

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 738

CONIFEROUS SAWN TIMBER

SIZES – TOLERANCES AND SHRINKAGE

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 738, *Coniferous sawn timber – Sizes – Tolerances and shrinkage*, was drawn up by Technical Committee ISO/TC 55, *Sawn timber*, the Secretariat of which is held by the Komitet Standartov, Mer i Izmeritel'nyh Priborov pri Sovete Ministrov S.S.S.R. (GOST).

Work on this question by the Technical Committee began in 1956 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In November 1965, this Draft ISO Recommendation (No. 875) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Ireland	Spain
Canada	Italy	Sweden
Czechoslovakia	Japan	Turkey
Denmark	Netherlands	U.A.R.
France	Poland	U.S.S.R.
Hungary	Portugal	Yugoslavia
Israel	Romania	
India	South Africa, Rep. of	

Five Member Bodies opposed the approval of the Draft :

Austria	Germany
Belgium	United Kingdom
Finland	

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1968, to accept it as an ISO RECOMMENDATION.

CONIFEROUS SAWN TIMBER

SIZES — TOLERANCES AND SHRINKAGE

1. SCOPE

- 1.1 This ISO Recommendation specifies permissible deviations, due to inaccuracies in sawing, from nominal thickness, width and length of coniferous sawn timber.
For information, average values of shrinkage are given in Annex A and Annex B.
- 1.2 The ISO Recommendation covers unplanned square-edged and unedged coniferous sawn timber 10 mm (0.3937 in) to 310 mm (12.2047 in) thick and/or wide.

2. DEVIATIONS AND SHRINKAGE

- 2.1 The nominal sizes of sawn timber are established at 20 % absolute moisture content.
The actual thickness and width of sawn timber with moisture content over 20 % should be larger, and those of sawn timber with moisture content below 20 % may be smaller, than the nominal sizes, by the corresponding shrinkage value.
Tables of average shrinkage are given for information in Annexes A and B.
NOTE. — Absolute moisture content is understood as moisture content related to oven-dry mass of timber expressed in per cent.
- 2.2 The actual thicknesses of all kinds of sawn timber as well as widths of square-edged sawn timber with parallel edges, in any cross section of each piece of sawn timber, may have permitted deviations due to inaccuracy of sawing, from nominal sizes (corrected for shrinkage) not exceeding
- (a) for thickness up to 29 mm (1.1417 in)
± 1 mm (0.0394 in);
 - (b) for thickness and width 30 to 105 mm (1.1811 to 4.1339 in)
± 2 mm (0.0787 in);
 - (c) for thickness and width more than 105 mm (4.1339 in)
± 3 mm (0.1181 in).

If 20 pieces of the same size are taken at random from a lot of sawn timber, the average actual thickness (irrespective of the kind of sawn timber) and the average actual width of square-edged sawn timber with parallel edges should not be less than the nominal sizes, corrected for shrinkage.

- 2.3 Permitted deviations of actual lengths of sawn timber from the nominal length, due to inaccuracy of sawing, are
- + 50 mm (1.9685 in) and
 - 25 mm (0.9843 in).

3. REFERENCES TO OTHER ISO RECOMMENDATIONS

- 3.1 ISO Recommendation R ... ,* *Coniferous sawn timber – Sizes – Terms and definitions.*
- 3.2 ISO Recommendation R 370, *Conversion of toleranced dimensions from inches into millimetres and vice versa.*

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* At present Draft ISO Recommendation No. 1259.

ANNEX A

Coniferous sawn timber (pine, spruce, fir* and other species) with 0.35 to 0.6 g/cm³ average density in absolutely dry condition

TABLE 1 – Percentage shrinkage values from the nominal size of sawn timber**

Thickness and/or width of sawn timber	For a percentage absolute moisture content of sawn timber							
	range	over 38	34 to 38	31 to 33	26 to 30	23 to 25	18 to 22	15 to 17
	mean	–	36	32	28	24	20	16
mm (in)	the percentage shrinkage is							
from 10 (0.3937) to 17 (0.6693)		+ 4.0	+ 3.2	+ 2.4	+ 1.6	+ 0.8	± 0	– 0.8
from 18 (0.7087) to 29 (1.1417)		+ 3.4	+ 2.7	+ 2.0	+ 1.4	+ 0.7	± 0	– 0.7
from 30 (1.1811) to 90 (3.5433)		+ 3.2	+ 2.6	+ 1.9	+ 1.3	+ 0.6	± 0	– 0.6
from 91 (3.5827) to 140 (5.5118)		+ 2.9	+ 2.3	+ 1.7	+ 1.2	+ 0.6	± 0	– 0.6
from 141 (5.5512) to 170 (6.6929)		+ 2.7	+ 2.2	+ 1.6	+ 1.1	+ 0.5	± 0	– 0.5
from 171 (6.7323) to 210 (8.2677)		+ 2.6	+ 2.1	+ 1.6	+ 1.0	+ 0.5	± 0	– 0.5
from 211 (8.3071) to 255 (10.0394)		+ 2.6	+ 2.1	+ 1.6	+ 1.0	+ 0.5	± 0	– 0.5
from 256 (10.0787) to 310 (12.2047)		+ 2.5	+ 2.0	+ 1.5	+ 1.0	+ 0.5	± 0	– 0.5

* The botanical names of the wood species are the following : pine – *Pinus*; spruce – *Picea*; fir – *Abies*.

** This Table is given as reference data.

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