

Timbers - their properties and uses

The characteristics and uses of a broad range of species seen in the UK are contained in this Wood Information sheet. A companion sheet *Wood decorative and practical* includes colour illustrations and brief details of 48 of the most commonly used timbers listed here. The characteristics shown in the following tables are described below.

Species

The standard names recommended in BS 7359 *Nomenclature of commercial timbers including sources of supply* are given in bold in the tables. The botanical names are included to avoid confusion between different timbers which may have similar common names. The main regions of origin are indicated for each timber.

Colour(s)

Relates to the heartwood of the species. Most timbers vary in colour and will change with use, the application of finishes and exposure to light. Unprotected timber exposed to the weather will discolour and may develop mould growth.

Density

Varies depending on species and moisture content. Averages at 15% moisture content are quoted; 0.5% of the given weight can be added for every 1% increase in moisture content

* Indicates that density can vary by 20% or more.

Texture

Surface texture is classified as fine, medium or coarse.

Moisture movement

Refers to the dimensional changes that occur when dried timber is subjected to changes in atmospheric conditions. It is classed as small, medium or large and is not directly related to the shrinkage which occurs when green timber is dried to moisture contents suitable for internal use. For structural purposes, movement is not usually significant but species with small movement should be specified where stability in varying humidities is important eg decorative wood flooring.

** Indicates a provisional classification.

Working qualities

Refers to ease of working and is classed as good, medium or difficult. A difficult classification indicates that particular care should be taken in machining to achieve an acceptable surface finish. Health and Safety requirements relating to the use of woodworking tools and machinery and to the control of wood dust should always be followed.

Durability

The classifications quoted refer to the resistance to fungal decay of the heartwood of the species only. The sapwood of most species is not durable or slightly durable and should not be used in exposed situations without preservative treatment. Five natural durability to wood-destroying fungi classes are recognised in BS EN 350-1 *Guide to the principles of testing and classification of the natural durability of wood*:

Class 1	very durable
Class 2	durable
Class 3	moderately durable
Class 4	slightly durable
Class 5	not durable.

The classifications in this sheet are those given in BS EN 350-1 for the timbers included.

Insect attack is generally of less significance in the UK. Information on the resistance of some timbers to insect and marine borer attack is given in BS EN 350-2 *Guide to natural durability and treatability of selected wood species of importance in Europe*.

Guidance on the need for preservative treatment in particular situations is given in a number of British Standards including BS 5268-5 and BS 5589.

Treatability

Refers to how easily timbers can be penetrated with preservatives applied by vacuum pressure processes. BS EN 350-2 includes four levels of treatability but recognises that the classes cannot be separated exactly from each other.

The categories included in BS EN 350-2 are:

- Easy
- Moderately easy
- Difficult
- Extremely difficult.

BS EN 351-1 Durability of wood and wood-based products - Preservative treated solid wood - Classification of preservative penetration and retention gives guidance on the selection of preservative treatment. Guidance is also given in BS 1282 Guide to the choice, use and application of wood preservatives and in the Draft for Development 239 *Code of practice for the preservation of timber*.

Availability

Described in broad terms as regular, limited or variable. It will vary both from time to time and throughout the country. Some species may not be available as raw material (or only in tiny quantities) but may be seen as veneer on furniture or panelling. Other species have been included because of their historical or technical interest or importance.

Trading in some species is governed by CITES - the Convention in International Trade in Endangered Species which lists species in three categories:

Appendix I - Trading prohibited

Appendix II - Trade permitted subject to export permits from the country of origin (and re-export permits as appropriate) and UK import permits from the Department for Environment, Food and Rural Affairs.

Appendix III - Species protected within individual party states.

Note that CITES listing covers the raw material only, not manufactured products.

CITES is implemented within the European Union by EC Regulations; the species listing is broadly equivalent to CITES listings. In the UK this legislation is backed by the Control of Trade in Endangered Species (Enforcement) Regulations 1997. Further information is available from www.ukcites.gov.uk.

Price

Price is difficult to quantify since timber is affected by currency variations. However, to give a general indication of comparative prices, the following terms are used:

(1999 prices)

High	over £1,000 per cubic metre
Medium	£550 - £999 per cubic metre
Low	up to £550 per cubic metre

The prices relate to decorative hardwoods: structural softwoods will normally fall into the cheaper half of the low category. Prices are for kiln dried stock where appropriate.

Remarks

Comments where necessary on sizes, special features such as drying, staining etc

Uses

The list is not exhaustive, and most timbers can be used for more purposes than those listed.

Sizes

Specifiers and buyers should check on the availability of species and sizes with suppliers.

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Abura <i>Hallea ciliata</i> W Africa	Hardwood Light brown	580*	Medium/ fine	Small	Medium	Not durable	Moderately easy	Limited Low	Colour variable. Resistant to acids	Interior joinery, mouldings
Afrormosia <i>Pericopsis elata</i> W Africa	Hardwood Light brown	710	Medium/ fine	Small	Medium	Durable - very durable	Extremely Difficult	CITES II	Darkens on exposure. Stains in contact with iron in damp conditions	Interior and exterior joinery. Furniture. Cladding
Afzelia (doussié) <i>Afzelia</i> spp W Africa	Hardwood Reddish-brown	830*	Medium/ coarse	Small	Medium/ difficult	Very durable	Extremely difficult	Limited Medium	Exudes yellow dye in damp conditions	Interior and exterior joinery. Cladding
Agba <i>Gossweilerodendron balsamiferum</i> W Africa	Hardwood Yellowish-brown	510	Medium	Small	Good	Moderately durable - durable	Difficult	Limited Medium	Gum exudation may be troublesome	Interior and exterior joinery, trim. Cladding
Andiroba <i>Carapa guianensis</i> S America	Hardwood Pink to red-brown	640	Medium/ coarse	Small	Medium	Slightly durable - moderately durable	Difficult	Limited Medium		Interior joinery
Ash, American <i>Fraxinus</i> spp USA	Hardwood Grey, brown	670*	Coarse	Medium	Medium	Not durable	Easy	Regular Medium		Interior joinery, trim. Tool handles
Ash, European <i>Fraxinus excelsior</i> Europe	Hardwood White to light brown	710*	Medium/ coarse	Medium	Good	Not durable	Moderately easy	Regular Medium	Selected stock may be tough and suitable for bending	Interior joinery. Sports goods
Aspen (American, Canadian) <i>Populus tremuloides</i> Canada, USA	Hardwood Grey, white to pale brown	450	Fine	Large	Medium	Not durable	Extremely difficult **	Variable Low		Interior joinery. Matches
Balsa <i>Ochroma lagopus</i> S America	Hardwood White	160*	Fine	Small	Good	Not durable	Difficult	Limited Medium	High buoyancy value. Good insulating value	Heat, sound and vibration insulation
Balau (yellow) <i>Shorea</i> spp S E Asia	Hardwood Yellow-brown to red-brown	980*	Medium	Medium	Medium	Durable	Extremely difficult	Variable Low	A hard, heavy, strong timber. Obtainable in large sizes	Heavy structural work, bridge and wharf construction
Basswood <i>Tilia americana</i> N America	Hardwood Creamy white to pale brown	420	Fine	Medium	Good	Not durable	Easy	Limited Medium		Constructional veneer. Turnery, piano keys, woodware
Beech, European <i>Fagus sylvatica</i> Europe	Hardwood Whitish to pale brown, pinkish-red if steamed	720	Fine	Large	Good	Not durable	Easy (red heart extremely difficult)	Regular Low/Medium	Excellent bending properties	Furniture, interior joinery, flooring. Plywood

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Birch, American <i>Betula</i> spp North America	Hardwood Light to dark reddish brown	640/710	Fine	Large	Good	Not durable	Easy - moderately easy	Regular Low	Includes yellow birch and paper birch	Furniture. Plywood. Flooring
Birch, European <i>Betula pendula, B. pubescens</i> Europe	Hardwood White to light brown	670	Fine	Large	Good	Not durable	Easy - moderately easy	Limited Low	Includes silver birch and white birch	Plywood. Furniture. Turnery
Cedar of Lebanon <i>Cedrus libani</i> Europe	Softwood Light brown	580	Medium	Medium/ small **	Good	Durable	Difficult	Limited Low	Pungent cedar odour	Joinery. Garden furniture. Gates
“Cedar, Central/S American” <i>Cedrela</i> spp Central & S America	Hardwood Pinkish-brown to dark reddish-brown	480	Coarse	Small	Good	Durable	Extremely difficult	Limited Medium	Distinctive odour	Cabinet work, interior joinery. Racing boat building. Cigar boxes
Cherry, American <i>Prunus serotina</i> USA	Hardwood Reddish-brown to red	580	Fine	Medium	Good	Moderately durable	No information	Limited Medium		Cabinet making, furniture, interior joinery
Cherry, European <i>Prunus avium</i> Europe	Hardwood Pinkish-brown	630	Fine	Medium	Good	Moderately durable	No information	Limited Medium/High	Inclined to warp; use in small sections	Cabinet making, furniture
Chestnut, horse <i>Aesculus hippocastanum</i> Europe	Hardwood White to pale yellow-brown	510	Fine	Small	Medium	Not durable	Easy	Limited Low		Brush backs. Fruit trays and boxes
Chestnut, sweet <i>Castanea sativa</i> Europe	Hardwood Yellowish-brown	560	Medium	Large	Good	Durable	Extremely difficult	Limited Medium	Stains in contact with iron in damp conditions	Interior and exterior joinery. Fencing
Danta <i>Nesogordonia papaverifera</i> W Africa	Hardwood Reddish-brown	750	Fine	Medium	Good	Moderately durable	Difficult - extremely difficult	Limited Low		Flooring. Joinery. Turnery
“Douglas fir” <i>Pseudotsuga menziesii</i> N America & UK	Softwood Light reddish-brown	530	Medium	Small	Good	Moderately durable - durable	Extremely difficult	Regular Medium	Marked ‘flame-like’ growth ring figure. Long lengths and clear grades available	Plywood. Interior and exterior joinery. Construction. Vats & tanks
Ebony <i>Diospyros</i> spp W Africa, India, Sri Lanka	Hardwood Black, some grey/black stripes	1030/ 1190	Fine	Medium	Medium	Very durable	Extremely difficult	Limited High	Generally small sizes only available. Dust may be irritant	Used primarily for decorative work. Turnery, inlaying
Ekki/azobé <i>Lophira alata</i> W Africa	Hardwood Dark red to dark brown	1070	Coarse	Large	Difficult	Durable (variable)	Extremely difficult	Limited Low/Medium	Moderately resistant to termite attack. Acid resistant. Obtainable in large sizes	Heavy construction; marine and freshwater. Bridges, sleepers, etc
Elm, European <i>Ulmus</i> spp Europe	Hardwood Light brown	560*	Coarse	Medium	Medium	Slightly durable	Moderately easy - Difficult	Limited Medium	Includes smooth leaved elm, wych elm	Furniture, coffins. Boat building

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Elm, White <i>Ulmus americana</i> N America	Hardwood Pale reddish-brown	580	Coarse	Medium	Medium	Slightly durable	Difficult	Limited Medium	Good strength, toughness and bending properties	Furniture. Coffins. Rubbing strips
Gaboon <i>Aucoumea klaineana</i> W Africa	Hardwood Pinkish brown	430	Medium	Medium	Medium	Slightly durable	Difficult	Limited Medium		Used principally for plywood and blockboard
Gedu nohor/edinam <i>Entandrophragma angolense</i> W Africa	Hardwood Reddish brown	560	Medium	Small	Medium	Moderately durable	Extremely difficult	Limited Low/Medium		Furniture, interior and exterior joinery
Geronggang <i>Cratoxylon arborescens</i> S E Asia	Hardwood Pink to red	540	Coarse	Medium	Medium	Slightly durable	Easy	Variable Low		Interior joinery
Greenheart <i>Ocotea rodiaei</i> Guyana	Hardwood Yellow/olive green to brown	1040	Fine	Medium	Difficult	Very durable	Extremely difficult	Variable Medium	Available in very large sizes	Heavy construction; marine and freshwater. bridges, etc
Guarea <i>Guarea cedrata</i> W Africa	Hardwood Pinkish brown	590	Medium	Small	Medium	Durable (variable)	Extremely difficult	Variable Low/Medium	Fine dust may be irritant. Resin exudation may occur	Furniture, interior joinery, cabinet making
Hemlock, Western <i>Tsuga heterophylla</i> N America	Softwood Pale brown	500	Fine	Small	Good	Slightly durable	Moderately easy - Difficult	Regular Low/Medium	Obtainable in large sizes, long lengths and clear grades	Construction. Joinery
Hevea - see Rubberwood										
Hickory <i>Carya</i> spp N America (Eastern)	Hardwood Brown to reddish-brown	830	Coarse	Large	Difficult	Slightly durable	Moderately easy	Limited Medium	Good steam bending properties. Good shock resistance	Striking tool handles. Ladder rungs. Sports goods
Idigbo <i>Terminalia ivorensis</i> W Africa	Hardwood Yellow	560*	Medium	Small	Medium	Moderately durable / Durable	Extremely difficult	Variable Medium	Stains yellow in contact with water; stains in contact with iron when wet. Acidic and may corrode ferrous metals.	Interior and exterior joinery. Plywood
Iroko <i>Milicia excelsa, M. regia</i> W Africa	Hardwood Yellow-brown	660	Medium	Small	Medium/difficult	Durable / Very durable	Extremely difficult	Regular Low/Medium	Occasional deposits of stone may occur	Exterior and interior joinery. Bench tops. Constructional work
Jarra <i>Eucalyptus marginata</i> Australia	Hardwood Pink to dark red	820*	Medium	Medium	Difficult	Very durable	Extremely difficult	Limited Low/medium		Heavy constructional work. Flooring
Jelutong <i>Dyera costulata</i> S E Asia	Hardwood White to yellow	470	Fine	Small	Good	Slightly durable	Easy	Regular Medium	Latex ducts may be present	Pattern making. Drawing boards
Kapur <i>Dryobalanops</i> spp S E Asia	Hardwood Reddish-brown	770*	Medium	Medium	Medium	Durable / Very durable	Extremely difficult	Variable Medium	Camphor-like odour	Exterior joinery. Decking. constructional use

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Karri <i>Eucalyptus diversicolor</i> Australia	Hardwood Reddish-brown	900	Medium	Large	Difficult	Durable	Extremely difficult	Limited Medium		Heavy construction
Kempas <i>Koompassia malaccensis</i> S E Asia	Hardwood Orange-red to red-brown	880	Coarse	Medium	Difficult	Durable	Difficult	Limited Low	Slightly acidic and may encourage corrosion of ferrous metals	Heavy constructional use
Keruing, apitong, gurjun, yang <i>Dipterocarpus</i> spp S E Asia	Hardwood Pinkish-brown to dark brown	740*	Medium	Large/ Medium	Difficult	Moderately durable (variable))	Difficult (variable)	Regular Low	Liable to resin exudation	Heavy and general construction. Decking, vehicle flooring
Larch, European <i>Larix decidua</i> Europe	Softwood Pale reddish-brown	550	Fine	Small	Medium	Slightly durable / Moderately durable	Extremely difficult	Regular Low		Boat planking. Transmission poles
Larch, Japanese <i>Larix kaempferi</i> Europe	Softwood Reddish-brown	530	Fine	Small	Medium	Slightly durable / Moderately durable	Extremely difficult	Regular Medium		Stakes. General construction
Lauan - see Meranti										
Lignum vitae <i>Guaiaacum</i> spp Central America	Hardwood Dark green/brown	1250	Fine	Medium	Difficult	Very durable	Extremely difficult	CITES II High	Obtainable in small sizes only	Bushes and bearings. Sports goods
Limba/afara <i>Terminalia superba</i> W Africa	Hardwood Pale yellow, brown/straw	560*	Medium	Small	Good	Slightly durable	Moderately easy	Limited Low/medium		Furniture. Interior joinery
Lime, European <i>Tilia</i> spp Europe	Hardwood Yellowish-white to pale brown	560	Fine	Medium	Good	Not durable	Easy	Limited/ Low		Carving, turnery. Bungs. Clogs
Mahogany, African <i>Khaya</i> spp W Africa	Hardwood Reddish-brown	530*	Medium	Small	Medium	Moderately durable	Extremely difficult	Regular Low/Medium		Furniture, cabinet work. Boat building. Joinery
Mahogany, American <i>Swietenia macrophylla</i> Central & S America	Hardwood Reddish-brown	560*	Medium	Small	Good	Durable	Extremely difficult	CITES III Regular High		Furniture, cabinet work. Interior and exterior joinery. Boat building
Makoré <i>Tieghemella heckelii</i> , <i>T. africana</i> W Africa	Hardwood Pinkish-brown to dark red	640	Fine	Small	Medium	Very durable	Extremely difficult	Variable Medium	Fine dust may be irritant	Furniture. Interior and exterior joinery. Boat building. Plywood
Maple, rock <i>Acer saccharum</i> , <i>A. nigrum</i> N America	Hardwood Creamy white	740	Fine	Medium	Medium	Slightly durable	Difficult	Regular Medium	High resistance to abrasion	Excellent flooring timber. Furniture. Sports goods

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Maple, soft <i>Acer saccharinum</i> , <i>A. rubrum</i> N America	Hardwood Creamy white	550*	Fine	Medium	Medium	Slightly durable	Moderately easy	Limited Medium		Furniture. Interior joinery. Turnery
Mengkulang <i>Heritiera</i> spp S E Asia	Hardwood Red, brown	720	Coarse	Small	Medium	Slightly durable	Difficult	Limited Medium		Interior joinery. Construction. Plywood
Meranti, dark red/dark red seraya/red lauan <i>Shorea</i> spp S E Asia	Hardwood Medium to dark red-brown	710*	Medium	Small	Medium	Slightly durable - durable (variable)	Extremely difficult (variable)	Regular Low/Medium		Interior and exterior joinery. Plywood
Meranti, light red/light red seraya/white lauan <i>Shorea</i> spp S E Asia	Hardwood Pale pink to mid red	550*	Medium	Small	Medium	Slightly durable / Moderately durable	Extremely difficult (variable)	Regular Low		Interior joinery. Plywood
Meranti, yellow/ yellow seraya <i>Shorea</i> spp S E Asia	Hardwood Yellow-brown	660*	Medium	Small	Medium	Slightly durable	Extremely difficult (variable)	Limited Low/Medium		Interior joinery. Plywood
Merbau <i>Intsia bijuga</i> , <i>I. palembanica</i> S E Asia	Hardwood Medium brown to dark red-brown	830	Coarse	Small	Moderate	Durable / Very durable	Extremely difficult	Variable Medium	Liable to stain in contact with iron in damp conditions	Joinery. Flooring. Structural work
Niangon <i>Heritiera utilis</i> , <i>H. densiflora</i> W Africa	Hardwood Reddish brown	640*	Medium	Medium	Good	Moderately durable	Extremely difficult	Variable Low		Interior and exterior joinery. Furniture
Nyatoh <i>Palaquium</i> spp S E Asia	Hardwood Pale pink to red-brown	720*	Fine	Medium	Medium	Slightly durable / Moderately durable	Extremely difficult	Variable Low		Furniture. Interior joinery.
Oak, American red <i>Quercus</i> spp N America	Hardwood Yellowish-brown with red tinge	790	Medium	Medium	Medium	Slightly durable	Moderately easy/ Difficult	Regular Medium		Furniture. Interior joinery
Oak, American white <i>Quercus</i> spp N America	Hardwood Pale yellow to mid-brown	770	Medium	Medium	Medium	Moderately durable / Durable	Extremely difficult	Regular Medium	Acidic nature; iron staining may occur in damp conditions. May also corrode metals	Furniture, cabinet work. Interior and exterior joinery. Flooring. Tight cooperage
Oak, European <i>Quercus robur</i> , <i>Q. petraea</i> Europe	Hardwood Yellowish-brown	720*	Medium/ coarse	Medium	Medium/ difficult	Durable	Extremely difficult	Variable Medium/High	Iron staining may occur in damp conditions, similarly corrosion of metals	Furniture. Interior and exterior joinery. Flooring. Tight cooperage. Fencing

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Oak, Japanese <i>Quercus mongolica</i> (mainly) Japan	Hardwood Pale yellow	670	Medium	Medium	Medium	Moderately durable	Extremely difficult**	Very limited High		Furniture. Interior joinery
“Oak, Tasmanian” <i>Eucalyptus delegatensis</i> <i>E. obliqua</i> , <i>E. regnans</i> Australia & Tasmania	Hardwood Pale pink to brown	610/ 710*	Coarse	Medium	Medium	Moderately durable	Difficult	Limited Medium		Furniture. Interior joinery
Obeche /wawa <i>Triplochiton scleroxylon</i> W Africa	Hardwood White to pale yellow	390	Medium	Small	Good	Not durable	Difficult	Regular Low/Medium		Interior joinery. Furniture. Plywood
Opepe <i>Nauclea diderrichii</i> W Africa	Hardwood Yellow to orange-yellow	750	Coarse	Small	Medium	Very durable	Moderately easy	Variable Low		Heavy construction. Marine and freshwater use. Exterior joinery. Flooring
Padauk <i>Pterocarpus</i> spp W Africa, Andamans, Myanmar	Hardwood Red to dark purple-brown	740*/ 850	Coarse	Small	Medium	Very durable	Moderately easy	Limited High	Dust may be irritant	Interior and exterior joinery. Turnery. Flooring
Parana pine <i>Araucaria angustifolia</i> S America	Softwood Golden brown with bright red streaks	550	Fine	Medium	Good	Not durable - Slightly durable	Moderately easy	Regular Low/Medium	Distortion may occur in drying	Interior joinery. Plywood
Pine, Canadian red <i>Pinus resinosa</i> N America	Softwood Reddish yellow, white	450	Fine	Small	Good	Slightly durable	Moderately easy	Limited Low		Construction. Joinery
Pine, Corsican <i>Pinus nigra</i> var <i>maritima</i> Europe	Softwood Light yellowish- brown	510	Coarse	Small	Medium	Slightly durable (variable)	Extremely difficult (variable)	Regular Low		Joinery, construction
Pine, elliotis <i>Pinus elliotii</i> Brazil, Chile (Plantation grown)	Softwood Pale brown to yellow	590	Medium	Medium	Medium	Slightly durable	Moderately easy	Regular Low		Pallets, packaging. Joinery
Pine, Jack <i>Pinus banksiana</i> Canada, USA	Softwood Pale brown/ reddish brown	500	Medium	Medium	Medium	Slightly durable	Moderately easy	Variable Low		Construction, joinery
Pine, lodgepole <i>Pinus contorta</i> N America	Softwood Yellow to pale brown tinged with red	470	Fine	Small	Good	Slightly durable - Moderately durable	Difficult - Extremely difficult	Regular Low		Construction. Joinery
Pine, maritime <i>Pinus pinaster</i> Europe	Softwood Pale brown to yellow	530	Medium- Coarse	Medium	Good	Slightly durable - Moderately durable	Difficult	Regular Low		Pallets and packaging. Joinery

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Pine, patula <i>Pinus patula</i> South Africa	Softwood Pale brown to yellow	590	Medium	Medium	Medium	Slightly durable	Moderately easy	Limited Low		Pallets and packaging. Joinery
Pine, pitch, American <i>Pinus palustris, P. Elliottii</i> Southern USA	Softwood Yellow-brown to red-brown	670*	Medium	Medium	Medium	Slightly durable - Moderately durable	Difficult - Extremely difficult	Regular Medium	Denser material also known as longleaf yellow pine or longleaf pitch pine	Interior and exterior joinery. Heavy construction
Pine, ponderosa <i>Pinus ponderosa</i> N America	Softwood Pale to dark yellow to reddish-brown	480	Fine	Small	Good	Slightly durable	Moderately easy	Variable Low		Construction. Joinery
Pine, radiata <i>Pinus radiata</i> S Africa, S America, Australia, New Zealand	Softwood Yellow to pale brown	480	Medium	Medium	Good	Not durable - Slightly durable	Moderately easy - Difficult	Regular Low		Construction, furniture, packaging
Pine, Scots <i>Pinus sylvestris</i> UK	Softwood Pale yellowish- brown to red-brown	510	Coarse	Medium	Medium	Slightly durable - Moderately durable	Difficult - Extremely difficult	Regular Low		Construction, joinery
Pine, Southern <i>Pinus</i> spp including <i>P.</i> <i>palustris, P. Elliottii, P.</i> <i>echinata, P. taeda</i> Southern USA	Softwood Pale yellow to light brown	590	Medium	Medium	Medium	Slightly durable/ Moderately durable	Difficult - Extremely difficult	Regular Low	Also know as Southern yellow pine	Construction, joinery. Plywood
Pine, yellow <i>Pinus strobus</i> N America	Softwood Pale yellow to light brown	420	Fine	Small	Good	Slightly durable	Moderately easy	Regular Low/medium	Also known as Quebec yellow pine and Eastern white pine	Pattern making, drawing boards, doors
Plane, European <i>Platanus x hispanica</i> Europe	Hardwood Mottled brown	640	Fine	No information	Medium	Not durable	No information	Limited Medium	Quarter sawn material produces lacewood figure	Decorative purposes. Inlay work
Poplar <i>Populus</i> spp Europe	Hardwood Grey white to pale brown	450	Fine/ Medium	Large	Medium	Not durable	Difficult (variable)	Variable Low		Pallet blocks, box boards, turnery. Wood wool
Poplar, American yellow	see Tulipwood									
Purpleheart <i>Peltogyne</i> spp Central & S America	Hardwood Purple to purplish-brown	880	Medium	Small	Medium/ Difficult	Moderately durable - Durable	Extremely difficult	Limited High		Heavy construction. Flooring. Turnery
Ramin <i>Gonystylus</i> spp S E Asia	Hardwood White to pale yellow	670	Medium	Large	Medium	Not durable	Easy	Variable Low/Medium		Mouldings. Furniture
Redwood, European <i>Pinus sylvestris</i> Scandinavia/USSR	Softwood Pale yellowish- brown to red brown	510	Medium	Medium	Medium	Slightly durable - Moderately durable	Difficult - Extremely difficult	Regular Low		Construction. Joinery. Furniture

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Rosewood <i>Dalbergia</i> spp S America, India	Hardwood Medium to dark purplish-brown with black streaks	870*	Medium	Small	Medium	Very durable	Extremely difficult	<i>D nigra</i> CITES I	Unlikely to be available as raw material. Fine dust may be irritant	Interior joinery. Cabinet work, turnery
Rubberwood / hevea <i>Hevea brasiliensis</i> Brazil, S E Asia	Hardwood Cream to light brown	560	Medium/ Coarse	Medium - Large	Medium/ Good	Not durable	Easy	Limited		Furniture, Turnery
Sapele <i>Entandrophragma</i> <i>cylindricum</i> West Africa	Hardwood Medium reddish- brown with marked stripe figure	640	Medium	Medium	Medium	Moderately durable	Difficult	Regular Medium		Interior joinery. Furniture. Flooring
Sepetir <i>Sindora</i> spp S E Asia	Hardwood Golden brown	680	Medium	Small	Difficult	Durable	Extremely difficult	Limited Low		Joinery. Furniture
Seraya- see Meranti										
Sesendok <i>Endospermum</i> spp S E Asia	Hardwood Pale cream to straw yellow	480	Medium to coarse	Small	Medium	Not durable	Easy	Limited Low/medium	Also known as Kauvula (Fiji)	Mouldings, interior joinery
Spruce , Canadian <i>Picea</i> spp Canada	Softwood White to pale yellow	400*/ 500	Medium	Small	Good	Not durable - Slightly durable	Difficult	Regular Low		Construction.
Spruce, Sitka <i>Picea sitchensis</i> North America, UK	Softwood Pinkish-brown	450	Coarse	Small	Good	Not durable - Slightly durable	Difficult	Regular Low		Construction. Packaging, pallets
Sycamore <i>Acer pseudoplatanus</i> Europe	Hardwood White or yellowish-white	630	Fine	Medium	Good	Not durable	Easy	Limited Medium		Turnery. Joinery
Taun <i>Pometia pinnata</i> S E Asia	Hardwood Pale pinkish-brown	720	Coarse	Medium	Medium	Moderately durable	Difficult - Extremely difficult	Limited Low		Structural work. Turnery, joinery, furniture
Teak <i>Tectona grandis</i> Burma, Thailand and plantations elsewhere	Hardwood Golden brown, sometimes with dark markings	660	Medium	Small	Medium	Very durable	Extremely difficult	Regular High	Fine dust may be irritant. Good chemical resistance. Resistant to termites. Some cultivated timber may have lower durability	Furniture. Interior and exterior joinery. Boat building
Tulipwood / Poplar, American yellow <i>Liriodendron tulipifera</i> N America	Hardwood Yellowish to olive brown with dark stains	510	Fine	Medium	Good	Slightly durable	No information	Limited Medium		Joinery, Furniture

* see Density, ** see Moisture movement, page 1

Species/ Origin	Timber type/ Colour	Density kg/m ³	Texture	Moisture movement	Working qualities	Durability Fungi	Treatability Heartwood	Availability/ Price	Remarks	Uses
Utile <i>Entandrophragma utile</i> W Africa	Hardwood Reddish-brown	660	Medium	Medium	Medium	Moderately durable - Durable	Extremely difficult	Regular Medium		Interior and exterior joinery. Furniture and cabinet work
Virola, light <i>Virola</i> spp <i>Dialyanthera</i> spp Central and S America	Hardwood Pale pinkish-brown	530*	Medium	Medium	Medium	Not durable	Easy - Moderately easy	Limited Low		Carpentry, mouldings. Furniture. Plywood.
Wallaba <i>Eperua falcata</i> , <i>E. grandiflora</i> Guyana	Hardwood Dull reddish-brown	910	Coarse	Medium**	Medium	Very durable	Extremely difficult	Limited Medium	Gum exudation likely	Transmission poles. Flooring, Decking. Heavy construction
“Walnut, African” <i>Lovoa trichilioides</i> W Africa	Hardwood Yellowish-brown, sometimes with dark streaks	560	Medium	Small	Medium	Slightly durable - Moderately durable	Difficult - Extremely difficult	Variable Medium		Furniture, cabinet work. and exterior joinery
Walnut, American <i>Juglans nigra</i> N America	Hardwood Rich dark brown	660	Coarse	Small/ Medium**	Good	Moderately durable	Difficult - Extremely difficult	Variable Medium/High	Also known as Black walnut	Furniture. Gun stocks
Walnut, European <i>Juglans regia</i> Europe	Hardwood Grey-brown with dark streaks	670	Coarse	Medium	Good	Moderately durable	Difficult	Limited High	Staining likely if in contact with iron under damp conditions	Furniture, turnery. Gun stocks
Wengé / Panga panga <i>Millettia laurentii</i> <i>M stuhlmannii</i> Central & E Africa	Hardwood Dark brown with fine black veining	880*	Coarse	Small	Good	Durable	Extremely difficult	Limited Medium		Interior and exterior joinery. Flooring. Turnery
“Western red cedar” <i>Thuja plicata</i> N America	Softwood Reddish-brown	390	Coarse	Small	Good	Moderately durable - Durable	Difficult - Extremely difficult	Regular Medium	Fine dust may be irritant. An acidic timber which may corrode metals under damp conditions and cause iron staining	Shingles, exterior cladding. Greenhouses, beehives
Whitewood, American - see Tulipwood										
Whitewood, European <i>Picea abies</i> and <i>Abies alba</i> Europe, USSR	Softwood White to pale yellowish brown	470	Medium	Medium	Good	Slightly durable	Difficult - Extremely difficult	Regular Low		Joinery. Construction. Flooring
Willow <i>Salix</i> spp Europe	Hardwood pinkish-white	450	Fine	Small	Good	Not durable	Difficult	Limited Medium/high		Cricket bats. Boxes, crates
Yew <i>Taxus baccata</i> Europe	Softwood Orange-brown to purple-brown	670	Medium	Small/ Medium**	Difficult	Durable	Difficult	Very Limited High		Furniture, turnery. Interior joinery

* see Density, ** see Moisture movement, page 1

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Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein. Official Journal of the European Communities. L61 Volume 40. 3 March 1997.

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BS 7359: 1991 Nomenclature of commercial timbers including sources of supply

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