



SLOVENSKI STANDARD
SIST EN 390:1996
01-avgust-1996

Lepljen lameliran les - Mere - Dovoljena odstopanja

Glued laminated timber - Sizes - Permissible deviations

Brettschichtholz - Maße - Grenzabmaße

Bois lamellé collé - Dimensions - Ecartis admissibles

Ta slovenski standard je istoveten z: EN 390:1994

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ICS:

79.060.99 Druge lesne plošče Other wood-based panels

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en

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EUROPEAN STANDARD

EN 390

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 1994

ICS 79.060.00

Descriptors: Laminated boards, dimensions, dimensional deviations, measurements, humidity

English version

Glued laminated timber - Sizes - Permissible deviationsBois lamellé collé - Dimensions - Ecartés - Brettschichtholz - Maße - Grenzabmaße
admissibles**ITEH STANDARD PREVIEW**
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CENEuropean 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 the Technical Committee CEN/TC 124 "Timber Structures", 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of an identical text or by endorsement, at the latest by May 1995, and conflicting national standards shall be withdrawn at the latest by May 1995.

NOTE: It is considered important to maintain the same clause numbering throughout this series of standards. Consequently, some clauses are empty but it is envisaged that future editions may need to include text in these clauses.

No existing European Standard is superseded.

In accordance with the CEN/CENELEC Internal Regulations, 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 United Kingdom.

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1 Scope

This standard specifies tolerances on sizes of glued laminated timber for structural use and the reference moisture content at which sizes are established. It also gives a method for the calculation of corrected sizes for glued laminated timber with a moisture content differing from that of the reference moisture content.

It is applicable to glued laminated timber with rectangular cross sections having sizes in the range of:

Width:	50 mm to 300 mm
Depth:	100 mm to 2500 mm

2 Normative references

None.

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 actual size: Real size of a member.

3.2 glued laminated timber (glulam): Structural member formed by bonding together timber laminations with the grain essentially parallel.

- 3.3 target size:** Size of the glued laminated member specified by the purchaser at the reference moisture content.
- 3.4 corrected size:** Actual size of a member corrected to the reference moisture content.
- 3.5 moisture content:** Amount of water present in the timber, expressed as percentage of oven dry mass.
- 3.6 reference moisture content:** The reference moisture content is 12 %.

4 Symbols

b width of cross section, in millimetres;

h depth of cross section, in millimetres;

k moisture deformation factor;

l length, in millimetres;

l_a actual size, in millimetres;

l_{cor} corrected size, in millimetres;

ω_a actual moisture content in %;

ω_{ref} reference moisture content in %.

5 Sizes for glulam

5.1 Corrected sizes

If the actual moisture content differs from the reference moisture content, a corrected size is calculated from the actual size by

$$l_{cor} = l_a (1 + k (\omega_{ref} - \omega_a))$$

where the moisture deformation factor *k* is given in table 1.

Table 1: Moisture deformation factor k for a change in moisture content of 1 %. The values are valid for coniferous wood and poplar, and a moisture content in the range of 6 % to 25 %. The moisture deformation factor perpendicular to grain is an average of both tangential and radial deformation

	k
Perpendicular to grain	0,0025
Parallel to grain	0,0001

5.2 Deviation in sizes

Any corrected sizes shall deviate from the target sizes by not more than

Width of cross section: $\begin{pmatrix} +2 \\ -2 \end{pmatrix} mm$ for all widths

Depth of cross section for:

$h \leq 400 mm$ $\begin{pmatrix} +4 \\ -2 \end{pmatrix} mm$

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$h > 400 mm$ $\begin{pmatrix} +1 \\ -0,5 \end{pmatrix} \%$

Length of a straight for:

member: $l \leq 2,0 m$ $\begin{pmatrix} +2 \\ -2 \end{pmatrix} mm$

$2,0 m < l \leq 20 m$ $\begin{pmatrix} +0,1 \\ -0,1 \end{pmatrix} \%$

$l > 20 m$ $\begin{pmatrix} +20 \\ -20 \end{pmatrix} mm$

The angles of the cross section shall deviate from the right angle by not more than 1:50.

6 Measurements

6.1 Moisture content

6.1.1 Until a European standard on practical measuring of the moisture content is issued the following procedure shall be adopted.

6.1.2 The measurement shall be carried out using a calibrated electric moisture meter. It shall be done in accordance with the instrument manufacturer's instructions at a point not nearer than 1 m from either end, or in the centre of the piece if it is less than 2 m long. If an electric moisture meter with probes is used they shall be insulated and the penetration shall be not less than 20 mm.

6.1.3 The moisture meter shall be regularly calibrated in accordance with the instrument manufacturer's instruction.

6.2 Measurement of actual sizes

The actual sizes shall be measured for a sample of glued laminated members selected at random either from the production or from a delivery on the building site.

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