BRITISH STANDARD

BS EN
1312 : 1997

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

The European Standard EN 1312 : 1997 has the status of a British Standard

ICS 79.040

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/543, Round and sawn timber, to Subcommittee B/543/2, Sawn timber, upon which the following bodies were represented:

British Timber Merchants' Association
British Woodworking Federation
Department of the Environment (Building Research Establishment)
Timber Packaging and Pallet Confederation
Timber Research and Development Association
Timber Trade Federation
United Kingdom Softwood Sawmillers' Association

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 September 1997

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Contents

National foreword

This British Standard has been prepared by Subcommittee B/543/2 and is the English language version of EN 1312 : 1997 *Round and sawn timber — Determination of the batch volume of sawn timber*, published by the European Committee for Standardization (CEN).

No existing British Standard is superseded.

Cross-references

Publication referred to	Corresponding British Standard
EN 844-3	BS EN 844 *Round and sawn timber — Terminology* Part 3 : 1995 *General terms relating to sawn timber*
EN 975-1	BS EN 975 *Sawn timber — Appearance grading of hardwoods* Part 1 : 1996 *Oak and beech*
	BS EN 1309 *Round and sawn timber — Method of measurement of dimensions*
EN 1309-1	Part 1 : 1997 *Sawn timber*

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 4, an inside back cover and a back cover.

EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 1312

February 1997

ICS 79.040

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

English version

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

Bois ronds et bois sciés — Determination du volume d'un lot de sciages

Rund- und Schnittholz — Bestimmung des Losvolumens von Schnittholz

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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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.

Contents

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	*Sawn softwood — Appearance grades — Part 1 : Criteria for quality standards*
prEN 1611-2	*Sawn softwood — Appearance grades — 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 is the thickness, in metres, to three decimal places;

b is the width, in metres, to three decimal places;

l is the length, in metres, to three decimal places.

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 m^3 to four decimal places.

The volume of a piece, measured separately, is expressed in m^3 to three decimal places.

4.4 Calculation of the volume of a batch

The volume of a batch shall be expressed in m^3 to three decimal places.

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 is used. It is the supplier who measures. Sound sapwood is included in the measurement.

4.4.6 *Volume of a boule*

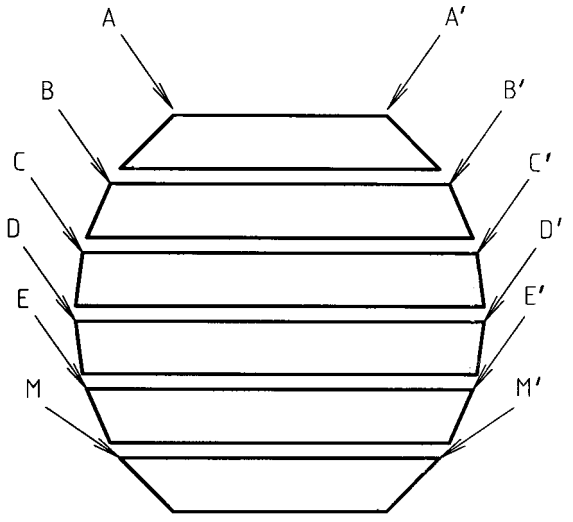

Figure 1. Volume of a boule

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, $\Sigma\, b$, is shown by the following formula:

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

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 grounds 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.

List of references

See national foreword.

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