SLOVENSKI STANDARD
SIST EN 1312:2003

01-oktober-2003

Round and sawn timber - Determination of the batch volume of sawn timber

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Rund- und Schnittholz - Bestimmung des Losvolumens von Schnittholz

Bois ronds et bois sciés - Détermination du volume d'un lot de sciages

Ta slovenski standard je istoveten z: **EN 1312:1997**

ICS:

79.040	Les, hlodovina in žagan les	Wood, sawlogs and sawn timber

SIST EN 1312:2003 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1312

February 1997

ICS 79.040

Descriptors: wood, sawlogs, sawn timber, cubic content, measurements, calculation, volume

English version

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CEN

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

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Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 175 "Round and sawn timber", the Secretariat of which is held by AFNOR

This standard is one of a series concerning sawn timber.

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of an identical text or by endorsement, at the latest by August 1997, and conflicting national standards shall be withdrawn at the latest by August 1997.

According to 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 standard specifies the rules for the determination of the batch volume of sawn timber.

It applies to the volume of a batch of similar or dissimilar pieces of sawn softwood or hardwood.

This Standard applies to the following products defined in EN 844-3, for example :

- Rough-sawn timber (boules and square sawn)
- Regularized green timber
- Regularized dried timber
- Prepared timber
- Planed timber

regardless of whether or not the timber meets the requirements of any dimensional or qualitative standards.

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 844-3	Round and sawn timber - Terminology - Part 3 : General terms relating to sawn timber.
EN 975-1	Sawn timber - Appearance grading of hardwoods - Part 1 : Oak and beech.
EN 1309-1	Round and sawn timber - Method of measurement of dimensions - Part 1: Sawn timber.
prEN 1611-1	Wood - Softwood sawn timber - Visual grading - Part 1 : Criteria for quality standards.
prEN 1611-2	Sawn softwood - Visual grading - Part 2 : Quality grading for European Spruces and Firs.

3 General

3.1 The determination of the volume of sawn timber includes the taking of the dimensions and the calculation of volume.

The dimensions to be measured are : thickness, *t*, width, *b*, and length, *l*, which are always expressed in that order.

3.2 The calculation of volume is the arithmetical operation destined to determine the commercial volume of a piece or of a batch of pieces. The calculation methods for each case are defined below.

4 Basic rules

4.1 Measuring instruments

Use the measuring instruments defined in EN 1309-1.

4.2 Measurement of the dimensions of pieces

4.2.1 General

All dimensions are measured in mm.

4.2.2 Thickness and width

Thickness and width are measured according to EN 1309-1.

For products with target sizes, the thickness and width are given at the reference moisture content.

For products with dimensions contractually defined, the thickness and width at the contractual moisture content are given.

Permitted deviations are not taken into account.

4.2.3 Length

The length of a piece is measured in accordance with EN 1309-1: it is the shortest length of a piece.

4.3 Calculation of the volume of a piece

The volume of a sawn piece, V, is calculated by applying the formula :

$$V = t \times b \times l$$

where :

t the thickness, in metres to 3 decimals
b the width, in metres to 3 decimals
l the length, in metres to 3 decimals

Batches consisting of similar pieces are measured on the basis of the volume of a reference piece. If the volume of this piece is calculated as a separate operation, it shall be expressed in cubic metres to 4 decimals.

The volume of a piece, measured separately, is in m^3 to 3 decimals.

4.4 Calculation of the volume of a batch

The volume of a batch shall be expressed in m^3 to 3 decimals.

4.4.1 Batches of timber, all pieces of the same size

The volume is given by the formula :

$$V = n \times V_t$$

where

n is the number of pieces in the batch
V_t is the volume of the reference piece

4.4.2 Batches of timber, all pieces of equal thickness and width but varying in length

Measure the length of each piece individually, in order to determine the total aggregate length of the batch.

4.4.3 Batches of timber, all pieces of equal thickness but varying in width and length

The widths of equally long pieces are measured individually, in order to determine their total aggregate width. The calculation may be based on the total width of a layer of planks, placed edge to edge. For each length, the volume is the aggregate width multiplied by the thickness and the length.

4.4.4 Batches of timber, with varying dimensions (thickness, length or width)

It is recommended to split the batch into sub-batches containing pieces of identical size, and then to proceed as above.

4.4.5 Volume of an unedged board, or a batch of separated unedged boards

The volume is calculated taking half the width of any wane into account ignoring bark, halfway along the length of the board. In case of a feature at this point which would give an incorrect result, two measurements are made equidistant from the mid-point and their mean used. It is the supplier who measures. Sound sapwood is included in the measure.

4.4.6 Volume of a boule

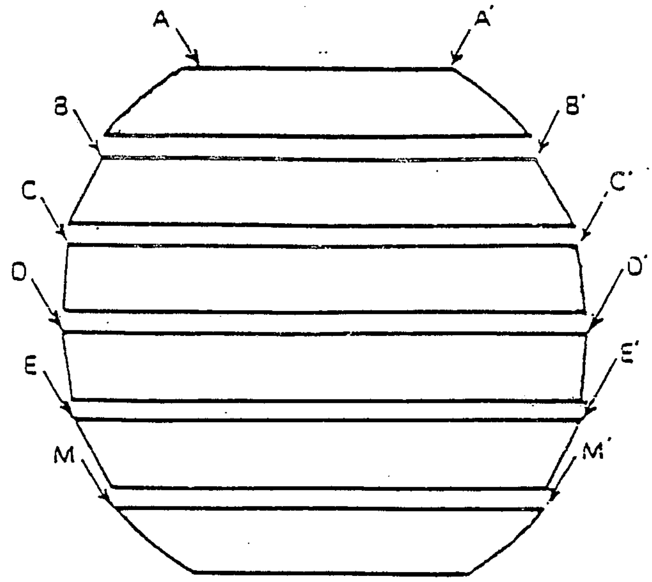

Figure 1 : Volume of a boule

The total aggregate width is the basis of calculation.

This total aggregate width, or total width of the whole of the pieces in a boule, or of a series of successive pieces from any one boule, of equal length and thickness, is measured equidistant from the ends, perpendicular to the axis, ignoring bark. It is equal to the sum of the widths of the top faces of each unedged board.

If the widths of the top faces of each unedged board are referred to as AA', BB', CC', DD', EE', ... , MM', then the developed width, Σb, is shown by the following formula :

$$\Sigma b = AA' + BB' + CC' + DD' + EE' + \ldots + MM'$$

5 Reduction for defects and insect or fungal damage (separated unedged boards and boules)

In accordance with the grade definitions laid down in EN 975-1, prEN 1611-1 and prEN 1611-2, volume reductions may be carried out, where certain features or damage are present in the boards constituting the batch.

One or more boards may not be withdrawn from a boule of a given grade on the ground that they contain a defect or that they are unsound. In such a case, volume reduction is carried out so as to take into account only the part which is :

- Sound, i.e. non-deteriorated,
- "Clear , i.e. not containing any defect or unsoundness which is liable to spread,
- Saleable, i.e. suitable for commercial use.

The details of the features giving rise to volume reductions in oak and beech are explained in EN 975-1.

NOTE : For other species less frequently sold in boule form, the features, giving rise to volume reduction should be contractually defined.