

Timber poles for overhead lines - Test methods - Determination of modulus of elasticity, bending strength, density and moisture content

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Determination of modulus of elasticity, bending
strength, density and moisture content

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12509:2002 sisaldab Euroopa standardi EN 12509:2001 ingliskeelset teksti.	This Estonian standard EVS-EN 12509:2002 consists of the English text of the European standard EN 12509:2001.
Käesolev dokument on jõustatud 14.03.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 14.03.2002 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: This standard specifies methods of test to determine the modulus of elasticity, bending strength, density and moisture content of solid wooden poles for overhead transmission and telecommunication lines. It is applicable to both hardwood and softwood poles.	Scope: This standard specifies methods of test to determine the modulus of elasticity, bending strength, density and moisture content of solid wooden poles for overhead transmission and telecommunication lines. It is applicable to both hardwood and softwood poles.
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ICS 29.240.20, 79.080

Võtmesõnad: density (mass/volume), electric power transmiss, modulus of elas, moisture contents, overhead power line, overhead power lines, specification (approval), specifications, telecommunication pole lines, testing, wood technology, wooden poles, woodworking industry

ICS 29.240.20; 79.080

English version

**Timber poles for overhead lines - Test methods - Determination
of modulus of elasticity, bending strength, density and moisture
content**

Poteaux en bois pour lignes aériennes - Méthodes d'essai -
Détermination du module d'élasticité, de la résistance à la
flexion, de la masse volumique et de la teneur en humidité

Holzäste für Freileitungen - Prüfverfahren - Bestimmung
des Elastizitätsmoduls, der Biegefestigkeit, der Dichte und
des Feuchtigkeitsgehalts

This European Standard was approved by CEN on 13 October 2001.

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 Management Centre 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 Management Centre has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

	page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols.....	6
5 Requirements for determination of sizes, moisture content and density	7
5.1 Determination of sizes.....	7
5.2 Determination of moisture content	7
5.3 Determination of density.....	7
6 Test method for bending properties.....	8
6.1 Principle.....	8
6.2 Preparation.....	8
6.3 Apparatus	9
6.4 Procedure.....	9
6.5 Results	10
6.6 Test report	11
6.6.1 Test material	11
6.6.2 Test procedure.....	11
6.6.3 Test results	11
Annex A (informative) Example of suitable cantilever bending test method.....	13
Bibliography	14

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 124 "Structural timber", the secretariat of which is held by DS.

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 May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

This standard includes an informative annex A describing a suitable test method for cantilever bending.

This standard includes a Bibliography.

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.

Introduction

This standard is one of five standards covering requirements for visual or machine grading, test methods, determination of characteristic values, methods of specifying durability and sizes.

1 Scope

This European Standard specifies methods of test to determine modulus of elasticity, bending strength, density and moisture content of solid wood poles for overhead transmission and telecommunication lines. It is applicable to both hardwood and softwood poles.

This standard covers only single poles under cantilever and/or compression loading. For example, this standard does not cover poles used as beams.

The provision of poles for use in any overhead line or cable infrastructure shall take into account a range of factors not covered by this standard which will necessitate the specification by the end user of complementary and synonymous attributes to those defined in this standard. This refers to requirements for a number of factors including safety, overhead plant, handling, fittings, installation machinery and working practices including climbing.

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 (including amendments).

EN 212, *Wood Preservatives - Guide to sampling and preparation of wood preservatives and treated timber for analysis.*

EN 12465:2001, *Wood poles for overhead lines - Durability requirements.*

prEN 12479, *Wood poles for overhead lines - Sizes - Methods of measurement and limit deviations.*

prEN 12510, *Wood poles for overhead lines - Strength grading criteria.*

ISO 3130, *Wood - Determination of moisture content for physical and mechanical tests.*

ISO 3131, *Wood - Determination of density for physical and mechanical tests.*

3 Terms and definitions

For the purposes of this European Standard, the following the terms and definitions apply.

3.1

bulk density

mass per unit volume of material, including voids and liquids

3.2

dry density

mass of material, dried to constant mass at $(103 \pm 2)^\circ\text{C}$, per unit volume of undried materials

3.3

minimum diameter

minimum diameter of the pole at the section of measurement

3.4

moisture content

ratio of the mass of the quantity of water in a material to the mass of the dry material