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# International Standard



# 738

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Coniferous sawn timber — Sizes — Permissible deviations and shrinkage

*Bois sciés résineux — Dimensions — Écart admissible et retrait*

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**Descriptors** : wood, sawn timber, coniferous timber, shrinkage, dimensions, dimensional tolerances.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 738 was developed by Technical Committee ISO/TC 55, *Sawn timber and sawlogs*.

It was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 738-1968, which had been approved by the member bodies of the following countries :

Australia	Ireland	South Africa, Rep. of
Canada	Israel	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Turkey
Egypt, Arab Rep. of	Netherlands	USSR
France	Poland	Yugoslavia
Hungary	Portugal	
India	Romania	

The member bodies of the following countries had expressed disapproval of the document on technical grounds :

Austria	Germany, F.R.
Belgium	United Kingdom
Finland	

# Coniferous sawn timber — Sizes — Permissible deviations and shrinkage

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### 1 Scope and field of application

This International Standard specifies permissible deviations, due to inaccuracies in sawing, from nominal thicknesses, widths and lengths, for coniferous sawn timber.

It also gives, for information, average values for shrinkage for some wood species.

It is applicable to unplanned square-edged and unedged coniferous sawn timber having thicknesses or widths in the range 10 mm (0.393 7 in) to 310 mm (12.204 7 in).

### 2 Permissible deviations and shrinkage

**2.1** The nominal sizes of coniferous sawn timber are established at an absolute moisture content of 20 %.

NOTE — The absolute moisture content is the moisture content related to the oven-dry mass of the timber, expressed as a percentage.

The actual thickness and width of sawn timber having moisture contents greater than 20 % may be larger than, and those of sawn timber having moisture contents less than 20 % may be smaller than, the nominal sizes, by the corresponding value for shrinkage.

Average values for shrinkage are given, for information, in annexes A and B.

**2.2** The actual thicknesses of all kinds of coniferous sawn timber, and the widths of square-edged sawn timber with parallel edges, in any cross-section of each piece of sawn timber, may deviate, due to inaccuracy in sawing, from the nominal sizes (corrected for shrinkage) by not more than

- a) for thicknesses up to 29 mm (1.141 7 in) :  $\pm 1$  mm (0.039 4 in);
- b) for thicknesses and widths in the range 30 to 105 mm (1.181 1 to 4.133 9 in) :  $\pm 2$  mm (0.078 7 in);
- c) for thicknesses and widths greater than 105 mm (4.133 9 in) :  $\pm 3$  mm (0.118 1 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 shall not be less than the nominal sizes, corrected for shrinkage.

**2.3** The permissible deviations of actual lengths of sawn timber from the nominal length, due to inaccuracy in sawing shall be

- + 50 mm (1.968 5 in), and
- 25 mm (0.984 3 in).

## Annex A

**Average values for shrinkage for coniferous sawn timber (pine, spruce, fir and other species)<sup>1)</sup> having an average density of 0,35 to 0,6 g/cm<sup>3</sup> in the absolutely dry condition**

Table 1\*

Thickness and/or width of sawn timber	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)	Average shrinkage, %							
from 10 (0.393 7) to 17 (0.669 3)	+ 4,0	+ 3,2	+ 2,4	+ 1,6	+ 0,8	± 0	− 0,8	
from 18 (0.708 7) to 29 (1.141 7)	+ 3,4	+ 2,7	+ 2,0	+ 1,4	+ 0,7	± 0	− 0,7	
from 30 (1.181 1) to 90 (3.543 3)	+ 3,2	+ 2,6	+ 1,9	+ 1,3	+ 0,6	± 0	− 0,6	
from 91 (3.582 7) to 140 (5.511 8)	+ 2,9	+ 2,3	+ 1,7	+ 1,2	+ 0,6	± 0	− 0,6	
from 141 (5.551 2) to 170 (6.629 9)	+ 2,7	+ 2,2	+ 1,6	+ 1,1	+ 0,5	± 0	− 0,5	
from 171 (6.732 3) to 210 (8.267 7)	+ 2,6	+ 2,1	+ 1,6	+ 1,0	+ 0,5	± 0	− 0,5	
from 211 (8.307 1) to 255 (10.039 4)	+ 2,6	+ 2,1	+ 1,6	+ 1,0	+ 0,5	± 0	− 0,5	
from 256 (10.078 7) to 310 (12.204 7)	+ 2,5	+ 2,0	+ 1,5	+ 1,0	+ 0,5	± 0	− 0,5	

\* The values in the table are given as reference data.

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

## Annex B

**Average values for shrinkage for coniferous sawn timber (larch<sup>1)</sup> and other species) having an average density of 0,61 to 0,75 g/cm<sup>3</sup> in the absolutely dry condition**

Table 2\*

Thickness and/or width of sawn timber	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)	Average shrinkage, %							
from 10 (0.393 7) to 17 (0.669 3)	+ 5,2	+ 4,2	+ 3,1	+ 2,1	+ 1,0	± 0	− 1,0	
from 18 (0.708 7) to 29 (1.141 7)	+ 4,4	+ 3,5	+ 2,6	+ 1,8	+ 0,9	± 0	− 0,9	
from 30 (1.181 1) to 90 (3.543 3)	+ 4,1	+ 3,3	+ 2,5	+ 1,6	+ 0,8	± 0	− 0,8	
from 91 (3.582 7) to 140 (5.511 8)	+ 3,8	+ 3,0	+ 2,3	+ 1,5	+ 0,8	± 0	− 0,8	
from 141 (5.551 2) to 170 (6.629 9)	+ 3,5	+ 2,8	+ 2,1	+ 1,4	+ 0,7	± 0	− 0,7	
from 171 (6.732 3) to 210 (8.267 7)	+ 3,4	+ 2,7	+ 2,0	+ 1,4	+ 0,7	± 0	− 0,7	
from 211 (8.307 1) to 255 (10.039 4)	+ 3,3	+ 2,6	+ 2,0	+ 1,3	+ 0,7	± 0	− 0,7	
from 256 (10.078 7) to 310 (12.204 7)	+ 3,2	+ 2,6	+ 1,9	+ 1,3	+ 0,6	± 0	− 0,6	

\* The values in the table are given as reference data.

1) The botanical name of larch is *Larix*.

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