

INTERNATIONAL
STANDARD

ISO
24294

NORME
INTERNATIONALE

First edition
Première édition
Первое издание
2013-09-01

МЕЖДУНАРОДНЫЙ
СТАНДАРТ

**Timber — Round and sawn timber —
Vocabulary**

**Bois — Bois ronds et bois sciés —
Vocabulaire**

**Лесоматериалы — Круглые и
пиленые лесоматериалы — словарь**

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ISO 24294:2013

<https://standards.iteh.ai/catalog/standards/sist/bb5a1b41-c425-485a-93c4-30ce3402d1e8/iso-24294-2013>



Reference number
Numéro de référence
Ссылочный номер
ISO 24294:2013(E/F/R)

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Published in Switzerland/Publié en Suisse/Отпечатано в Швейцарии

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 24294 was prepared by Technical Committee ISO/TC 218, *Timber*.

This edition cancels and replaces ISO 4473:1988, ISO 4474:1989, ISO 4476:1983 and ISO 8966:1987.

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Introduction

Wood is a naturally occurring resource and is the only major construction material that is renewable. Because it is renewable, the use of wood and the many different timber products made from wood, contributes to overall sustainable development. Wood is used in the manufacture of various timber products and many of these timber products are intended specifically for use both as structural and non-structural elements in the construction of timber-framed or platform-frame buildings.

NOTE 1 In North America, timber-framed buildings in which timber is the main structural material are commonly referred to as post and beam construction, while other timber-framed buildings constructed of wood that rely wholly or mainly on load-bearing walls that have studs supported by the floor(s) are typically referred to as wood frame construction or platform frame construction.

Similar to most other building materials, wood has unique properties. In wood, these various properties are affected by species, natural growth characteristics and moisture content and with its unique cell structure; wood has different strength properties in different grain directions.

There is a need to be able to conceptualize and communicate on the physical and mechanical characteristics of the many different hardwood and softwood round, sawn and processed timbers in a manner that is consistent and recognized globally.

This International Standard has been prepared by the various groups involved in the timber industry, such as manufacturers, builders, wholesalers and importers, as well as research organizations, academia, national regulatory bodies, standards developers and professional design organizations.

Understanding the nature of the various physical characteristics and features of round and sawn timber will enable effective communication related to sawn and processed timber in a manner that is consistently understood by and equitable to all active and potential traders/users. Its use in other standards will also aid harmonization and provide a basis for specialist terminology.

NOTE 2 General and specific concepts regarding wood and timber that are used in communication and discussions related to building and civil engineering works have been defined in ISO 6707-1:2004.

The terms are presented in the three official ISO languages (English, French and Russian) using a systematic structure to allow ready comparison of related concepts and to reflect the underlying concept system. Where a given term is used to represent different concepts, creating homonymy between them, each concept is treated in separate terminological entries, with a notational cross-reference to the other entry included in both.

Timber — Round and sawn timber — Vocabulary

1 Scope

This International Standard contains the terms and definitions of concepts to establish a multilingual vocabulary of terminology to be applied in forest and wood working spheres, with the scope of identification of a tree and of its parts in round and sawn aspects; its measurements; grading; condition; features; sizes; and the natural, biological and infestational defects of wood.

2 Normative references

There are no normative references for this standard.

3 General - Round timber and sawn timber

3.1

wood

lignocellulosic substance between the *pith* (9.14) and *bark* (9.5) of a tree or a shrub

Note 1 to entry: This note applies to the French language only.

Note 2 to entry: Internationally, the terms *wood* and *timber* (3.2), in English and French, are often used interchangeably to represent the basic material (substance) used to form wood products.

3.2

timber

wood (3.1) in the form of standing or felled trees, or a wood product of these after conversion

Note 1 to entry: In the case of converted material, the term “timber” is not used to refer to certain wood products, such as wood-based panels, wood pulp, *chips* (4.19) or sawdust (4.20).

Note 2 to entry: In North America, in English, there is a homograph for the term “timber”. See 5.6. Where the term *timber* is used in North America to refer to a specific end-use product, it generally refers to sawn lumber (see 5.1) that is 114 mm (nominal 5 in) or greater in thickness.

Note 3 to entry: In the Russian language, the term “timber” does not refer to standing trees or felled trees.

3.3

species

distinct sort or kind of tree having some characteristics or qualities in common that distinguishes it from others

EXAMPLE Douglas fir (*Pseudotsuga menziessi*), Eastern white pine (*Pinus strobus*), White spruce (*Picea glauca*), Scots pine (*Pinus silvestris*), Silver fir (*Abies alba*).

Note 1 to entry: A species of *wood*(3.1) is usually referred to by a common name, but typically identified by a botanical name that is often based on a Linnaean binomial of its genus and species.

3.3.1

species group

species combination, en CA US

species group, en CA US

group of several *species* (3.3) of *wood* (3.1) that are grown, harvested, manufactured and marketed together, and have similar performance properties

**3.4
hardwood**

wood (3.1) of trees of the botanical group Dicotyledonae

**3.5
softwood**

wood (3.1) of trees of the botanical group Gymnosperms

**3.6
feature**

physical, morphological or growth characteristic of *timber* (3.2) that could affect its use

**3.6.1
defect**

feature (3.6) that results in lower quality of *timber* (3.2) which causes restrictions in use

**3.7
grading**

separation of *timber* (3.2) by end-use, *species* (3.3), quality, sizes or some combination thereof

Note 1 to entry: In English, there is a homograph for the term “grading”. See 4.28.

**3.8
batch**

lot
specified quantity or number of items of a specified product

Note 1 to entry: The content of each batch shall be specified.

4 General - Round timber

**4.1
crown**

upper portion of a tree, with branches and twigs, possibly including part of the *stem* (4.3)

**4.2
spring of the crown**

zone of the *stem* (4.3) from where the lowest branches of the *crown* (4.1) grow out

**4.3
stem**

portion of a tree above ground, excluding branches

Note 1 to entry: The term “stem” is sometimes used to refer to trees, i.e., stems per unit area.

Note 2 to entry: This note applies to the Russian language only.

**4.4
trunk**

portion of a *stem* (4.3) used for valuing of a standing tree

Note 1 to entry: Usually specified by stating the minimum *top diameter* (7.1.3).

Note 2 to entry: This note applies to the Russian language only.

**4.5
butt swelling**

thickened base part of the *stem* (4.3)

4.6

buttress

projecting rib at the lower end of the *stem* (4.3)

4.7

stump

portion of the tree that remains above and below ground after *felling* (4.27)

4.8

branch whorl

zone of the *stem* (4.3) where several branches or *knots* (10.1) occur at approximately the same height

4.9

desapped round timber

round timber (4.11) that has had all *sapwood* (9.1) thoroughly removed

Note 1 to entry: The sapwood is removed generally to prevent *biodeterioration* (12.2).

4.10

pruned timber

standing *timber* (3.2) that, as a young tree, had its lower branches removed by pruning

4.11

round timber

felled tree crosscut at the top, with all branches removed, that may or may not have been further crosscut

Note 1 to entry: Generally excluding firewood.

4.11.1

long pole

round timber (4.11) that has not been further crosscut

Note 1 to entry: This note applies to the Russian language only.

4.11.2

log

crosscut portion of *round timber* (4.11) or *long pole* (4.11.1)

4.11.3

butt log

log (4.11.2) produced from the larger end of a *long pole* (4.11.1)

4.11.4

second log

log (4.11.2) produced from the portion of a *long pole* (4.11.1) between the *butt log* (4.11.3) and the *top end log* (4.11.5)

4.11.5

top end log

log (4.11.2) produced from the smaller end of a *long pole* (4.11.1) or *felled trunk* (4.29)

4.12

stop

portion of a *stem* (4.3) where there is a marked reduction in *diameter* (7.1)

Note 1 to entry: For example, at a thick branch.

4.13

crosscut point

place on a *long pole* (4.11.1) or a *log* (4.11.2) where it will be crosscut

4.13.1

theoretical crosscut point

point at which a *long pole* (4.11.1) or a *trunk* (4.4) is visually assessed for cross-cutting for the purpose of *grading* (3.7)(4.28)

4.14

debarking

removing *bark* (9.5) from trees or *round timber* (4.11)

4.14.1

ring barking

removing a narrow strip of *bark* (9.5) around the circumference of a *stem* (4.3)

4.14.2

rough debarking

partial removing of *bark* (9.5)

4.14.3

bundle debarking

simultaneous *debarking* (4.14) of a group of *long poles* (4.11.1) or *logs* (4.11.2)

4.14.4

piece-by-piece debarking

debarking (4.14) of individual *round timbers* (4.11)

4.14.5

patch debarking

rough debarking (4.14.2) with removing of *bark* (9.5) by spots

4.14.6

clean debarking

complete removal of *bark* (9.5), remnants of branches and branchwood

4.15

sawlog

log (4.11.2) for conversion into *sawn timber* (5.1)

4.16

veneer log

log (4.11.2) for conversion into veneer

4.17

pulpwood

log(s) (4.11.2) for breaking down mechanically or chemically for the production of pulp or solid wood panels

4.18

pit props

log(s) (4.11.2) used in mines for support structures

4.19

chips

small flakes of *wood* (3.1) produced during a fragmentation process

Note 1 to entry: Generally utilized for pulp, wood-based products or fuel.

4.20

sawdust

particles of *wood* (3.1) produced during the process of sawing

4.21

special assortment log

log (4.11.2) specified by *length* (7.3) or *diameter* (7.1), or both, for a specific end-use

4.22**regularized round timber**

round timber (4.11) processed in order to obtain a cylindrical shape

4.23**pole**

long *log* (4.11.2) for use in a free-standing application

4.24**stake**

round timber (4.11) of small *diameter* (7.1) usually pointed at one end

4.25**bundle**

group of evenly placed *logs* (4.11.2), bundled with packaging means

4.26**pile**

stack

pile, en CA US

deck, en CA US

group of *logs* (4.11.2) laid in several even parallel rows

Note 1 to entry: A pile can occur either at a landing or at a mill yard.

4.27**felling**

cutting of trees above ground level

4.28**grading**

classifying *round timber* (4.11) by quality, *species* (3.3), sizes and, if it is necessary, by end-use

Note 1 to entry: In English, there is a homograph for the term "grading". See 3.7.

4.29**felled trunk**

felled tree *stem* (4.3) delimbed and separated from roots and top

Note 1 to entry: This note applies to the Russian language only.

5 General - Sawn timber**5.1****sawn timber**

lumber, en CA US

sawn lumber, en CA US

timber (3.2) section produced by the lengthwise sawing or chipping of *logs* (4.11.2) or solid *wood* (3.1) of larger dimensions and possible *cross-cutting* (7.5.1), further machining, or both, to obtain a certain accuracy

5.1.1**rough sawn timber**

sawn timber (5.1) that has not undergone any further machining, which is sized to specified *permitted deviations* (8.9)

5.1.2**regularized green timber**

sawn timber (5.1), with or without further machining in a green state, having a *thickness* (8.1) or *width* (8.2), or both, that is sized to *permitted deviations* (8.9) tighter than those for *rough sawn timber* (5.1.1)

5.1.3

prepared timber blank

sawn timber (5.1) that, at the *end-use moisture content* (6.7), has been cut to *length* (8.3), and/or machined on one or more *faces* (5.18), within agreed *permitted deviations* (8.9)

5.2

regularized dried timber

sawn timber (5.1) that, after *drying* (6.21) to the *end-use moisture content* (6.7), has been machined further in *thickness* (8.1) or *width* (8.2), or both, within tight specified *permitted deviations* (8.9)

5.3

planed timber

planed lumber, en CA US

dressed lumber, en CA US

surfaced lumber, en CA US

sawn timber (5.1) that, at the *end-use moisture content* (6.7), has been machined for its full *length* (8.3) and *width* (8.2) on at least one *face* (5.18) to obtain a smooth surface

5.4

profiled timber

profiled lumber, en CA US

sawn timber (5.1) that, after *drying* (6.21), has been machined to obtain a specified, but not rectangular, *cross-section* (5.20)

5.5

boule

set of pieces of *unedged timber* (5.11), resulting from cutting a *log* (4.11.2) longitudinally by successive parallel cuts, and reassembled into the original log form without the *slabs* (5.13)

Note 1 to entry: See also *cant* (5.7).

5.6

baulk

timber, en CA US

large scantling, en MY

sawn timber (5.1) of square or almost square and large *cross-section* (5.20)

Note 1 to entry: In North America, the minimum dimensions of the cross-section of a baulk (timber) are 114 mm × 114 mm (nominal 5 in × 5 in).

Note 2 to entry: In Malaysia, the minimum dimensions of the cross-section of a baulk (large scantling) are 10 in × 6 in (nominal).

Note 3 to entry: In Belarus, Russia and Ukraine, the minimum dimensions of the cross-section of a baulk are 100 mm × 100 mm.

Note 4 to entry: In North America, in English, there is a homograph to the term “timber”. See 3.2.

5.7

cant

flitch, en CA US

log (4.11.2) sawn or chipped on two or more sides before further sawing, usually into *square edged timber* (5.8)

Note 1 to entry: See also *boule* (5.5).

Note 2 to entry: In North America, the term “cant” is used to refer to a log that has been sawn on one or more sides.

5.8**square edged timber**

sawn timber (5.1) of rectangular *cross-section* (5.20)

Note 1 to entry: *Wane* (5.10), in specified amounts, is permitted in some cases.

Note 2 to entry: In North America, the term “square-edged” refers to sawn timber free of wane and without *eased edges* (eased arrises) (5.23.3).

5.9**taper edged timber**

sawn timber (5.1) sawn so that the *edges* (5.19) are not parallel

5.10**wane**

portion of the original rounded surface of a *log* (4.11.2), with or without *bark* (9.5), on any *face* (5.18) or *edge* (5.19) of *sawn timber* (5.1)

5.11**unedged timber**

sawn timber (5.1) with parallel *faces* (5.18) and with one or both *edges* (5.19) left unsawn

5.12**narrowest width**

width (8.2) of *unedged timber* (5.11) measured at the narrowest point of the narrower *face* (5.18)

5.13**slab**

exterior portion of a *log* (4.11.2), detached in the process of sawing, that has one sawn surface, the other being the outside rounded surface of the log

5.14**finger joint**

joint in which the ends of the members have wedge-shaped projections and are intermeshed with one another so that the *cross-section* (5.20) remains constant

5.15**scarf joint**

joint in which the ends of the members are tapered and over-lap one another, so that the *cross-section* (5.20) remains constant

5.16**glued laminated timber**

product that is made by gluing *sawn timbers* (5.1) in layers with the *grain* (9.19) in the pieces essentially parallel

5.17**squared end**

end of a piece of *sawn timber* (5.1) that has a plane surface at a right angle to the longitudinal axis of the piece

5.18**face**

either of the two wider longitudinal opposite surfaces of *sawn timber* (5.1) or any of the longitudinal surfaces of *square edged timber* (5.8) of square *cross-section* (5.20)

5.18.1**outside face**

face (5.18) further from the *pith* (9.14)

5.18.2

inside face

face (5.18) nearer to the *pith* (9.14)

5.18.3

visible surface

surface of *sawn timber* (5.1) that, after installation in the final product, is not permanently concealed

Note 1 to entry: Decoration, even with an opaque finish, does not constitute concealment.

5.18.4

concealed surface

surface of *sawn timber* (5.1) that, after installation in the final product, is permanently concealed by other parts

5.19

edge

either of the narrower longitudinal opposite surfaces of *square edged timber* (5.8)

Note 1 to entry: In North America, the term “edge” refers to any of the following:

Note 2 to entry: – the narrow longitudinal surface of a rectangular shaped piece;

Note 3 to entry: – the corner of a piece at the intersection of two longitudinal surfaces; see *arris* (5.23);

Note 4 to entry: – (usually in stress grades) the part of the *face* (5.18) nearest an *arris* of the piece.

Note 5 to entry: In North America, in English, there is a homograph to the term “edge”. See 5.23.

5.20

cross-section

section at right angle to the longitudinal axis of a piece of *sawn timber* (5.1)

5.21

better face

face (5.18) that, using a particular rule for *grading* (3.7), is judged to be better than the other face

5.22

worse face

face (5.18) that, using a particular rule for *grading* (3.7), is judged to be worse than the other face

5.23

arris

edge, en CA US

line of intersection of two *faces* (5.18) or a face and an *edge* (5.19)

Note 1 to entry: In North America, in English, there is a homograph for the term “edge”. See 5.19.

5.23.1

waney arris

waney edge, en CA US

arris (5.23) that contains *wane* (5.10) in one or more places

5.23.2

sharp arris

sharp edge, en CA US

arris (5.23) free of *wane* (5.10)

5.23.3

eased arris

eased edge, en CA US

arris (5.23) that has a slightly rounded surface

5.24**plain sawn timber**

<visible rays> *sawn timber* (5.1) that has a *face* (5.18) normal or approximately normal to the *rays* (9.20)
 <rays not visible> *sawn timber* (5.1) that has a *face* (5.18) tangential or approximately tangential to the *growth rings* (9.8)

Note 1 to entry: Limits on the angle between rays depend on the *species* (3.3) and on other factors; e.g. for oak, the angle between the rays and the faces are between 60° and 90°. Corresponding numbers for species where the rays are not visible are 0° and 30° for the angle between the growth rings and the face. Other limits can be specified in rules for grading (3.7).

5.25**quarter sawn timber**

<rays visible> *sawn timber* (5.1) that has a *face* (5.18) tangential or approximately tangential to the *rays* (9.20)
 <rays not visible> *sawn timber* (5.1) that has a *face* (5.18) normal or approximately normal to the *growth rings* (9.8)

Note 1 to entry: Limits on the angle between rays depend on the *species* (3.3) and on other factors; e.g. for oak, the angle between the rays and the face are between 0° and 30°. Corresponding numbers for species where the rays are not visible are 90° and 60° for the angle between the growth rings and the face. Other limits can be specified in rules for grading (3.7).

Note 2 to entry: In North America, the term “quarter sawn” refers to *timber* (3.2) sawn so that the growth rings form angles of 45° to 90° with the surface of the piece.

5.26**fully quarter sawn timber**

<rays visible> *sawn timber* (5.1) where the angle between the *rays* (9.20) and a *face* (5.18) is 10° or less
 <rays not visible> *sawn timber* (5.1) where the angle between the *growth rings* (9.8) and a *face* (5.18) is 80° or more

5.27**grain**

fibres (9.18) in *wood* (3.1) and their direction, size, arrangement, appearance or quality

Note 1 to entry: In English, there is a homograph for the term “grain”. See 9.19.

5.27.1**diagonal grain**

deviation of the *grain* (5.27) from a line parallel to the *edges* (5.19), through the *thickness* (8.1) of the piece

Note 1 to entry: See also *slope of grain* (11.7).

5.27.2**flat grain****FG****slash grain****SG**

timber (3.2) sawn approximately parallel to the *growth rings* (9.8) so that all or some of the growth rings form an angle of less than 45° with the surface of the piece

Note 1 to entry: A piece of *sawn timber* (5.1) containing both *vertical grain* (5.27.4) and flat grain is classified as flat grain.

5.27.3**mixed grain****MG, en CA**

sawn timber (5.1) with any mixture of *vertical grain* (5.27.4) and *flat grain* (5.27.2)