in EN 384.

2 Symbols

$k_s(n)$	Factor used to calculate characteristic properties for initial type testing (see Tables 1 and 2)
$k(n)$	Factor used to calculate characteristic properties for factory production control (see Tables 3 and 4)
m_i	Individual test value *i* of stochastic variable *m*
m_k	5-percentile value of stochastic variable *m*
m_{mean}	Population mean value of stochastic variable *m*
n	Number of test values
s_y	Standard deviation
u_x	x-percentile in the standardised normal distribution
$\bar{y}$	Sample mean value — $y = m$ for normally distributed variable — $y = \ln m$ for logarithmically normally distributed variable
$y_{0.5}$	Sample 5-percentile from the test data
α	Confidence level (%)