



British Standard Glossary of

Building and civil engineering terms

Part 4. Forest products

Section 4.1 Characteristics and properties of timber and wood based panel products

Glossaire de la construction et des travaux publics

Partie 4. Produits forestiers

Section 4.1 Caractéristiques et propriétés des panneaux en bois

Begriffe für den Hoch- und Tiefbau

Teil 4. Holzerzeugnisse

Abschnitt 4.1 Merkmale und Eigenschaften von Tafelungsplatten aus Holz

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Foreword

This Section of Part 4 of this British Standard has been prepared under the direction of the Basic Data and Performance Criteria for Civil Engineering and Building Structures Standards Committee. This Section is a revision of the definitions in sections 1, 2 and 3 of BS 565 'Glossary of terms relating to timber and woodwork' which are deleted by amendment. BS 565 will be withdrawn after publication of Sections 4.1 to 4.4 of this Part 4 of the glossary.

Terms included in this Section refer primarily to timber but can also apply to wood based panel products; where this is so, it is clearly stated in the definition. Terms applying solely to wood based panel products will be included in Section 4.3.

This Section also contains certain terms dealing with wood preservation considered as being basic to construction. For further, more detailed terms, users are referred to BS 4261 'Glossary of terms relating to timber preservation'.

A general introduction to and explanation of this glossary is given in Part 0 of this standard which itemizes the Parts, Sections and Subsections into which the glossary is divided and provides a general alphabetical index of all the terms in the Sections and Subsections already published. Those using individual Sections and Subsections of this glossary are urged to consult Part 0 when doing so.

The other Sections of this Part are as follows:

- 4.2 Sizes and quantities
- 4.3 Wood based panel products

- 4.4 Carpentry and joinery
- 4.5 Cork

Terms are listed alphabetically in the index and are referred to by numbers which are found against the term in the body of the Section. There they are arranged in a classified order, each term having an individual number consisting of seven digits in two parts, the first of three digits, the second of four. The first three digits represent the number of the Part, Section and Subsection (in this case, the third digit is 0 as there is no division into Subsections). The fourth digit represents the group of terms, the fifth digit represents the subgroup of terms and the last two digits represent the place within the subgroup.

Alternative terms are given below the preferred term with their status indicated, e.g. 'deprecated', 'non-preferred'. These terms are not individually numbered, but are included in the index with a reference to the preferred term. Terms of more than one word, e.g. 'round knot' are written in a direct style, not as 'knot, round'. The inverted term is included in the index with a reference to the direct term. Scientific terms in Latin are printed in small capitals and are also included in the index with a reference to the term whose definition contains the Latin words.

Italicized words indicate terms that are defined elsewhere in this Section.

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

410 1 Base terms

No.	Term	Definition
410 1001	timber	<i>Wood</i> in the form of standing or felled trees, or the product of these after <i>conversion</i> . NOTE. Does not cover <i>wood based panel products</i> .
410 1002	wood based panel product	Manufactured panel or sheet made from <i>veneers</i> , <i>wood</i> particles or <i>wood fibres</i> .
410 1003	standing timber	Standing trees suitable for <i>conversion</i> .
410 1004	bled timber	<i>Timber</i> from trees that have been tapped for resin or other exudations.
410 1005	round timber timber in the round <i>deprecated</i>	Felled trees.
410 1006	butt	Base of the trunk of a tree or the thicker end of a branch or <i>log</i> .
410 1007	hardwood	<i>Timber</i> , whether hard or not, of broad leaved trees belonging to the botanical group ANGIOSPERMS.
410 1008	softwood	<i>Timber</i> of trees belonging to the botanical group GYMNOSPERMS. NOTE. Commercial <i>timbers</i> of this group are practically confined to the class CONIFERAE (conifers).
410 1009	sound timber	<i>Timber</i> free from <i>rot</i> , <i>timber infection</i> or <i>timber infestation</i> .
410 1010	green timber	<i>Timber</i> , freshly felled, or still containing original <i>free moisture</i> .
410 1011	bright timber	<i>Timber</i> free from discolouration.
410 1012	clean timber	<i>Timber</i> free from <i>knots</i> .
410 1013	clear timber	<i>Timber</i> free from visible <i>defects</i> and <i>imperfections</i> .
410 1014	imperfection	Feature that mars appearance or lowers quality in <i>timber</i> or <i>wood based panel products</i> .
410 1015	blemish	<i>Imperfection</i> that mars appearance but does not lower quality.
410 1016	defect fault <i>deprecated</i>	<i>Imperfection</i> that lowers quality and may mar appearance.
410 1017	durability of timber	Resistance of <i>timber</i> to destruction by <i>wood</i> destroying organisms. NOTE. For categories of durability of <i>heartwood</i> with respect to <i>fungi</i> see the table in BRE Technical Note No. 40*.
410 1018	strength of timber	Mechanical properties of <i>timber</i> . NOTE. In practice, the name of the property under consideration is stated, e.g. strength in compression parallel to the <i>grain</i> ; strength in bending.
410 1019	structural timber	<i>Timber</i> used in framing and loadbearing structures where strength is the major factor in its selection and use.
410 1020	grade	Established classification of <i>timber</i> and <i>wood based panel products</i> according to quality or performance.
410 1021	brack	To sort <i>timber</i> into established <i>grades</i> according to quality.
410 1022	reject	Piece of <i>timber</i> rejected because it is below a specified <i>grade</i> .

*Building Research Establishment Technical Note No. 40 — 1969 (reprinted 1981) 'The natural durability classification of timber'. Obtainable, free of charge, from the Distribution Unit, Building Research Station, Garston, Watford WD2 7JR.

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No.	Term	Definition
410 1023	dunnage	<i>Timber and wood based panel products</i> , usually of poor quality, used for supporting cargo in ships, or stacks of <i>timber</i> or other material in storage.
410 1024	wrack	Low quality <i>softwood</i> .
410 1025	edge	Either of the narrowest longitudinal opposite surfaces of <i>square edged timber</i> or either of the waney longitudinal surfaces of <i>unedged timber</i> (see figure 1).
410 1026	end	End surface of <i>timber</i> after <i>cross cutting</i> (see figure 1).
410 1027	face	Either of the two broadest longitudinal opposite sawn surfaces of <i>timber</i> or any longitudinal surface if the <i>timber</i> is of square <i>cross section</i> (see figure 1).
410 1028	face side better face <i>non-preferred</i>	<i>Face</i> containing the fewest <i>defects</i> or <i>imperfections</i> .
410 1029	face measure	Area measurement of one <i>face</i> of a piece of <i>timber</i> .
410 1030	side	Longitudinal surface of <i>square sawn timber</i> .
410 1031	arris	Sharp external angle formed by the meeting of two surfaces of a piece (see figure 1).
410 1032	cross section transverse section <i>deprecated</i>	Section at right angles to the longitudinal axis of a <i>log</i> or piece.
410 1033	radial section	Lengthwise (longitudinal) section in a plane that passes through the <i>pith</i> , i.e. along the radius of a stem.
410 1034	tangential section	Lengthwise (longitudinal) section in a plane tangential to a <i>growth ring</i> , i.e. at right angles to the radius.

410 2 Anatomical

410 2001	wood	Principal strengthening and water-conducting tissue of stems and roots. NOTE. Wood is the <i>lignocellulosic substance</i> of which trees and shrubs are largely composed; woody tissue can also occur in herbaceous plants.
410 2002	bark	Outer covering of the trunk and branches, surrounding the woody stem of a tree.
410 2003	cambium	Actively dividing layer of cells between <i>wood</i> and <i>bark</i> . Usually only apparent in freshly felled <i>timber</i> as a thin moist layer under the <i>bark</i> .
410 2004	pith heart centre <i>deprecated</i>	Central core of a stem consisting chiefly of parenchyma or soft tissue (see figure 1).
410 2005	heartwood	Inner zone of <i>wood</i> that, in a growing tree, has ceased to contain living <i>cells</i> and reserve materials (e.g. starch). Not to be confused with <i>heart</i> . NOTE. In commercial practice it is usual to restrict the term to the darker coloured <i>wood</i> that is visually distinct from the <i>sapwood</i> (see figure 2).
410 2006	sapwood sap <i>deprecated</i>	Outer zone of <i>wood</i> that, in a growing tree, contains living <i>cells</i> and reserve materials (e.g. starch), generally lighter in colour than <i>heartwood</i> though not always clearly differentiated (see figure 2).
410 2007	bright sapwood	<i>Sapwood</i> of natural colour.

No.	Term	Definition
410 2008	lignocellulosic substance	Basic chemical composition of the woody tissue of plants.
410 2009	cell	One of the small, often microscopic, units that make up the structure of <i>wood</i> and other plant tissues.
410 2010	fibre	Long narrow <i>cell</i> or bundles of <i>cells</i> of which <i>wood</i> and certain other plant tissues are largely composed. NOTE. Botanically, the term is used in a more restricted sense for a specialized type of hardwood <i>cell</i> that has a support function only.
410 2011	pore	Principal vascular or water conducting <i>cell</i> of <i>hardwoods</i> as seen on the end <i>grain</i> .
410 2012	ray medullary ray <i>deprecated</i>	Strip or ribbon of tissue extending radially in the stem. NOTE. May be microscopic or large enough to be visible to the naked eye, e.g. the characteristic silver <i>grain</i> in oak (see figure 3).
410 2013	diffuse-porous wood	<i>Wood</i> in which the <i>pores</i> are of fairly uniform or only gradually changing size and distribution throughout a <i>growth ring</i> .
410 2014	ring-porous wood	<i>Wood</i> in which the <i>pores</i> of <i>early wood</i> are distinctly larger than those of <i>late wood</i> and form a well-defined zone or ring.
410 3 Growth characteristics		
410 3001	growth ring	Layer of <i>wood</i> produced in one growing season.
410 3002	annual ring	<i>Growth ring</i> corresponding to an annual period of growth (see figures 3 and 4).
410 3003	rate of growth	Growth expressed as the number of <i>growth rings</i> per 25 mm measured radially on the <i>end grain</i> of a <i>log</i> or piece of <i>converted timber</i> .
410 3004	narrow-ringed timber close grown <i>deprecated</i> fine grown <i>deprecated</i> slow grown <i>deprecated</i>	<i>Timber</i> having comparatively narrow <i>growth rings</i> (see figure 2). NOTE. This may be a characteristic of the species or of growing conditions.
410 3005	wide-ringed timber coarse grown <i>deprecated</i> open grown <i>deprecated</i> fast grown <i>deprecated</i>	<i>Timber</i> having comparatively wide <i>growth rings</i> (see figure 2). NOTE. This may be a characteristic of the species or of growing conditions.
410 3006	early wood spring wood <i>deprecated</i>	Less dense <i>wood</i> formed during the earlier stages of the growth of each <i>growth ring</i> (see figures 2, 3 and 4).
410 3007	late wood autumn wood <i>deprecated</i> summer wood <i>deprecated</i>	Denser <i>wood</i> formed during the later stages of growth of each <i>growth ring</i> (see figures 2, 3 and 4).

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410 4 Appearance

410 41 Grain

No.	Term	Definition
410 4101	grain	General direction or arrangement of <i>fibres</i> .
410 4102	straight grain	<i>Grain</i> that is straight and parallel or nearly parallel to the longitudinal axis of the piece.
410 4103	cross grain	<i>Grain</i> deviating considerably from the general direction of the longitudinal axis, forming an angle with the edge of a piece. NOTE. The term covers <i>sloping grain</i> , <i>spiral grain</i> and other deviations from <i>straight grain</i> .
410 4104	short grain	<i>Grain</i> deviating considerably from the general direction of the longitudinal axis, forming a relatively sharp angle with the <i>face</i> of a piece.
410 4105	irregular grain	<i>Grain</i> that is not straight because of abnormal structure of the <i>wood</i> .
410 4106	sloping grain diagonal grain <i>deprecated</i>	<i>Grain</i> that is at an angle to the longitudinal axis of the piece because of the method of <i>conversion</i> . NOTE. May present a similar appearance to <i>spiral grain</i> .
410 4107	end grain	<i>Grain</i> in which the general direction of the <i>fibres</i> is at right angles to the surface.
410 4108	side grain	Surface approximately parallel to the <i>grain</i> .
410 4109	curly grain	<i>Grain</i> occurring in irregular curves.
410 4110	spiral grain	<i>Grain</i> that follows a spiral course in one direction around a <i>log</i> .
410 4111	wavy grain	<i>Grain</i> in fairly uniform waves or ripples.
410 4112	interlocked grain	<i>Grain</i> in which <i>cells</i> in succeeding growth periods incline alternately in opposite directions that are different from that of the axis of the tree.
410 4113	raised grain	Rough or uneven surface, due to either <i>early wood</i> or <i>late wood</i> projecting above the general level of the surface.
410 4114	slope of grain	Angle between the direction of the <i>grain</i> and the axis of a piece. NOTE. Usually expressed as a tangent ratio, e.g. 1 in 6, 1 in 10, etc.

410 42 Texture

410 4201	texture of wood	Structural character of <i>wood</i> as revealed by touch or reaction to cutting tools, largely determined by distribution and size of the various <i>cells</i> .
410 4202	coarse texture	<i>Texture</i> with relatively large <i>cells</i> or usually wide <i>growth rings</i> for the species.
410 4203	fine texture close texture <i>deprecated</i>	<i>Texture</i> with relatively small <i>cells</i> .
410 4204	even texture	<i>Texture</i> with little variation in size of <i>cells</i> and little contrast between <i>early wood</i> and <i>late wood</i> .
410 4205	uneven texture	<i>Texture</i> with considerable variation in size of <i>cells</i> or distinct contrast between <i>early wood</i> and <i>late wood</i> .

410 43 Figure

No.	Term	Definition
410 4301	figure	Ornamental markings, seen on a cut surface of <i>timber</i> , formed by the structural features of the <i>wood</i> .
410 5 Knots		
410 5001	knot	Portion of a branch embedded in the <i>wood</i> .
410 5002	sound knot	<i>Knot</i> free from <i>rot</i> , solid across its <i>face</i> and at least as hard as the surrounding <i>wood</i> .
410 5003	unsound knot rotten knot <i>deprecated</i>	<i>Knot</i> not solid across its <i>face</i> or softer than the surrounding wood due to <i>rot</i> or other <i>defects</i> .
410 5004	tight knot	<i>Knot</i> held firmly in place.
410 5005	dead knot	<i>Knot</i> having <i>fibres</i> intergrown with those of the surrounding <i>wood</i> to the extent of approximately 25 % or less of the cross-sectional perimeter.
410 5006	loose knot	<i>Dead knot</i> that is not held firmly in place.
410 5007	encased knot bark ringed knot <i>non-preferred</i>	<i>Knot</i> wholly or partially surrounded with <i>bark</i> or resin.
410 5008	arris knot	<i>Knot</i> that emerges on an <i>arris</i> (see figure 5).
410 5009	splay knot spike knot <i>deprecated</i>	<i>Knot</i> cut more or less parallel to its long axis so that the exposed section is definitely elongated (see figure 6).
410 5010	face knot	<i>Knot</i> exposed on a <i>face</i> other than an <i>arris knot</i> or splay knot (see figure 7).
410 5011	edge knot	<i>Knot</i> exposed on an <i>edge</i> , other than an <i>arris knot</i> or a <i>splay knot</i> (see figure 7).
410 5012	margin knot	<i>Knot</i> appearing on a <i>face</i> , outside the middle half of the depth of face, near to or breaking through an <i>arris</i> (see figure 8).
410 5013	oval knot	<i>Knot</i> cut more or less at right angles to its long axis so that the exposed section is essentially oval.
410 5014	round knot	<i>Knot</i> cut more or less at right angles to its long axis so that the exposed section is essentially round.
410 5015	branched knot winged knot <i>deprecated</i>	Two or more <i>knots</i> branching from a common axis.
410 5016	intergrown knot live knot <i>non-preferred</i>	<i>Knot</i> having <i>fibres</i> intergrown with those of the surrounding <i>wood</i> to the extent of approximately 75 % or more of the cross-sectional perimeter. NOTE. <i>Knot</i> formed from the base of a live actively growing branch is normally completely intergrown.
410 5017	knot cluster	Group of <i>knots</i> around which the <i>fibres</i> are deflected.
410 5018	knot hole	Hole caused by the removal of a <i>knot</i> .

410 6 Conversion and machining

No.	Term	Definition
410 6001	log	Trunk of a tree, or a length of the trunk, after felling and trimming.
410 6002	boule	<i>Log</i> converted by <i>through-and-through sawing</i> into boards and/or planks and reassembled into the original log form.
410 6003	butt length butt log <i>deprecated</i>	Lowest <i>log</i> from a tree, i.e. the one next to the stump.
410 6004	second length	<i>Log</i> cut from the trunk of a tree above the <i>butt length</i> .
410 6005	top log	Uppermost <i>log</i> from the trunk of a tree.
410 6006	peeler log	<i>Log</i> suitable for manufacture of rotary cut <i>veneer</i> .
410 6007	squared log	<i>Log</i> sawn or hewn on four <i>faces</i> to a <i>square</i> or rectangular <i>cross section</i> with or without <i>wane</i> .
410 6008	flitch	Large piece of a <i>log</i> , sawn or hewn, waney, bevel edged or <i>square edged</i> , suitable for further <i>conversion</i> .
410 6009	float	<i>Logs</i> fastened together to form a raft, for storage in water.
410 6010	heart	Portion of a <i>log</i> that includes the <i>pitch</i> and the associated defective wood. Not to be confused with <i>heartwood</i> .
410 6011	square edged	<i>Timber</i> sawn, hewn or planed, without <i>wane</i> .
410 6012	lumber	Imported <i>square edged</i> , sawn <i>hardwood</i> of random width. NOTE. Sometimes also applied to softwoods of North American origin.
410 6013	conversion	Process of sawing <i>logs</i> .
410 6014	through-and-through sawing	Method of converting <i>logs</i> by parallel cuts in the general direction of the <i>grain</i> .
410 6015	cross cutting	Cutting of <i>timber</i> across the <i>grain</i> .
410 6016	converted timber	<i>Timber</i> sawn from a <i>log</i> .
410 6017	resawing	Sawing of <i>converted timber</i> into smaller <i>cross sections</i> .
410 6018	deep cutting deeping <i>deprecated</i>	<i>Resawing</i> of <i>timber</i> lengthwise parallel to the <i>faces</i> .
410 6019	flat cutting flatting <i>deprecated</i> ripping <i>deprecated</i> rip-sawing <i>deprecated</i>	<i>Resawing</i> of <i>timber</i> lengthwise parallel to the <i>edges</i> .
410 6020	machined timber	<i>Timber</i> having a surface or a dimension that has been subject to machine operation after initial <i>conversion</i> .
410 6021	regularizing	Process by means of which every piece of a batch of constructional <i>timber</i> is sawn and/or machined to a uniform width.
410 6022	hewn timber	<i>Timber</i> , with or without <i>wane</i> , finished to size by axe or adze; the <i>ends</i> are sometimes sawn.
410 6023	sawn timber	<i>Timber</i> sawn to size with or without <i>wane</i> but not planed or otherwise finished.

No.	Term	Definition
410 6024	mill run	<i>Sawn timber</i> produced in a mill without reference to <i>grade</i> .
410 6025	square-sawn timber	<i>Timber</i> sawn to a rectangular <i>cross section</i> with or without <i>wane</i> .
410 6026	plain-sawn timber flat grain timber <i>deprecated</i> flat sawn timber <i>deprecated</i> slash grain timber <i>deprecated</i>	<i>Timber</i> converted so that the <i>growth rings</i> meet the <i>face</i> in any part at an angle of less than 45° (see figure 9).
410 6027	quarter-sawn timber edge grain timber <i>non-preferred</i> comb grain timber <i>deprecated</i> rift-sawn timber <i>deprecated</i> vertical grain timber <i>deprecated</i>	<i>Timber</i> converted so that the <i>growth rings</i> meet the <i>face</i> at an angle of not less than 45° (see figure 10).
410 6028	quartered log	<i>Log</i> sawn or split into four parts along two diameters roughly at right angles.
410 6029	square	Piece of <i>timber</i> sawn so as to be square in <i>cross section</i> .
410 6030	taper sawn log	<i>Log</i> sawn parallel to the <i>bark</i> rather than parallel to the longitudinal axis or <i>pith</i> .
410 6031	unedged timber waney-edged timber <i>deprecated</i>	<i>Timber</i> sawn from a <i>log</i> with parallel <i>faces</i> and the <i>edges</i> left unsawn.
410 6032	cutting	Rectangular area of <i>sawn timber</i> completely clear of all <i>defects</i> , other than those permitted in certain <i>grades</i> , that can be obtained by <i>cross cutting</i> or <i>ripping</i> or both.
410 6033	boxed heart	<i>Sawn</i> or <i>hewn timber</i> , cut so that <i>heart</i> does not appear on any face or edge throughout its length.
410 6034	offcut	Falling piece of <i>timber</i> produced in sawing to a specified size from a larger piece.
410 6035	cleft timber	<i>Timber</i> brought to approximately the required <i>cross section</i> by cleaving along the <i>grain</i> .
410 6036	resawn timber	Pieces of <i>timber</i> of smaller sizes obtained by <i>resawing</i> .
410 6037	eased arris	<i>Arris</i> that has been slightly rounded.
410 6038	eased edge	<i>Edge</i> on which both <i>arris</i> es have been slightly rounded. NOTE. The term 'eased edges' usually applies where all four <i>arris</i> es have been slightly rounded and commonly refers to North American imports.
410 6039	kerf	Groove made by a saw cut in <i>timber</i> and <i>wood based panel products</i> .
410 6040	planed timber surfaced timber <i>deprecated</i> wrot timber <i>deprecated</i>	<i>Timber</i> made smooth on one or more surfaces by planing.
410 6041	slab	Exterior portion of a <i>log</i> that is removed by a saw in the process of <i>conversion</i> , producing one sawn surface, the other being the outside of the <i>log</i> , with or without <i>bark</i> .
410 6042	wane	Original rounded surface of a tree remaining with or without <i>bark</i> , on any <i>face</i> or <i>edge</i> of <i>square sawn timber</i> (see figure 11).
410 6043	veneer	Thin sheet of <i>wood</i> produced by rotary-cutting, slicing or sawing.
410 6044	centre board	Board, usually of <i>hardwood</i> , cut from a <i>heart board</i> so as to be free from <i>heart</i> (see figure 12).