

A Collection of Wood Properties

Version 1.1

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by

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INTRODUCTION

Reference books are the primary source of wood property data for use in research, school, or business. It has been our experience that obtaining the needed data from several references can be a cumbersome and time-consuming ordeal. These spreadsheets are a compilation of data from several well-known references. Version 1.1 includes the most recent update of commercial woods of the United States and the world. It is intended that they be used for quick summaries, comparisons, and calculations to increase the efficiency of the professional user in report preparation.

DESCRIPTION

The information is divided in two parts which are stored on separate Lotus 1-2-3 spreadsheet files (diskette is enclosed). The first file is a summary of the basic properties of 279 commercial lumber species from around the world. The data appearing in this file, named WOODF (See Table 2, page 4), are: common names, specific gravities, volumetric shrinkage, calculated weights, bending strength, compression, hardness, stiffness, shock resistance, drying ease, machinability, durability, color, scientific name, and world origin. The second file, named WOODP (See Table 3, page 12), contains more detailed information for 149 domestic species and selected imports. It contains all of the data appearing in the world species file, except for color, plus the following: green moisture contents, Btu values, shrinkage values and calculations, heat values and calculations, weight and dimension estimates, and a more detailed summary of relative wood strength and manufacturing characteristics.

The wood properties appear as values rated from 1 to 5 based on mechanical property index classes published by Panshin and de Zeeuw, 1970. In general, these values may be considered a rating from good = 1, to poor = 5; or hard = 1, to soft = 5. Other important properties have been given similar numeric ratings. Therefore, drying ease has only 3 ratings based on the complexity of drying; so a rating of 1 may warp, a 2 may warp and dry slow, and a 3 may check, warp, and dry slow. Machinability has ratings from 1 = good, to 3 = poor, and wood with rating 4 contains silicon. Durability has 6 ratings from 1 = very durable to 6 = not durable. Gluing ease has 4 ratings from 1 = good, to 4 = poor. A + preceding a rating indicates a high value within that rating group. The following table (adapted from Panshin and de Zeeuw, 1970) further describes the value ratings.

Table 1.

Wood Property Index Classes

WOOD PROPERTY	MECHANICAL PROPERTY	INDEX CLASSES					
		6	5	4	3	2	1
Bending Strength	Rupture modulus in bending, green wood, psi		<6000	6000 to	7000 to	8000 to	11,000+
Compression	Max. crushing strength parallel, green wood, psi		<2200	2200 to	3000 to	3600 to	4500 +
Hardness	Side Hardness, green wood, lb.		<400	400 to	600 to	900 to	1200 +
Stiffness	Elasticity modulus in bending, psi x 1000		<800	800 to	1000 to	1300 to	1500 +
Shock Resistance	Height of drop with 50 lb. hammer, inches		15 to	25 to	35 to	50 to	70 +
Splitting	Load, lb/in. of width to split green wood		<150	150 to	250 to	350 to	450 +
Screw Holding	Screw withdrawal as function of sp. gr. OD		<0.40	0.40 to	0.45 to	0.55 to	0.70 +
Drying Ease	Number of drying problems				3	2	1
Machinability	Quality			Silicon	Poor	Medium	Good
Durability	Degree of resistance to decay	None	Very Low	Low	Moderate	Mod. Res.	Resistant
Gluing Ease	Quality			Difficult	Not Well	Well	Easily

RECOMMENDED USE

It is not intended that all of the material in the spreadsheet tables be used in a single job. The user should delete the material in those columns or rows which are not wanted

or distract from the final form of the report. The user should take care not to save the edits to the original computer file. It is recommended that nothing ever be saved unless it is to another file.

The files are write protected, except for the highlighted, calculable values. It is possible to change these highlighted numbers to any desired value, therefore tailoring the table to specific needs. The highlighted, changeable values are: moisture content, board dimensions, volume of lumber, and wood and bark percentages. When a highlighted value is changed all of the values in the table which use it are recalculated. An example of each file follows with some commonly used values inserted in the highlighted fields.

Note: In order to change or edit any copy of Wood Properties the write protect must be removed. Selection of 'disengage' in 'Global' under 'Worksheet' will remove the protection. Selection of 'engage' will return the protection. It is recommended that write protection always be in place except while editing.

ADDITIONS or CORRECTIONS

We request that users contact the author to complete missing information, add new species, or make suggestions.

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Properties of the World's Woods

Common Name	Specific Gravity	Pounds per Cubic Foot	Volume (cubic feet) of 1-MCF	Specific Gravity (1-Good to 5-Poor)	Weight in lbs.	Bend Com-Hard-Split-Stick	Strength	Sight	Age	MC 20.00	Primary Color	Duration	Primary Species	Secondary Name		Type	Origin
														Count	Species		
Aburia	0.19	0.56	34.94	3.4947	4	3 2 4 1 1 5	L-Yel-Brown	Mitreyuna	callata	1-3	1-4	1-6	1-7				
Alchorne or Limba	0.45	0.50	31.45	14.0	3.1452	3 3 4 1 1 5	L-Yel-Brown	Teminalia	simplicia	1	1	1	1	1	1	1	West Africa
Alchornea	0.62	0.70	43.68	4.3683	3	1 1 2 1 2 1	Yellow Brown	Alchorneosia	elata	1	1	1	1	1	1	1	West Africa
Alphelia	0.22	0.82	31.17	51.17	3.1172	3 2 3 2 2 1	Red Brown	Alphelia	spp.	1	1	1	1	1	1	1	Africa
Agba	0.15	0.51	31.82	3.1827	4	3 2 1 1 1 3	Stony	Crossweldendium	barkudendeum	1	1	1	1	1	1	1	Africa
Agdeguine	0.37	0.42	26.21	2.6210	5	3 3 5 1 1 6	Red Brown	Alnus	nubra	2	2	2	2	2	2	2	N. America
Agde, Red	0.37	0.41	25.86	2.5861	4	2 4 3 5 1 6	Red Brown	Alnus	glutinosa	3	1	1	1	1	1	1	Europe
Agde, European	0.47	0.33	33.07	3.3075	5	3 3 5 1 1 6	Light Brown	Alnus	rhombifolia	1	1	1	1	1	1	1	Europe
Ah, Blue	0.33	0.59	37.04	3.7040	2	2 2 3 3 1 6	Light Brown	Fraxinus	rhombifolia	2	2	2	2	2	2	2	N. America
Ah, White	0.35	0.62	38.44	3.8441	3	3 3 3 1 1 6	Light Brown	Fraxinus	pekinensis	1	1	1	1	1	1	1	N. America
Ash, Oregon	0.50	0.56	34.94	3.7044	2	2 2 3 3 1 6	Light Brown	Fraxinus	pekinensis	1	1	1	1	1	1	1	N. America
Ash, Green	0.53	0.59	37.04	3.7045	2	2 2 3 3 1 6	Light Brown	Fraxinus	excelsior	1	1	1	1	1	1	1	Europe
Ash, European	0.61	0.69	43.06	4.3059	2	2 2 3 3 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	Europe
Ash, Blue	0.33	0.59	37.04	3.7044	2	2 2 3 3 1 6	Light Brown	Fraxinus	rhombifolia	1	1	1	1	1	1	1	N. America
Ash, Black	0.45	0.50	31.45	3.1452	4	4 3 3 1 1 6	Red Brown	Diospyros	guttifera	1	1	1	1	1	1	1	S. America
Augeguine	0.60	0.67	41.93	4.1936	1	1 2 1 1 1 6	Red Brown	Carapa	gumaneensis	1	1	1	1	1	1	1	S. America
Augeguine	0.56	0.63	39.14	3.9140	1	1 2 1 1 1 6	Red Brown	Fraxinus	gumaneensis	1	1	1	1	1	1	1	S. America
Ah, Black	0.45	0.50	31.45	3.1452	4	4 3 3 1 1 6	Red Brown	Fraxinus	rhombifolia	1	1	1	1	1	1	1	N. America
Ah, Blue	0.33	0.59	37.04	3.7044	2	2 2 3 3 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	N. America
Ah, European	0.61	0.69	43.06	4.3059	2	2 2 3 3 1 6	Light Brown	Fraxinus	rhombifolia	1	1	1	1	1	1	1	Europe
Ah, Oregon	0.50	0.56	34.94	3.7044	2	2 2 3 3 1 6	Light Brown	Fraxinus	pekinensis	1	1	1	1	1	1	1	N. America
Ah, White	0.55	0.62	38.44	3.8441	3	3 3 3 1 1 6	Light Brown	Fraxinus	excelsior	1	1	1	1	1	1	1	N. America
Ash, Green	0.53	0.59	37.04	3.7045	2	2 2 3 3 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	Europe
Ah, European	0.61	0.69	43.06	4.3059	2	2 2 3 3 1 6	Light Brown	Fraxinus	rhombifolia	1	1	1	1	1	1	1	Europe
Ah, Blue	0.33	0.59	37.04	3.7044	2	2 2 3 3 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	N. America
Ah, Black	0.45	0.50	31.45	3.1452	4	4 3 3 1 1 6	Red Brown	Diospyros	guttifera	1	1	1	1	1	1	1	S. America
Ajape	0.56	0.63	39.14	3.9140	1	1 2 1 1 1 6	Red Brown	Fraxinus	gumaneensis	1	1	1	1	1	1	1	S. America
Ajape	0.37	0.42	26.21	2.6210	5	3 3 5 1 1 6	Red Brown	Alnus	nubra	2	2	2	2	2	2	2	N. America
Ajape, Red	0.37	0.41	25.86	2.5861	4	2 4 3 5 1 6	Red Brown	Alnus	glutinosa	1	1	1	1	1	1	1	Europe
Ajape, European	0.47	0.33	33.07	3.3075	5	3 3 5 1 1 6	Light Brown	Alnus	rhombifolia	1	1	1	1	1	1	1	Europe
Ajape, Black	0.60	0.67	41.93	4.1936	1	1 2 1 1 1 6	Red Brown	Diospyros	guttifera	1	1	1	1	1	1	1	S. America
Ajape, European	0.56	0.63	39.14	3.9140	1	1 2 1 1 1 6	Red Brown	Fraxinus	gumaneensis	1	1	1	1	1	1	1	S. America
Ajape, Black	0.45	0.50	31.45	3.1452	4	4 3 3 1 1 6	Red Brown	Fraxinus	rhombifolia	1	1	1	1	1	1	1	N. America
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Ajape, European	0.47	0.33	33.07	3.3075	5	3 3 5 1 1 6	Light Brown	Alnus	glutinosa	1	1	1	1	1	1	1	Europe
Ajape, Black	0.60	0.67	41.93	4.1936	1	1 2 1 1 1 6	Red Brown	Diospyros	guttifera	1	1	1	1	1	1	1	S. America
Ajape, European	0.56	0.63	39.14	3.9140	1	1 2 1 1 1 6	Red Brown	Fraxinus	gumaneensis	1	1	1	1	1	1	1	S. America
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Ajape, European	0.37	0.42	26.21	2.6210	5	3 3 5 1 1 6	Light Brown	Alnus	rhombifolia	1	1	1	1	1	1	1	N. America
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Ajape, European	0.37	0.42	26.21	2.6210	5	3 3 5 1 1 6	Light Brown	Alnus	rhombifolia	1	1	1	1	1	1	1	N. America
Ajape, European	0.47	0.33	33.07	3.3075	5	3 3 5 1 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	Europe
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Ajape, European	0.61	0.69	43.06	4.3059	2	2 2 3 3 1 6	Light Brown	Fraxinus	quercifolia	1	1	1	1	1	1	1	Europe
Ajape, European	0.37	0.42	26.21	2.6210	5	3											

Common Name	Specific Gravity		Pounds per Cubic Foot	% Volume Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1-3	1-4	1-6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Searsoned				Bend String	Com pression	Hard ness	Stiff ness	Shock Resistance					Genus	Species		
Blackwood, African	1.06	1.20	74.88		7,488.6		1				2	1	2	Black	Dalbergia melanoxylon	Hardwood	East Africa	
Boxwood	0.80	0.91	56.78		5,678.9						3	3	3	L. Yellow	Buxus sempervirens	Hardwood	Europe/Asia	
Boxwood, West Indian	0.75	0.85	53.04		5,304.4						3	3	3	L. Yellow	Gossypiospermum praecox	Hardwood	S. America	
Brush Box	0.79	0.90	56.16		5,616.4	2	1	1	1		3	3	4	Brown	Tristania conferta	Hardwood	E. Australia	
Bubinga	0.77	0.88	54.91	14.4	5,491.6			1			2	1		Brown	Guibourtia spp.	Hardwood	West Africa	
Buckeye, Yellow	0.33	0.37	23.06	12.5	2,306.5	5	5	5	4	5	1	2	5	Yellow, White	Aesculus octandra	Hardwood	N. America	
Butternut	0.36	0.40	25.16	10.6	2,516.2	4	4	5	4	5	1	2	6	Brown	Juglans cinerea	Hardwood	N. America	
Catalpa, Northern	0.38	0.43	26.56	7.3	2,656.0	4	4	4	4	3	1	2	2	White	Catalpa speciosa	Hardwood	N. America	
Cedar, African Pencil	0.51	0.58	36.19		3,619.5	4	3	2	5		2	1	2	Red Brown	Juniperus procera	Softwood	East Africa	
Cedar, Alaska	0.42	0.47	29.35	9.2	2,935.5	4	3	4	3	4	1	1	2	Pale Yellow	Chamaecyparis nootkatensis	Softwood	N. America	
Cedar, Atlantic White	0.31	0.35	21.67	8.8	2,166.7	5	4	5	5	5	1	2	2	White	Chamaecyparis thyoides	Softwood	N. America	
Cedar, Incense	0.35	0.39	24.46	7.6	2,446.3	4	3	5	4	5	1	2	2	L. Red Brown	Libocedrus decurrens	Softwood	N. America	
Cedar, Lebanon	0.49	0.56	34.94		3,494.7			5	5			1	1	Light Brown	Cedrus lebabi	Softwood	Asia Minor	
Cedar, Northern White	0.29	0.32	20.27	7.2	2,026.9	5	5	5	5	5	1	2	2	Pale Brown	Thuja occidentalis	Softwood	N. America	
Cedar, Port-Orford	0.40	0.45	27.96	10.1	2,795.7	4	3	4	2	5	1	1	2	L. Yel. Brown	Chamaecyparis lawsoniana	Softwood	N. America	
Ceiba	0.28	0.32	19.97		1,997.0	5	5		5		3	2	6	Straw	Ceiba pentandra	Hardwood	West Africa	
Chenchen	0.36	0.41	25.58		2,558.6	5	4	4	5		2	2	6	Straw	Artocarpus africana	Hardwood	West Africa	
Cherry, Black	0.47	0.53	32.85	11.5	3,285.0	3	3	3	2	4	1	2	2	Red Brown	Prunus serotina	Hardwood	N. America	
Cherry, European	0.54	0.61	38.06		3,806.7	2	3	3	2	4	1	2	5	Pink Brown	Prunus avium	Hardwood	Europe	
Chestnut, American	0.40	0.45	27.96	11.6	2,795.7	4	4	4	4	4	1	1	2	Light Brown	Castanea dentata	Hardwood	N. America	
Chestnut, Sweet	0.48	0.55	34.32		3,432.3	3	4	4	4	4	2		3	Light Brown	Castanea sativa	Hardwood	Europe	
Chontalquiro Amarillo	0.74		46.00								1	2		Light Brown	Dipterocarpus martinii	Hardwood	S. America	
Cinnamon	0.49	0.56	34.94		3,494.7						2	1		Brown	Cinnamomum spp.	Hardwood	S. E. Asia	
Cordia, West African	0.38	0.43	26.83		2,683.4	4	3	3	4		1	2	4	Brown	Cordia spp.	Hardwood	West Africa	
Cottonwood, Balsam	0.31	0.35	21.67	10.5	2,166.7	5	5	5	3	5	2	3	6	White	Populus balsamifera	Hardwood	N. America	
Cottonwood, Black	0.31	0.35	21.67	12.4	2,166.7	5	4	5	2	5	2	3	6	White	Populus trichocarpa	Hardwood	N. America	
Cottonwood, Eastern	0.37	0.41	25.86	14.1	2,586.1	5	4	5	3	5	2	3	6	White	Populus deltoides	Hardwood	N. America	
Deodar	0.49	0.56	34.94		3,494.7	4	4	3	3	4	1	2	3	Light Brown	Cedrus deodara	Softwood	Central Asia	
Dogwood, Flowering	0.64	0.72	44.73	20.8	4,473.2	2	2	1	3	2	1	2	6	Light Brown	Cornus florida	Hardwood	N. America	
Douglas Fir	0.45	0.50	31.45	10.7	3,145.2	3	3	4	2	5	1	2	4	L. Red Brown	Pseudotsuga menziesii	Softwood	N. America	
Ebony, African	0.89	1.01	63.02		6,302.9	1	1	+1	+1	+1	1	4		Black	Diospyros crassiflora	Hardwood	West Africa	
Ebony, Borneo	0.77	0.87	54.29		5,429.2	1	1	+1	+1		2	4	2	Brn/Blk Stp	Diospyros spp.	Hardwood	S. E. Asia	
Ebony, East Indian	1.03	1.17	73.01		7,301.4	1	+1	+1			2	4	2	Black	Diospyros ebenum	Hardwood	India	
Eki or Azobe	0.92	1.04	64.9		6,490.1	1	1	1	1		3	3	1	D. Red Brown	Lophostoma alata	Hardwood	West Africa	
Elm, American	0.46	0.52	32.15	14.6	3,215.1	3	4	4	3	3	1	3	6	Light Brown	Ulmus americana	Hardwood	N. America	
Elm, English	0.48	0.55	34.32		3,432.3	3	4	3	3	2	2	3	6	Light Brown	Ulmus procera	Hardwood	Europe	

Table 2. (continued) Properties of the World's Woods

Common Name	Specific Gravity		Pounds per Cubic Foot	% Volume Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1-3	1-4	1-5	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Searsoned				Bend-ing String	Com-pression	Hard-ness	Stiff-ness	Shock Re-sis-tance					Genus	Species		
Elm, Japanese	0.51	0.58	36.19		3,619.5	3	4	3	3	2	2	3	6	Light Brown	Ulmus	laciniata	Hardwood	N. E. Asia
Elm, Rock	0.57	0.64	39.84	14.1	3,983.9	2	2	2	3	2	1	3	6	Light Brown	Ulmus	thomasii	Hardwood	N. America
Elm, Slippery	0.48	0.54	33.55	13.8	3,354.9	3	3	3	3	2	1	3	6	Light Brown	Ulmus	rubra	Hardwood	N. America
Elm, Wych	0.59	0.67	41.81		4,181.1	3	3	2	2	2	2	3	6	Light Brown	Ulmus	glabra	Hardwood	Europe
Fir, Balsam	0.34	0.38	23.76	11.2	2,376.4	5	4	5	4	5	1	3	6	White	Abies	balsamea	Softwood	N. America
Fir, California Red	0.36	0.40	25.16	11.4	2,516.2	5	4	5	3	5	1	3	6	White	Abies	magnifica	Softwood	N. America
Fir, Grand	0.35	0.39	24.46	11.0	2,446.3	5	4	5	3	5	1	3	6	White	Abies	grandis	Softwood	N. America
Fir, Noble	0.37	0.41	25.86	12.4	2,586.1	4	3	5	2	5	1	3	6	White	Abies	procera	Softwood	N. America
Fir, Pacific Silver	0.40	0.45	27.96	13.0	2,795.7	4	3	5	2	5	1	3	6	White	Abies	amabilis	Softwood	N. America
Fir, Subalpine	0.31	0.35	21.67	9.4	2,166.7	5	4	5	3	5	1	3	6	White	Abies	lasiocarpa	Softwood	N. America
Fir, White	0.37	0.41	25.86	9.8	2,586.1	5	4	5	3	5	1	2	6	White	Abies	concolor	Softwood	N. America
Freijo	0.54	0.61	38.06		3,806.7	2	2	2	1	1	1	1	3	Yellow Brown	Cordia	goeldiana	Hardwood	S. America
Gaboon	0.38	0.43	26.83		2,683.4	5	4	5	3	5	1	3	6	L. Pink Brown	Aucoumea	klaineana	Hardwood	West Africa
Gavilan	0.95		65.00											Brown	Licania	spp.	Hardwood	S. America
Gedu Nohor	0.48	0.55	34.32		3,432.3	4	3	3	2		2	1	4	Red Brown	Entandrophragma	angolense	Hardwood	West Africa
Greenheart	0.83	0.93	58.01		5,801.2	1	1	1	1	3	3	3	1	Green	Ocotea	rodiae	Hardwood	S. America
Guarea	0.51	0.58	36.19		3,619.5	3	2	2		2	1	4		Pink Brown	Guarea	edulis	Hardwood	West Africa
Gum, Southern Blue	0.79	0.90	56.16	22.6	5,616.4	3	1	2	1	3	3	3	4	L. Yel. Brown	Eucalyptus	globulus	Hardwood	E. Australia
Gum, Spotted	0.89	1.01	63.02		6,302.9	3	1	1	1		3	2	4	Light Brown	Eucalyptus	maculata	Hardwood	E. Australia
Gum, Sydney Blue	0.72	0.82	51.17		5,117.2	2	1	2	1		2	2	4	Red	Eucalyptus	saligna	Hardwood	E. Australia
Hackberry	0.49	0.55	34.25	16.9	3,424.8	4	4	3	4	3	1	1	6	Light Brown	Celtis	occidentalis	Hardwood	N. America
Haldia	0.58	0.66	41.18		4,118.7	2	2	1	1	1	1	1	6	L. Yel. Brown	Adina	cordifolia	Hardwood	India
Hemlock, Eastern	0.38	0.43	26.56	9.7	2,656.0	4	3	4	3	5	1	3	6	White	Tsuga	canadensis	Softwood	N. America
Hemlock, Mountain	0.42	0.47	29.35	11.1	2,935.5	4	4	4	3	4	1	2	6	White	Tsuga	mertensiana	Softwood	N. America
Hemlock, Western	0.42	0.47	29.35	12.4	2,935.5	4	3	4	2	5	1	2	6	White	Tsuga	heterophylla	Softwood	N. America
Hickory, Bitternut	0.60	0.67	41.93	13.6	4,193.6	2	1		2	2	1	1	6	Wht. or R. Brn	Carya	cordiformis	Hardwood	N. America
Hickory, Mockernut	0.64	0.72	44.73	17.8	4,473.2	1	1		1	1	1	1	6	Wht. or R. Brn	Carya	tomentosa	Hardwood	N. America
Hickory, Nutmeg	0.56	0.63	39.14	13.6	3,914.0	2	2		3	2	1	1	6	Wht. or R. Brn	Carya	myristiciformis	Hardwood	N. America
Hickory, Pecan	0.60	0.67	41.93	13.6	4,193.6	2	2	1	2	2	1	1	6	Wht. or R. Brn	Carya	illinoensis	Hardwood	N. America
Hickory, Pigment	0.66	0.74	46.13	17.9	4,613.0	1	1		1	1	1	1	6	Wht. or R. Brn	Carya	glabra	Hardwood	N. America
Hickory, Shagbark	0.64	0.72	44.73	16.7	4,473.2	1	1	1	1	1	1	1	6	Wht. or R. Brn	Carya	ovata	Hardwood	N. America
Hickory, Shellbark	0.62	0.69	43.33	19.2	4,333.4	2	2		2	1	1	1	6	Wht. or R. Brn	Carya	laciniosa	Hardwood	N. America
Hickory, Water	0.61	0.68	42.63	13.6	4,263.5	1	1		1	2	1	1	6	Wht. or R. Brn	Carya	aquatica	Hardwood	N. America
Holly, American	0.50	0.56	34.94	16.9	3,494.7	4	4	3	4	2	2	1	6	White	Ilex	opaca	Hardwood	N. America
Holly, European	0.70	0.80	49.92		4,992.4									Ilex	aquifolium	Hardwood	Europe	
Honeylocust	0.60	0.67	41.93	10.8	4,193.6	2	2	1	3	3	2	2	3	Dark Y. Brown	Gleditsia	triacanthos	Hardwood	N. America

Common Name	Specific Gravity		Pounds per Cubic Foot	% Shrinkage	Weight (tons) of 1 MBR at MC 20.00	1=Good to 5=Poor					1 - 3	1 - 4	1 - 6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Seasoned				Bend-ing Strng	Com-pression	Hard-ness	Stiff-ness	Shock Resis-tance	Dry-ing Ease	Mach-inabi-lity	Dura-bility		Genus	Species		
Hornbeam, American	0.58	0.65	40.54	19.1	4,053.8	4	4	2	4	1	1	2	6	White	Carpinus	caroliniana	Hardwood	N. America
Hornbeam, European	0.66	0.75	46.80		4,680.4	4	4	2	4	1	1	3	6	White	Carpinus	betulus	Hardwood	Europe
Horse-chestnut	0.45	0.51	31.82		3,182.7	5	5	5	4	5	1	1	6	Yellow White	Aesculus	hippocastanum	Hardwood	Europe
Idigbo	0.48	0.55	34.32	13.1	3,432.3	4	3	3	3	4	1	1	2	L. Yel. Brown	Terminalia	ivorensis	Hardwood	West Africa
Iroko	0.56	0.64	39.94		3,993.9	3	2	1	2		1	2	2	Brown	Chlorophora	excelsa	Hardwood	Africa
Ironbark	0.99	1.12	69.89		6,989.4	1	1	1	1		3	3	2	Red Brown	Eucalyptus	spp.	Hardwood	E. Australia
Ironwood	0.63	0.71	44.03	19.4	4,403.3	2	3	2	3	1	1	2	6	White	Ostrya	virginiana	Hardwood	N. America
Jarrah	0.67	0.82	51.17		5,117.2	2	1	1	2		2	2	3	Red Brown	Eucalyptus	marginata	Hardwood	W. Australia
Jelutong	0.36	0.40	25.16		2,516.2	5	3	5	3		1	1	5	Straw	Dyera	costulata	Hardwood	S. E. Asia
Kapur	0.64	0.72	44.93		4,493.2	1	1	2	1		2	4	2	Red Brown	Dryobalanops	spp.	Hardwood	S. E. Asia
Karri	0.70	0.90	56.16		5,616.4	2	1	1	1		3	3	4	Red Brown	Eucalyptus	diversicolor	Hardwood	W. Australia
Kauri, New Zealand	0.47	0.53	32.85		3,285.0	4	5	4	3	5	1	1	3	L. Yel. Brown	Agathis	australis	Softwood	New Zealand
Kempas	0.77	0.87	54.29		5,429.2	2	1	1			1	3	4	Red Brown	Koompassia	malaccensis	Hardwood	S. E. Asia
Keruing	0.67	0.75	46.82		4,682.9	1	1	2	1		2	4	3	Red Brown	Dipterocarpus	spp.	Hardwood	S. E. Asia
Kingwood	1.06	1.20	74.88		7,488.6		1	+1	1	1	2	2	2	D. Brown Stp.	Dalbergia	cearensis	Hardwood	S. America
Kokko	0.56	0.64	39.94		3,993.9	2	2	2	2		3	2	3	Dark Brown	Albizia	lebbek	Hardwood	India
Laburnum	0.74	0.84	52.42		5,242.0			2				1	3	Dark Brown	Laburnum	anagyroides	Hardwood	Europe
Larch, Eastern	0.49	0.55	34.25	13.6	3,424.8	3	3	5	3	4	1	3	4	L. Red Brown	Larix	laricina	Softwood	N. America
Larch, European	0.33	0.69	43.06		4,305.9	2	3	4	2		2	2	4	L. Red Brown	Larix	decidua	Softwood	Europe
Larch, Siberian	0.61	0.69	43.06		4,305.9	2	3	4	2		2	2	4	L. Red Brown	Larix	sibirica	Softwood	Europe/Asia
Larch, Western	0.48	0.54	33.55	13.2	3,354.9	2	2	4	1	4	1	2	4	L. Red Brown	Larix	occidentalis	Softwood	N. America
Laurel, Indian	0.75	0.85	53.04		5,304.4	2	1	1	1		3	3	2	Brown	Terminalia	tomentosa	Hardwood	India
Lignumvitae	0.98	1.23	76.75		7,675.8	1	1	+1			3	3	1	Green Brown	Guziacum	sanctum	Hardwood	S. America
Lime	0.48	0.55	34.32		3,432.3	4	4	5	3	5	1	2	6	Yellow White	Tilia	vulgaris	Hardwood	Europe
Locust, Black	0.66	0.74	46.13	10.2	4,613.0	1	1	1	1	3	1	2	1	Dark Brown	Robinia	pseudoacacia	Hardwood	N. America
Louro, Red	0.55	0.62	38.69		3,869.1	2	2	3	3		2	2	2	Red Brown	Ocotea	rubra	Hardwood	S. America
Luan, Bagtikan	0.48	0.54	33.55		3,354.9	2	2	2	2		1	1	4	L. Yel. Brown	Parashorea	plicata	Hardwood	S. E. Asia
Luan, Dark Red	0.44	0.49	30.75		3,075.3	3	2	4	2		1	1	4	Red Brown	Shorea	negrosensis	Hardwood	S. E. Asia
Luan, Light Red	0.41	0.46	28.65	11.7	2,865.6	3	2	4	2		1	1	4	L. Red Brown	Shorea	almon	Hardwood	S. E. Asia
Luan, Mayapis	0.41	0.46	28.65		2,865.6	3	3	3	1		1	1	4	L. Red Brown	Shorea	squamata	Hardwood	S. E. Asia
Luan, Red, Tangue	0.46	0.52	32.15	13.3	3,215.1	2	2	4	1		1	1	4	Red Brown	Shorea	polysperma	Hardwood	S. E. Asia
Luan, White	0.43	0.48	30.05	10.3	3,005.4	3	2	4	2		1	1	4	Light Brown	Pentacme	contorta	Hardwood	S. E. Asia
Magnolia, Cucumber	0.44	0.49	30.75	13.6	3,075.3	3	3	4	1	4	1	2	6	L. Green Brown	Magnolia	acuminata	Hardwood	N. America
Magnolia, Southern	0.46	0.52	32.15	12.3	3,215.1	3	4	3	3	2	1	2	6	L. Green Brown	Magnolia	grandiflora	Hardwood	N. America
Mahogany	0.45	0.50	31.45	7.9	3,145.2	2	1	3	3	3	1	1	2	Red Brown	Swietenia	macrophylla	Hardwood	S. America
Mahogany, African	0.47	0.53	33.07	9.2	3,307.5	4	3	3	2	4	1	1	3	Red Brown	Khaya	spp.	Hardwood	Africa

Table 2. (continued)

Properties of the World's Woods

Common Name	Specific Gravity		Pounds per Cubic Foot	% Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1-3	1-4	1-6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Searsoned				Bend-String	Com-pression	Hard-ness	Stiff-ness	Shock Resis-tance	Dry-ing Ease	Mach-inabi-lity	Dura-bility		Genus	Species		
Makore	0.56	0.64	39.94	12.4	3,993.9	3	2	2	2	3	2	4	2	Red Brown	Tieghemella	heckelii	Hardwood	West Africa
Maple, Bigleaf	0.44	0.49	30.75	11.6	3,075.3	3	3	3	3	5	2	2	6	Light Brown	Acer	macrophyllum	Hardwood	N. America
Maple, Black	0.52	0.58	36.34	14.0	3,634.5	2	3	2	2	3	2	1	6	Light Brown	Acer	nigrum	Hardwood	N. America
Maple, Japanese	0.58	0.66	41.18		4,118.7	3	2	2	2	3	2	2	6	Light Brown	Acer	spp.	Hardwood	N. E. Asia
Maple, Queensland	0.48	0.55	34.32		3,432.3	4	2	3	3	3	2	2	6	Brown	Flindersia	brayleyana	Hardwood	N. Australia
Maple, Red	0.49	0.55	34.25	13.1	3,424.8	3	3	3	2	4	2	2	6	Light Brown	Acer	rubrum	Hardwood	N. America
Maple, Silver	0.44	0.49	30.75	12.0	3,075.3	5	4	3	4	4	2	2	6	Light Brown	Acer	saccharinum	Hardwood	N. America
Maple, Sugar	0.56	0.63	39.14	14.9	3,914.0	2	2	2	1	3	2	1	6	Light Brown	Acer	saccharum	Hardwood	N. America
Masonry	0.53	0.60	37.44		3,744.3	3	2	2			1	1	2	Dark Brown	Masonry	altissima	Hardwood	West Africa
Mengkulang	0.60	0.68	42.43		4,243.5		2	2	3		2	4	6	Red Brown	Heritiera	spp.	Hardwood	S. E. Asia
Meranti, Dark Red	0.59	0.67	41.81		4,181.1	2	2	3	2		2	1	4	Red Brown	Shorea	panciflora	Hardwood	S. E. Asia
Meranti, Red	0.43	0.48	30.05		3,003.4	2	2	4	1		1	1	4	L. Red Brown	Shorea	daphylle	Hardwood	S. E. Asia
Meranti, Yellow	0.55	0.62	38.44		3,844.1	2	2	3	2		1	1	4	Yellow Brown	Shorea	spp.	Hardwood	S. E. Asia
Merbau	0.70	0.80	49.92		4,992.4	3	2	3	2	3	1	3	1	Red Brown	Intsia	spp.	Hardwood	S. Asia/W. Pacific
Mersawa	0.56	0.63	39.14		3,914.0	2	2	4	1		1	4	4	L. Yel. Brown	Anisoptera	spp.	Hardwood	S. E. Asia
Mora	0.91	1.03	54.27		6,427.7	2	1	1	1		3	3	3	Red Brown	Mora	excelsa	Hardwood	S. America
Muhimbji	0.79	0.90	56.16		5,010.4	3	2	2			2	3	4	Red Brown	Cynometra	alexandri	Hardwood	East Africa
Mimingga	0.56	0.64	39.94		3,993.9	4	2	3	2		3	1	3	Yellow Brown	Pterocarpus	angolensis	Hardwood	South Africa
Niangon	0.56	0.64	39.94		3,993.9	2	1	2	3		1	2	3	Light Brown	Tarrietia	utilis	Hardwood	West Africa
Oak, Black	0.56	0.63	39.14	15.1	3,914.0	2	3	2	3	3	3	1	5	Light Brown	Quercus	velutina	Hardwood	N. America
Oak, Bur	0.58	0.65	40.54	12.7	4,053.8	3	3	2	4	3	3	1	2	Light Brown	Quercus	macrocarpa	Hardwood	N. America
Oak, Cherrybark	0.61	0.68	42.63	16.1	4,263.5	2	1	1	1	2	3	1	5	Light Brown	Quercus	talcatia v. pago	Hardwood	N. America
Oak, Chestnut	0.57	0.64	39.84	16.4	3,983.9	2	2	3	2	3	3	1	2	Light Brown	Quercus	prunus	Hardwood	N. America
Oak, Durmast	0.59	0.67	41.81		4,181.1	2	2	3	3	3	3	1	2	Light Brown	Quercus	petraea	Hardwood	Europe
Oak, English	0.63	0.72	44.93		4,493.2	2	2	2	3	3	3	1	4	Light Brown	Quercus	robur	Hardwood	Europe/Asia
Oak, Japanese	0.58	0.65	40.54		4,053.8	3	3	3	3	4	3	1	5	Light Brown	Quercus	mongolica	Hardwood	N. E. Asia
Oak, Laurel	0.56	0.63	39.14	19.0	3,914.0	2	3	2	2	3	3	1	5	Light Brown	Quercus	laurifolia	Hardwood	N. America
Oak, Live	0.81	0.91	56.61	14.7	5,661.4	1	1	1	1	2	3	3	2	Light Brown	Quercus	virginiana	Hardwood	N. America
Oak, Northern Red	0.56	0.63	39.14	13.7	3,914.0	2	3	2	2	3	3	1	5	Light Brown	Quercus	rubra	Hardwood	N. America
Oak, Overcup	0.57	0.64	39.84	16.0	3,983.9	2	3	2	3	3	3	1	2	Light Brown	Quercus	hyata	Hardwood	N. America
Oak, Persian	0.59	0.66	41.23		4,123.7	2	2	2	3		3	1		Light Brown	Quercus	castaneafolia	Hardwood	W. Asia
Oak, Pin	0.58	0.65	40.54	14.5	4,053.8	2	2	2	2	3	3	1	5	Light Brown	Quercus	palustris	Hardwood	N. America
Oak, Post	0.60	0.67	41.93	16.2	4,193.6	2	3	2	3	3	3	1	2	Light Brown	Quercus	stellata	Hardwood	N. America
Oak, Red Average	0.57	0.64	39.84	14.7	3,983.9	2	3	2	2	3	3	1	5	Light Brown	Quercus	spp.	Hardwood	N. America
Oak, Scarlet	0.60	0.67	41.93	14.7	4,193.6	2	2	1	2	3	3	1	5	Light Brown	Quercus	coccinea	Hardwood	N. America

Common Name	Specific Gravity		Pounds per Cubic Foot	% Volume Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1-3	1-4	1-6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Seasoned				Bend-String	Com-pression	Hard-ness	Stiff-ness	Shock Resistance					Genus	Species		
	Green Vol.	Seasoned																
Oak, Silky	0.47	0.53	33.07		3,307.5	2	3				1	1	5	Red Brown	Cardwellia	sublimis	Hardwood	N. Australia
Oak, Southern Red	0.52	0.58	36.34	16.1	3,634.5	3	3	3	3	4	3	1	5	Light Brown	Quercus	falcata	Hardwood	N. America
Oak, Swamp Chestnut	0.60	0.67	41.93	16.4	4,193.6	2	3	2	2	3	3	1	3	Light Brown	Quercus	michauxii	Hardwood	N. America
Oak, Swamp White	0.64	0.72	44.73	15.9	4,473.2	2	2	2	1	2	3	1	2	Light Brown	Quercus	bicolor	Hardwood	N. America
Oak, Tasmanian	0.56	0.64	39.94		3,993.9	2	2	2	2	2	2	1	6	Light Brown	Eucalyptus	regnans	Hardwood	E. Australia
Oak, Water	0.56	0.63	39.14	16.1	3,914.0	2	2	2	1	3	3	1	5	Light Brown	Quercus	nigra	Hardwood	N. America
Oak, White	0.59	0.66	41.23	15.9	4,123.7	2	2	2	3	3	3	1	2	Light Brown	Quercus	alba	Hardwood	N. America
Oak, Willow	0.56	0.63	39.14	18.9	3,914.0	3	3	2	3	3	3	1	5	Light Brown	Quercus	phellos	Hardwood	N. America
Obere	0.33	0.38	23.71		2,371.4	5	4	4	5		1	2	6	Straw	Triplochiton	scleroxylon	Hardwood	West Africa
Ogea	0.44	0.50	31.20		3,120.2	5	3	3	3		1	1	6	L. Red Brown	Daniellia	ogeae	Hardwood	West Africa
Okoume	0.80	0.91	56.78		5,678.9	3		1	3	4	1	2	2	Yellow Brown	Brachylaena	hutchinsii	Hardwood	East Africa
Olive, East African	0.77	0.88	54.91		5,491.6	3	2	1	1	3	3	3	4	Bm/Grey Stn.	Olea	hochstetteri	Hardwood	East Africa
Opepe	0.65	0.74	46.18		4,618.0	4	1	1	2	4	3	1	2	Yellow Brown	Nauclea	diderrichii	Hardwood	West Africa
Osage-Orange	0.76	0.85	53.11	9.2	5,311.9	1	1	1	1	1	1	2	1	Yellow Brown	Maclura	pomifera	Hardwood	N. America
Padauk, African	0.61	0.69	43.06	8.2	4,305.9			1			1	1	2	Red Brown	Pterocarpus	soyauxii	Hardwood	West Africa
Padauk, Andaman	0.69	0.78	48.67	7.8	4,867.6	1	1	1	2	2	1	3	2	Red Brown	Pterocarpus	dalbergioides	Hardwood	Andaman Is.
Padauk, Burma	0.75	0.85	53.04		5,304.4	1	1	+1	1	1	1	3	1	Red Brown	Pterocarpus	macrocarpus	Hardwood	S. E. Asia
Parana Pine	0.46	0.55	34.32		3,432.3	3	2	4	2		2	1	6	Light Brown	Araucaria	angustifolia	Softwood	S. America
Pear, European	0.63	0.72	44.93		4,493.2	2	3	3	3	3	3	2	6	Light Brown	Pyrus	communis	Hardwood	Europe
Peroba, White	0.66	0.75	46.80		4,680.4	2	2	1	1	3	1	2	2	Yellow Brown	Paratecoma	peroba	Hardwood	S. America
Peroba Rosa	0.66	0.75	46.80		4,680.4	2	2	1	3	3	2	1	3	Brown	Aspidosperma	peroba	Hardwood	S. America
Persimmon	0.64	0.72	44.73	19.1	4,473.2	2	2	1	2	3	1	2	6	Grey/Bm Stn.	Diospyros	virginiana	Hardwood	N. America
Pine, Black New Zealand	0.54	0.61	38.06		3,806.7	4	4	4			1	2	4	Yellow Brown	Podocarpus	spicatus	Softwood	New Zealand
Pine, Caribbean	0.68	0.76	47.52		4,752.8	2	1	3	1				5	L. Yel. Brown	Pinus	caribaea	Softwood	C. American
Pine, Cypress	0.59	0.67	41.81		4,181.1	4	3	4	2	5	1	1	2	Yellow Brown	Callitris	glauca	Softwood	E. Australia
Pine, Eastern White	0.34	0.38	23.76	8.2	2,376.4	5	4	5	4	5	2	1	4	White	Pinus	strobos	Softwood	N. America
Pine, Hoop	0.48	0.55	34.32		3,432.3	4	3	4	2	5	1	1	6	L. Yel. Brown	Araucaria	cunninghamii	Softwood	E. Australia
Pine, Jack	0.40	0.45	27.96	10.4	2,795.7	4	4	4	3	4	1	2	5	L. Red Brown	Pinus	banksiana	Softwood	N. America
Pine, Loblolly	0.47	0.53	32.85	12.3	3,285.0	3	3	4	2	4	1	2	5	L. Yel. Brown	Pinus	taeda	Softwood	N. America
Pine, Lodgepole	0.38	0.43	26.56	11.1	2,656.0	5	4	5	3	4	1	2	5	L. Red Brown	Pinus	contorta	Softwood	N. America
Pine, Longleaf	0.54	0.60	37.74	12.2	3,774.3	2	2	3	1	3	1	2	4	L. Yel. Brown	Pinus	palustris	Softwood	N. America
Pine, Monterey	0.42	0.48	29.95		2,995.4	4	3	4			1	2	6	White	Pinus	radiata	Softwood	New Zealand
Pine, Ocote	0.55	0.62	38.44		3,844.1	2	2	4	1				5	L. Yel. Brown	Pinus	oocarpa	Softwood	C. American
Pine, Pitch	0.47	0.53	32.85	10.9	3,285.0	4	4		3	5	1	2	5	L. Yel. Brown	Pinus	rigida	Softwood	N. America
Pine, Pond	0.51	0.57	35.64	11.2	3,564.6	3	2		3	5	1	2	5	L. Yel. Brown	Pinus	serotina	Softwood	N. America
Pine, Ponderosa	0.38	0.43	26.56	9.6	2,656.0	5	4	5	4	5	1	2	5	L. Red Brown	Pinus	ponderosa	Softwood	N. America

Table 2. (continued)

Properties of the World's Woods

Common Name	Specific Gravity		Pounds per Cubic Foot	% Volume Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1-3	1-4	1-6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Sanded				Bending Strng	Com-pression	Hard-ness	Stiff-ness	Shock Resis-tance					Genus	Species		
Pine, Red	0.41	0.46	28.65	11.5	2,865.6	5	4	5	3	4	1	2	5	L. Red Brown	Pinus resinosa	Softwood	N. America	
Pine, Sand	0.46	0.52	32.15	12.3	3,215.1	3	3	3	3	4	1	2	5	L. Yel. Brown	Pinus clausa	Softwood	N. America	
Pine, Scotch	0.42	0.48	29.95		2,995.4	4	3	4	3	4	1	2	5	L. Red Brown	Pinus sylvestris	Softwood	Europe	
Pine, Shortleaf	0.46	0.52	32.15	12.3	3,215.1	3	3	4	2	4	1	2	5	L. Yel. Brown	Pinus echinata	Softwood	N. America	
Pine, Slash	0.56	0.63	39.14	12.2	3,914.0	2	2	3	1	3	1	2	4	L. Yel. Brown	Pinus elliottii	Softwood	N. America	
Pine, Spruce	0.41	0.46	28.65	12.3	2,865.6	4	4	4	3		1	2	5	L. Yel. Brown	Pinus glabra	Softwood	N. America	
Pine, Sugar	0.35	0.39	24.46	7.9	2,446.3	5	4	5	4	5	1	1	5	White	Pinus lambertiana	Softwood	N. America	
Pine, Virginia	0.45	0.50	31.45	11.9	3,145.2	3	3	4	3	4	1	2	5	L. Yel. Brown	Pinus virginiana	Softwood	N. America	
Pine, Western White	0.36	0.40	25.16	11.8	2,516.2	5	4	5	3	5	1	1	5	White	Pinus monticola	Softwood	N. America	
Pine, White New Zealand	0.40	0.45	28.08		2,808.2	4	4	4			1	1	6	White	Podocarpus dactyloides	Softwood	New Zealand	
Plane-tree	0.56	0.64	39.94		3,993.9	4	4	4	3	4		2	6	Light Brown	Platanus orientalis	Hardwood	Europe/Asia	
Podo	0.45	0.51	31.82		3,182.7	4	3	3	3	4	1	1	6	L. Yel. Brown	Podocarpus spp.	Softwood	East Africa	
Poplar, European	0.40	0.45	28.08		2,808.2	5	4	5	3	5	1	3	6	White	Populus tremula	Hardwood	Europe	
Purpleheart	0.77	0.88	54.91		5,491.6	1	1	+1	2	2	1	3	1	Purple	Peltogyne spp.	Hardwood	S. America	
Ramin	0.59	0.66	41.23		4,123.7	2	1	3	1		1	2	6	White	Gomystylus bancanus	Hardwood	S. E. Asia	
Rauli	0.48	0.55	34.32		3,432.3	2	4	3			1	1	4	L. Red Brown	Nothofagus procera	Hardwood	S. America	
Redcedar, Eastern	0.44	0.49	30.75	7.8	3,075.3	3	3	3	5	3	1	1	2	Red	Juniperus virginiana	Softwood	N. America	
Redcedar, Western	0.31	0.35	21.67	6.8	2,166.7	5	4	5	4	5	2	2	2	Pink Brown	Thuja plicata	Softwood	N. America	
Redwood, Old Growth	0.38	0.43	26.56	6.8	2,656.0	3	2	4	3	5	2	2	2	Red	Sequoia sempervirens	Softwood	N. America	
Redwood, Young Growth	0.30	0.34	20.97	7.0	2,096.8	5	3	5	4	5	2	2	2	Red	Sequoia sempervirens	Softwood	N. America	
Rimu	0.53	0.60	37.44		3,744.3	4	5	4			1	2	6	Yellow Brown	Dacrydium cupressinum	Softwood	New Zealand	
Rosewood	0.75	0.84	52.42		5,242.0	2	1	1	3		1	3	2	D. Purp. Brown	Dalbergia latifolia	Hardwood	India	
Rosewood, Brazilian	0.76	0.86	53.66		5,366.8		1	1	1	1	2	2	2	Dark Brown	Dalbergia nigra	Hardwood	S. America	
Sal	0.74	0.84	52.42		5,242.0	1	1	+1	1		3	3	1	Red Brown	Shorea robusta	Hardwood	India	
Sapele	0.56	0.64	39.94	13.8	3,993.9	3	2	2	2	3	3	2	4	Red Brown	Entandrophragma cylindricum	Hardwood	Africa	
Sassafras	0.42	0.47	29.35	10.3	2,935.5	4	4	4	4	3	1	2	2	Light Brown	Sassafras albidum	Hardwood	N. America	
Satinwood, East Indian	0.86	0.98	61.15	14.7	6,115.7	1	1	+1	1	2	2	3	1	Golden Brown	Chloroxylon swietenia	Hardwood	India	
Satinwood, Scented	0.55	0.63	39.31		3,931.5	2	3	3	2		1	1	6	L. Pink Brown	Ceratopetalum apetalum	Hardwood	E. Australia	
Sen	0.49	0.56	34.94		3,494.7	4	4	4	3	4	1	2	6	Light Brown	Kalopanax pictus	Hardwood	N. E. Asia	
Shiuahuahusco	1.00		65.00								2	3	2	Golden Brown	Dipteryx spp.	Hardwood	S. America	
Sourwood	0.50	0.56	34.94	15.2	3,494.7	3	3	3	2	3	1	2	6	Light Brown	Oxydendrum arboreum	Hardwood	N. America	
Spanish Cedar	0.34	0.38	23.76		2,376.4	5	4	3	4		2	1	2	Red Brown	Cedrela odorata	Hardwood	C. America	
Spruce, Black	0.38	0.43	26.56	11.3	2,656.0	5	4	5	3	5	1	2	6	White	Picea mariana	Softwood	N. America	
Spruce, Englemann	0.33	0.37	23.06	11.0	2,306.5	5	4	5	3	5	1	2	6	White	Picea engelmannii	Softwood	N. America	
Spruce, Norway	0.37	0.42	26.21		2,621.0	5	4	5	3	5	1	1	6	White	Picea abies	Softwood	Europe	
Spruce, Red	0.36	0.40	25.16	12.9	2,516.2	5	4	5	3	5	1	2	6	White	Picea rubens	Softwood	N. America	

Common Name	Specific Gravity		Pounds per Cubic Foot	% Volume Shrinkage	Weight (tons) of 1 MBF at MC 20.00	1=Good to 5=Poor					1 + 3	1 + 4	1 + 6	Primary Color	Scientific Name		Type	Origin
	Green Vol.	Searsoned				Bend-ing Stren-	Com-pression	Hard-ness	Stiff-ness	Shock Resis-tance					Genus	Species		
	Green Vol.	Searsoned	Foot	Shrink-age	MC 20.00	String												
Spruce, Sitka	0.37	0.41	25.86	11.5	2,586.1	5	4	5	3	5	1	2	6	White	Pices	sitchensis	Softwood	N. America
Spruce, White	0.37	0.41	25.86	11.5	2,586.1	5	4	5	3	5	1	2	6	White	Pices	glauca	Softwood	N. America
Sugi	0.35	0.40	24.96		2,496.2	5	4	5			1	1	3	L. Red Brown	Cryptomeria	japonica	Softwood	N. E. Asia
Sweetgum	0.46	0.52	32.15	15.0	3,215.1	3	3	4	3	3	1	2	5	Red Brown	Liquidambar	styraciflua	Hardwood	N. America
Sycamore	0.40	0.45	27.96	14.2	2,795.7	4	4	4	3	4	2	3	6	Light Brown	Platanus	occidentalis	Hardwood	N. America
Sycamore, European	0.54	0.61	38.06		3,806.7	3	3	3	2	4	2	2	6	Light Brown	Acer	pseudoplatanus	Hardwood	Europe
Tacho	0.73		55.00								1	2	3	Dark Brown	Terminalia	spp.	Hardwood	S. America
Tallowwood	0.86	0.98	61.15		6,115.7	2	1	1	1		3	2	1	Yellow Brown	Eucalyptus	microcorys	Hardwood	E. Australia
Tanoak	0.58	0.65	40.54	17.3	4,053.8	2	1		1					Brown	Lithocarpus	densiflorus	Hardwood	N. America
Teak	0.57	0.64	39.84	16.2	3,983.9	2	2	2	1	3	2	2	2	Gold Brown	Tectona	grandis	Hardwood	India
Tenk, Rhodesian	0.79	0.90	56.16		5,616.4	4		1			1	3	1	Red Brown	Baikiaea	plurijuga	Hardwood	South Africa
Tigerwood	0.45	0.55	34.32	13.8	3,432.3	3	2	3	2	4	1	1	3	Yellow Brown	Loyoa	trichilioides	Hardwood	West Africa
Tornillo	0.41	0.60	32.00								1	1	3	Golden Brown	Cedrelinga	catenaeformis	Hardwood	S. America
Tupelo, Black	0.46	0.52	32.15	14.4	3,215.1	3	3	3	4	4	1	3	6	Light brown	Nyssa	sylvatica	Hardwood	N. America
Tupelo, Water	0.46	0.52	32.15	12.5	3,215.1	3	3	3	3	4	1	3	6	Light brown	Nyssa	aquatica	Hardwood	N. America
Turpentine	0.84	0.95	59.28		5,928.5	2	1	2	1		3	2	1	Red Brown	Synapria	glomerifera	Hardwood	E. Australia
Utile	0.58	0.66	41.18		4,118.7		2	2	3	3	2	3	4	Red Brown	Entandrophragma	utile	Hardwood	Africa
Walnut, Black	0.51	0.57	35.64	12.8	3,564.6	2	2	3	2	3	2	1	2	Dark Brown	Juglans	nigra	Hardwood	N. America
Walnut, Brazilian	0.56	0.64	39.94		3,993.9						1	1	4	Dark Brown	Phoebe	porosa	Hardwood	S. America
Walnut, European	0.56	0.64	39.94		3,993.9	2	2	3	2				2	Dark Brown	Juglans	regia	Hardwood	Europe/Asia
Walnut, Japanese	0.38	0.43	26.56		2,656.0	4	4	5	4	5		2	6	Brown	Juglans	sieboldiana	Hardwood	N. E. Asia
Walnut, Pacific	0.65	0.74	46.18		4,618.0	3	2	3	2		1	1	4	Dark Brown	Dracontomelum	spp.	Hardwood	S. Asia/W. Pacific
Walnut, Queensland	0.59	0.67	41.81		4,181.1	2	1	2	2		2	4	6	Dark Brown	Endiandra	palmerstonii	Hardwood	N. Australia
Wenge	0.70	0.80	49.92		4,992.4	1	1	1		1	1	3	2	Dark Brown	Millettia	spp.	Hardwood	South Africa
Willow, Black	0.34	0.38	23.76	14.4	2,376.4	5	5	5	5	3	1	3	6	White	Salix	nigra	Hardwood	N. America
Willow, European	0.33	0.38	23.71		2,371.4	5	5	5	5	3	1	3	6	White	Salix	alba	Hardwood	Europe
Yellow Poplar	0.40	0.45	27.96	12.3	2,795.7	4	4	4	3	4	1	2	6	L. Green Brown	Liriodendron	tulipifera	Hardwood	N. America
Yew, English	0.59	0.67	41.81		4,181.1	2	1	2	4	3		2	2	Red Brown	Taxus	baccata	Softwood	Europe/Asia
Yew, Pacific	0.60	0.67	41.93	9.7	4,193.6	2	1	2	4	3	1	1	2	Red Brown	Taxus	brevifolia	Softwood	N. America
Zebrawood, African	0.62	0.77	48.05	15.6	4,805.2			2			3	1		L. Brn/Blk Stp.	Microberlinia	brazzavillensis	Hardwood	West Africa

Table 3.

Properties of Commonly

Common Name	Specific Gravity		Weight		Green MC %	Heat Value		BTUs in 1 lb of Mix at ODW by Wgt.	Shrinkage Pct.		Size Dim.		Volume in BF	Weight in lbs	Number in 1,000	Weight of MBF at 20% MC	
	Green	12%	lbs/ft³	Green	12%	Wood	Park		0% Bark	Based on Green Dimension	MC %	Width Tang	Rad.				
					%			30% MC	Vol	Tang	Rad.	Thickness	Length				
Alder, Red	0.37	0.41	46.2	28.7	100	8,000	8,410	4,522	12.6	7.3	4.4	5.68	0.97	3.66	7.6	273	2,309.0
Ash, Black	0.45	0.49	51.9	34.2	85	9,630	8,453	5,776	15.2	7.8	5.0	5.66	0.96	3.63	9.2	275	2,808.2
Ash, Blue	0.53	0.58	52.3	40.5	58	9,630	8,453	5,776	11.7	6.5	3.9	5.71	0.97	3.70	11.0	270	3,307.5
Ash, Green	0.53	0.56	52.3	39.1	58	9,630	8,453	5,776	12.3	7.1	4.6	5.69	0.97	3.66	10.9	273	3,307.5
Ash, Oregon	0.50	0.55	49.3	38.4	58	9,630	8,453	5,776	13.2	8.1	4.1	5.64	0.97	3.65	10.2	274	3,120.2
Ash, White	0.55	0.60	48.0	41.9	40	9,630	8,453	5,776	13.4	7.8	4.8	5.66	0.96	3.54	11.2	275	3,432.3
Aspen, Bightooth	0.36	0.39	44.3	27.3	97	8,000	8,712	4,522	11.8	7.9	3.3	5.65	0.98	3.68	7.4	272	2,246.6
Aspen, Quaking	0.35	0.38	43.0	26.6	97	8,000	8,712	4,522	11.5	6.7	3.5	5.71	0.97	3.71	7.3	270	2,184.2
Basswood, American	0.32	0.37	41.9	25.9	110	8,000		4,522	15.8	9.3	6.6	5.59	0.95	3.55	6.4	282	1,997.0
Basswood, White	0.32	0.37	40.9	25.9	105	8,000		4,522	15.8	9.3	6.6	5.59	0.95	3.55	6.4	282	1,997.0
Beech, American	0.56	0.64	54.2	44.7	55	8,600	7,993	4,983	16.3	11.0	5.1	5.52	0.96	3.54	11.1	283	3,494.7
Birch, Paper	0.48	0.55	52.4	38.4	75	9,340	9,300	5,552	16.2	8.6	6.3	5.62	0.95	3.57	9.6	280	2,995.4
Birch, Sweet	0.60	0.65	62.2	45.4	66	9,340	9,300	5,552	15.6	9.0	6.5	5.60	0.95	3.56	12.0	281	3,744.3
Birch, Yellow	0.55	0.62	57.0	43.3	66	9,340	9,300	5,552	16.7	9.2	7.2	5.60	0.95	3.53	10.9	283	3,432.3
Buckeye, Yellow	0.33	0.36	49.0	25.2	138	8,000		4,522	12.5	8.1	3.6	5.64	0.97	3.66	6.8	273	2,059.4
Butternut	0.36	0.38	46.1	26.6	105	8,000		4,522	10.6	6.4	3.4	5.72	0.98	3.72	7.5	269	2,246.6
Catalpa, Northern	0.38	0.41	41.0	28.7	73	8,000		4,522	7.3	4.9	2.5	5.78	0.98	3.79	8.1	264	2,371.4
Cherry, Black	0.47	0.50	45.2	34.9	54	8,600		4,983	11.5	7.1	3.7	5.69	0.97	3.69	9.7	271	2,933.0
Chestnut, American	0.40	0.43	54.9	30.1	120	8,600		4,983	11.6	6.7	3.4	5.71	0.98	3.71	8.3	270	2,496.2
Cottonwood, Balsam	0.31	0.34	48.4	23.8	150	8,800	8,422	5,137	10.5	7.1	3.0	5.69	0.98	3.71	6.5	270	1,934.6
Cottonwood, Black	0.31	0.35	48.4	24.5	150	8,800	8,422	5,137	12.4	8.6	3.6	5.62	0.97	3.65	6.4	274	1,934.6
Cottonwood, Eastern	0.37	0.40	49.2	28.0	113	8,800	8,422	5,137	14.1	9.2	3.9	5.60	0.97	3.62	7.5	276	2,309.0
Dogwood, Flowering	0.64	0.73	64.3	51.0	61	9,360		5,568	20.8	11.8	7.4	5.48	0.95	3.46	12.4	289	3,993.9
Elm, American	0.46	0.50	54.0	34.9	88	8,600	7,385	4,983	14.6	9.5	4.2	5.58	0.97	3.61	9.3	277	2,870.6
Elm, Rock	0.57	0.63	53.0	44.0	49	8,600		4,983	14.1	8.1	4.8	5.64	0.96	3.63	11.6	275	3,557.1
Elm, Slippery	0.48	0.53	56.0	37.0	87	8,600	7,600	4,983	13.8	8.9	4.9	5.61	0.96	3.60	9.7	277	2,995.4
Hackberry	0.49	0.53	50.1	37.0	64	8,600		4,983	16.9	8.9	4.8	5.61	0.96	3.61	9.9	277	3,057.8
Hickory, Bitternut	0.60	0.66	62.5	46.1	67	9,360	8,423	5,568	13.6	8.9	4.9	5.61	0.96	3.60	12.1	277	3,744.3
Hickory, Mockernut	0.64	0.72	64.3	50.3	61	9,360	8,423	5,568	17.8	11.0	7.7	5.52	0.94	3.47	12.5	288	3,993.9
Hickory, Nutmeg	0.56	0.60	58.4	41.9	67	9,360	8,423	5,568	13.6	8.9	4.9	5.61	0.96	3.60	11.3	277	3,494.7
Hickory, Pecan	0.60	0.66	62.5	46.1	67	9,360	8,423	5,568	13.6	8.9	4.9	5.61	0.96	3.60	12.1	277	3,744.3
Hickory, Pignut	0.66	0.75	65.9	52.4	60	9,360	8,423	5,568	17.9	11.5	7.2	5.49	0.95	3.47	12.9	288	4,118.7
Hickory, Shagbark	0.64	0.72	63.9	50.3	60	9,360	8,423	5,568	16.7	10.0	7.0	5.56	0.95	3.52	12.6	284	3,993.9
Hickory, Shellbark	0.62	0.69	61.9	48.2	60	9,360	8,423	5,568	19.2	12.6	7.6	5.45	0.94	3.43	11.9	292	3,869.1
Hickory, Water	0.61	0.62	66.6	43.3	75	9,360	8,423	5,568	13.6	8.9	4.9	5.61	0.96	3.60	12.3	277	3,806.7
Holly, American	0.50	0.57	57.1	39.8	83	8,600		4,983	16.9	9.9	4.8	5.56	0.96	3.58	10.1	279	3,120.2
Honeylocust	0.60	0.67	61.0	46.8	63	9,000		5,291	10.8	6.6	4.2	5.71	0.97	3.69	12.4	271	3,744.3
Hornbeam, American	0.58	0.70	52.8	48.9	46	8,800		5,137	19.1	11.4	5.7	5.50	0.96	3.51	11.4	285	3,619.5
Ironwood	0.63	0.70	60.1	48.9	53	9,300		5,522	19.4	10.0	8.5	5.56	0.94	3.48	12.3	288	3,931.5

Used Woods

Strength And Physical Characteristics												Finish Rating	Scientific Name		Species Class
Bending Strength	Compression	Hardness	Stiffness	Shock Resistance	Splitting	Screw Holding	Drying Ease	Machinability	Durability	Gluing Ease	Genus	Species			
4	2	4	3	5	4	4	1	1	6	2	Alnus	rubra	3/0	Hardwood	
4	4	4	3	3	3	3	1	1	6	3	Fraxinus	nigra	5/3	Hardwood	
2	2	3	2	3			1	1	6	3	Fraxinus	quadrangulata	5/3	Hardwood	
2	2	3	2	3			1	1	6	3	Fraxinus	pennsylvanica	5/3	Hardwood	
3	3	3	3	3			1	1	6	3	Fraxinus	latifolia	5/3	Hardwood	
2	2	2	2	3	2	2	1	1	6	3	Fraxinus	americana	5/3	Hardwood	
5	4	3					1	1	6	1	Populus	grandidentata	3/0	Hardwood	
4	5	5	4	5	5	4	1	1	6	1	Populus	tremuloides	3/0	Hardwood	
4	4	5	3	5	4	4	1	2	6	2	Tilia	americana	3/0	Hardwood	
4	4	5	3	5	4	4	1	2	6	2	Tilia	heterophylla	3/0	Hardwood	
2	3	3	2	3	2	2	3	1	6	4	Fagus	grandifolia	4/0	Hardwood	
4	4	4	3	3	4	2	1	1	6	2	Betula	papyrifera	4/0	Hardwood	
2	2	2	1	3			1	2	6	4	Betula	lenta	4/0	Hardwood	
2	3	3	1	3	3	2	1	2	6	4	Betula	alleghaniensis	4/0	Hardwood	
5	5	5	4	5	4	5	1	2	5	2	Aesculus	octandra	3/0	Hardwood	
4	4	4	4	5	4	4	1	2	6	2	Juglans	cinerrea	5/3	Hardwood	
4	4	4	4	3	4	4	1	2	2	3	Catalpa	speciosa	3/0	Hardwood	
3	3	3	2	4	3	3	1	2	2	3	Prunus	serotina	5/3	Hardwood	
4	4	4	4	4	4	3	1	1	2	1	Castanea	dentata	5/3	Hardwood	
5	5	5	3	5			2	3	6	1	Populus	balsamifera	3/0	Hardwood	
5	4	5	2	5			2	3	6	1	Populus	trichocarpa	3/0	Hardwood	
5	4	5	3	5	4	4	2	3	6	1	Populus	deltoides	3/0	Hardwood	
2	2	1	3	2	3	1	1	2	6	3	Cornus	floridana	4/0	Hardwood	
3	4	4	3	3	2	2	1	3	6	2	Ulmus	americana	5/4	Hardwood	
2	2	2	3	2	2	2	1	3	6	2	Ulmus	thomasii	5/4	Hardwood	
3	3	3	3	2	2	2	1	3	6	2	Ulmus	rubra	5/4	Hardwood	
4	4	3	4	3	2	2	1	1	6	2	Celtis	occidentalis	5/4	Hardwood	
2	1	2	2				1	1	6	4	Carya	cordiformis	5/4	Hardwood	
1	1	1	1				1	1	6	4	Carya	tomentosa	5/4	Hardwood	
2	2	3	2				1	1	6	4	Carya	myristiciformis	5/4	Hardwood	
2	2	1	2	2			1	1	6	3	Carya	illinoensis	5/4	Hardwood	
1	1	1	1				1	1	6	4	Carya	glabra	5/4	Hardwood	
1	1	1	1	1	2	2	1	1	6	4	Carya	ovata	5/4	Hardwood	
2	2	2	2	1			1	1	6	4	Carya	laciniosa	5/4	Hardwood	
1	1	1	1	2			1	1	6	4	Carya	aquatica	5/4	Hardwood	
4	4	3	4	2	2	2	2	1	6	3	Ilex	opaca	4/0	Hardwood	
2	2	1	3	3	1	2	2	2	3	3	Gleditsia	tricanthos	4/0	Hardwood	
4	4	2	4	1	3	1	1	2	6	4	Carpinus	caroliniana	4/0	Hardwood	
2	3	2	3	1	3	1	1	2	6	4	Ostrya	virginiana	4/0	Hardwood	

Species with two finish ratings have the first rating for unfilled and the second for filled material.

Table 3. (continued)**Properties of Commonly**

Common Name	Specific Gravity		Weight		Green MC	Heat Value BTUs/pound at ODW	BTUs in 1 Lbs of Mix 0% Bark by Wgt.	Shrinkage Factor Based on Green Dimension			Size Dim.		Volume in BF	Weight in lbs.	Number in 1,000 MBR at 20% MC	Weight of MBF at 20% MC	
	Green	12%	Green	12%				Wood	Bark	30% MC	Vol	Tang	Rad	MC %	8.00	Thickness	
		Green	12%	Green	12%									Width	Length		
Locust, Black	0.66	0.69	58.1	48.2	41	9,360	5,568	10.2	7.2	4.6	5.68	0.97	3.66	13.6	273	4,118.7	
Magnolia, Cucumber	0.44	0.48	56.6	33.5	106	8,600	4,983	13.6	8.8	5.2	5.61	0.96	3.60	8.9	278	2,745.8	
Magnolia, Southern	0.46	0.50	59.1	34.9	106	8,600	4,983	12.3	6.6	5.4	5.71	0.96	3.66	9.4	274	2,870.6	
Maple, Bigleaf	0.44	0.48	45.0	33.5	64	8,400	8,293	4,829	11.6	7.1	3.7	5.69	0.97	3.69	9.1	271	2,745.8
Maple, Black	0.52	0.57	51.9	39.8	60	8,400	8,230	4,829	14.0	9.3	4.8	5.59	0.96	3.60	10.5	278	3,245.1
Maple, Red	0.49	0.54	50.1	37.7	64	8,400	8,293	4,829	13.1	8.2	4.0	5.64	0.97	3.65	10.0	274	3,037.8
Maple, Silver	0.44	0.47	48.9	32.8	78	8,400	8,293	4,829	12.0	7.2	3.0	5.68	0.98	3.71	9.2	270	2,745.8
Maple, Sugar	0.56	0.63	55.9	44.0	60	8,400	8,230	4,829	14.9	9.5	4.9	5.58	0.96	3.59	11.3	279	3,494.7
Oak, Black	0.56	0.61	60.5	42.6	73	9,360	8,896	5,568	15.1	11.1	4.4	5.51	0.97	3.56	11.2	281	3,494.7
Oak, Bur	0.58	0.64	62.6	44.7	73	9,510	7,450	5,683	12.7	8.8	4.4	5.61	0.97	3.62	11.3	276	3,619.5
Oak, Cherrybark	0.51	0.68	67.3	47.5	78	9,360	8,896	5,568	16.1	11.3	4.7	5.50	0.97	3.54	12.1	282	3,806.7
Oak, Chestnut	0.57	0.66	61.5	46.1	73	9,510	7,450	5,683	16.4	10.8	5.3	5.52	0.96	3.54	11.3	282	3,557.1
Oak, Laurel	0.56	0.63	60.5	44.0	73	9,360	8,896	5,568	19.0	9.9	4.0	5.56	0.97	3.60	11.3	278	3,494.7
Oak, Live	0.81	0.89	75.8	62.2	50	10,000		6,060	14.7	9.5	6.6	5.58	0.95	3.54	16.1	282	5,054.8
Oak, Northern Red	0.56	0.63	60.5	44.0	73	9,360	8,896	5,568	13.7	8.6	4.0	5.62	0.97	3.64	11.4	275	3,494.7
Oak, Overcup	0.57	0.63	61.5	44.0	73	9,510	7,450	5,683	16.0	12.7	5.3	5.44	0.96	3.49	11.2	287	3,557.1
Oak, Pin	0.58	0.63	62.6	44.0	73	9,360	8,896	5,568	14.5	9.5	4.3	5.58	0.97	3.60	11.7	277	3,619.5
Oak, Post	0.60	0.67	64.8	46.8	73	9,510	7,450	5,683	16.2	9.8	5.4	5.57	0.96	3.57	12.0	280	3,744.3
Oak, Red Average	0.57	0.62	63.3	43.3	78	9,360	8,896	5,568	14.7	8.9	4.2	5.61	0.97	3.62	11.6	276	3,557.1
Oak, Scarlet	0.60	0.67	64.8	46.8	73	9,360	8,896	5,568	14.7	10.8	4.4	5.52	0.97	3.56	12.0	281	3,744.3
Oak, Southern Red	0.52	0.59	57.8	41.2	78	9,360	8,896	5,568	16.1	11.3	4.7	5.50	0.97	3.54	10.3	282	3,245.1
Oak, Swamp Chestnut	0.60	0.67	64.8	46.8	73	9,510	7,450	5,683	16.4	10.8	5.2	5.52	0.96	3.54	11.9	282	3,744.3
Oak, Swamp White	0.64	0.72	69.1	50.3	73	9,510	7,450	5,683	15.9	9.2	5.3	5.60	0.96	3.59	12.9	279	3,993.9
Oak, Water	0.56	0.63	63.2	44.0	81	9,360	8,896	5,568	16.1	9.8	4.4	5.57	0.97	3.59	11.3	278	3,494.7
Oak, White	0.59	0.67	63.7	46.8	73	9,510	7,450	5,683	15.9	9.2	5.3	5.60	0.96	3.59	11.9	279	3,681.9
Oak, Willow	0.56	0.69	61.9	48.2	77	9,360	8,896	5,568	18.9	9.6	5.0	5.58	0.96	3.58	11.3	279	3,494.7
Osage-orange	0.76	0.80	62.1	55.9	31	9,800		5,906	9.2			6.00	1.00	4.00	17.1	250	4,742.8
Persimmon	0.64	0.74	63.1	51.7	58	9,400		5,599	19.1	11.2	7.9	5.51	0.94	3.46	12.4	289	3,993.9
Sassafras	0.42	0.45	44.0	31.4	68	8,600		4,983	10.3	6.2	4.0	5.73	0.97	3.71	8.7	270	2,621.0
Sourwood	0.50	0.55	53.0	38.4	70	8,600		4,983	15.2	8.9	6.3	5.61	0.95	3.57	10.0	280	3,120.2
Sweetgum	0.46	0.51	55.1	35.6	92	8,600	7,650	4,983	15.0	9.9	5.2	5.56	0.96	3.57	9.2	280	2,870.6
Sycamore	0.40	0.49	51.9	34.2	108	8,600	7,877	4,983	14.2	7.6	5.1	5.67	0.96	3.64	8.2	275	2,496.2
Tanoak	0.58		61.5		70	8,000		4,522	17.3	11.7	4.9	5.49	0.96	3.53	11.5	284	3,619.5
Tupelo, Black	0.46	0.50	54.5	34.9	90	8,600	8,412	4,983	14.4	8.7	5.1	5.62	0.96	3.60	9.3	277	2,870.6
Tupelo, Water	0.46	0.50	66.0	34.9	130	8,600	8,412	4,983	12.5	7.6	4.2	5.67	0.97	3.66	9.5	273	2,870.6
Walnut, Black	0.51	0.55	57.9	38.4	82	8,600		4,983	12.8	7.8	5.5	5.66	0.96	3.62	10.4	276	3,182.7
Willow, Black	0.34	0.37	50.7	25.9	139	8,000	7,648	4,522	14.4	8.1	2.6	5.64	0.98	3.69	7.0	271	2,121.8
Yellow Poplar	0.40	0.42	46.2	29.4	85	9,630	8,956	5,776	12.3	7.1	4.0	5.69	0.97	3.68	8.3	272	2,496.2
Baldcypress	0.42	0.46	51.1	32.1	95	10,660		6,568	10.5	6.2	3.8	5.73	0.97	3.71	8.8	269	2,621.0

Used Woods

Strength And Physical Characteristics												Finish Rating	Scientific Name		Species Class
Bend- ing Strength	Com- pression	Hard- ness	Stiff- ness	Shock Resist- ance	Split- ting	Screw Holding	Drying Ease	Mach- inabi- lity	Dura- bility	Gluing Ease	Rating	Genus	Species		
Rating	Genus	Species													
1	1	1	1	3	2	1	1	2	1	4	4/0	Robinia	pseudoacacia	Hardwood	
3	3	4	1	4			1	2	6	2	3/0	Magnolia	acuminata	Hardwood	
3	4	3	3	2	3	3	1	2	6	2	3/0	Magnolia	grandiflora	Hardwood	
3	3	3	3	5			2	2	6	3	4/0	Acer	macrophyllum	Hardwood	
2	3	2	2	3			2	1	6	4	4/0	Acer	nigrum	Hardwood	
3	3	3	2	4	3	2	2	2	6	3	4/0	Acer	rubrum	Hardwood	
5	4	3	4	4			2	2	6	3	4/0	Acer	saccharinum	Hardwood	
2	2	2	1	3	1	2	2	1	6	4	4/0	Acer	saccharum	Hardwood	
2	3	2	3	3	2	2	3	1	5	3	5/4	Quercus	velutina	Hardwood	
3	3	2	4	3	2	1	3	1	2	3	5/4	Quercus	macrocarpa	Hardwood	
2	1	1	1	2	2	2	3	1	5	3	5/4	Quercus	falcata v. pago	Hardwood	
2	2	3	2	3	2	1	3	1	2	3	5/4	Quercus	prinus	Hardwood	
2	3	2	2	3	2	2	3	1	5	3	5/4	Quercus	laurifolia	Hardwood	
1	1	1	1	2	1	1	3	3	2	4	5/4	Quercus	virginiana	Hardwood	
2	3	2	2	3	2	2	3	1	5	3	5/4	Quercus	rubra	Hardwood	
2	3	2	3	3	2	1	3	1	2	3	5/4	Quercus	lyrata	Hardwood	
2	2	2	2	3	2	2	3	1	5	3	5/4	Quercus	palustris	Hardwood	
2	3	2	3	3	2	1	3	1	2	3	5/4	Quercus	stellata	Hardwood	
2	3	2	2	3	2	2	3	1	5	3	5/4	Quercus	spp.	Hardwood	
2	2	1	2	3	2	2	3	1	5	3	5/4	Quercus	coccinea	Hardwood	
3	3	3	3	4	2	2	3	1	5	3	5/4	Quercus	falcata	Hardwood	
2	3	2	2	3	2	1	3	1	3	3	5/4	Quercus	michauxii	Hardwood	
2	2	2	1	2	2	1	3	1	2	3	5/4	Quercus	bicolor	Hardwood	
2	2	2	1	3	2	2	3	1	5	3	5/4	Quercus	nigra	Hardwood	
2	2	2	3	3	2	1	3	1	2	3	5/4	Quercus	alba	Hardwood	
3	3	2	3	3	2	2	3	1	5	3	5/4	Quercus	phellos	Hardwood	
1	1	1	1	1	1	1	1	2	1	4	4/0	Macfura	pomifera	Hardwood	
2	2	1	2	3	2	1	1	2	6	4	4/0	Diospyros	virginiana	Hardwood	
4	4	4	4	3	3	3	1	2	2	3	4/0	Sassafras	albidum	Hardwood	
3	3	3	2	3	2	2	1	2	6	3	3/0	Oxydendrum	arboreum	Hardwood	
3	3	4	3	3	3	3	1	2	5	2	3/0	Liquidambar	styraciflua	Hardwood	
4	4	4	3	4	3	3	2	3	6	3	4/0	Platanus	occidentalis	Hardwood	
2	1		1									Lithocarpus	densiflorus	Hardwood	
3	3	3	4	4	3	2	1	3	6	3	4/0	Nyssa	sylvatica	Hardwood	
3	3	3	3	4	3	2	1	3	6	3	4/0	Nyssa	aquatica	Hardwood	
2	2	3	2	3	2	2	2	1	2	3	5/3	Juglans	nigra	Hardwood	
5	5	5	5	3	4	4	1	3	6	1	3/0	Salix	nigra	Hardwood	
4	4	4	3	4	4	4	1	2	6	1	3/0	Liriodendron	tulipifera	Hardwood	
4	3	5	3	4	4	3	1	2	3	1	1/0	Taxodium	distichum	Hardwood	

Table 3. (continued)**Properties of Commonly**

Common Name					Green MC %	Heat Value		BTUs in 1 Lbs of Mix by Wgt.	Shrinkage Pct.			Size Dim.		Volume in BF 8.00 Feet	Weight in 1,000 MBF at 8% MC	Number in MBF at 20% MC	Weight of 1,000 MBF at 20% MC		
	Specific Gravity		Weight lbs/f13			BTUs/pound at ODW			Based on Green Dimension			Tang.	Rad.						
	Green	12%	Green	12%		Wood	Bark		Vol	Tang	Rad	Width	Thick						
Cedar, Alaska	0.42	0.44	36.2	30.8	38	9,200		5,445	9.2	6.0	2.8	5.74	0.98	3.75	8.8	267	2,621.0		
Cedar, Atlantic White	0.31	0.32	26.1	22.4	35	9,070		5,345	8.8	5.4	2.9	5.76	0.98	3.76	6.5	266	1,934.6		
Cedar, Incense	0.35	0.37	45.0	25.9	106	9,200		5,445	7.6	5.2	3.3	5.77	0.98	3.75	7.4	266	2,184.2		
Cedar, Northern White	0.29	0.31	28.0	21.7	55	9,070		5,345	7.2	4.9	2.2	5.78	0.98	3.79	6.2	264	1,809.7		
Cedar, Port-Orford	0.40	0.42	36.2	29.4	45	9,200		5,445	10.1	6.9	4.6	5.70	0.97	3.67	8.2	273	2,496.2		
Douglas Fir, Coast	0.45	0.48	37.9	33.5	35	8,910	9,962	5,222	12.4	7.6	4.8	5.67	0.96	3.64	9.2	274	2,808.2		
Douglas Fir, North	0.45	0.48	37.9	33.5	35	8,910	9,962	5,222	10.7	6.9	3.8	5.70	0.97	3.69	9.3	271	2,808.2		
Douglas Fir, South	0.43	0.46	36.2	32.1	35	8,910	9,962	5,222	11.8	7.8	5.0	5.66	0.96	3.63	8.8	275	2,683.4		
Douglas Fir, West	0.46	0.50	38.8	34.9	35	8,910	9,962	5,222	11.8	7.5	4.8	5.67	0.96	3.65	9.4	274	2,870.6		
Fir, Balsam	0.34	0.36	46.0	25.2	117	8,150	9,437	4,637	11.2	6.9	2.9	5.70	0.98	3.72	7.1	269	2,121.8		
Fir, California Red	0.36	0.38	48.7	26.6	117	8,150	9,437	4,637	11.4	7.9	4.5	5.65	0.97	3.64	7.4	274	2,246.6		
Fir, Grand	0.35	0.37	46.5	25.9	113	8,150	9,437	4,637	11.0	7.5	3.4	5.67	0.98	3.69	7.2	271	2,184.2		
Fir, Noble	0.37	0.39	40.4	27.3	75	8,150	9,437	4,637	12.4	8.3	4.3	5.63	0.97	3.64	7.6	275	2,309.0		
Fir, Pacific Silver	0.40	0.43	52.4	30.1	110	8,150	9,437	4,637	13.0	9.2	4.2	5.60	0.97	3.62	8.1	277	2,496.2		
Fir, Subalpine	0.31	0.32	42.0	22.4	117	8,150	9,437	4,637	9.4	7.4	2.6	5.67	0.98	3.71	6.5	269	1,934.6		
Fir, White	0.37	0.39	52.9	27.3	129	8,150	9,100	4,637	9.8	7.0	3.3	5.69	0.98	3.70	7.7	270	2,309.0		
Hemlock, Eastern	0.38	0.40	50.0	28.0	111	8,300	9,348	4,752	9.7	6.8	3.0	5.70	0.98	3.72	7.9	269	2,371.4		
Hemlock, Mountain	0.42	0.44	59.5	30.8	127	8,500	9,300	4,906	11.1	7.1	4.4	5.69	0.97	3.67	8.7	273	2,621.0		
Hemlock, Western	0.42	0.44	59.5	30.8	127	8,500	9,300	4,906	12.4	7.8	4.2	5.66	0.97	3.66	8.6	274	2,621.0		
Larch, Eastern	0.49	0.53	47.1	37.0	54	8,500	9,010	4,906	13.6	7.4	3.7	5.67	0.97	3.68	10.1	272	3,057.8		
Larch, Western	0.48	0.51	50.0	35.6	67	8,500	8,800	4,906	13.2	8.1	4.2	5.64	0.97	3.65	9.8	274	2,995.4		
Pine, Eastern White	0.34	0.35	35.6	24.5	68	9,610	9,647	5,760	8.2	6.0	2.3	5.74	0.98	3.76	7.2	266	2,121.8		
Pine, Jack	0.40	0.43	39.9	30.1	60	9,200	9,339	5,445	10.4	6.5	3.4	5.71	0.98	3.71	8.3	269	2,496.2		
Pine, Loblolly	0.47	0.51	53.1	35.6	81	10,380	9,400	6,352	12.3	7.4	4.8	5.67	0.96	3.65	9.6	274	2,933.0		
Pine, Lodgepole	0.38	0.41	42.7	28.7	80	9,120	9,616	5,383	11.1	6.7	4.3	5.71	0.97	3.68	7.9	271	2,371.4		
Pine, Longleaf	0.54	0.58	54.9	40.5	63	10,380	9,200	6,352	12.2	7.5	5.1	5.67	0.96	3.64	11.0	275	3,369.9		
Pine, Pitch	0.47	0.52	55.7	36.3	90	9,120	9,616	5,383	10.9	7.1	4.0	5.69	0.97	3.68	9.7	272	2,933.0		
Pine, Pond	0.51	0.56	60.5	39.1	90	9,120	9,616	5,383	11.2	7.1	5.1	5.69	0.96	3.65	10.5	274	3,182.7		
Pine, Ponderosa	0.38	0.40	45.1	28.0	90	9,120	9,616	5,383	9.6	6.3	3.9	5.72	0.97	3.71	7.9	270	2,371.4		
Pine, Red	0.41	0.44	49.1	30.8	92	9,200	9,070	5,445	11.5	7.2	4.6	5.68	0.97	3.66	8.4	273	2,558.6		
Pine, Sand	0.46	0.48	54.5	33.5	90	10,380	9,319	6,352	12.3	7.7	4.4	5.66	0.97	3.65	9.4	274	2,870.6		
Pine, Shortleaf	0.46	0.51	52.0	35.6	81	10,380	9,319	6,352	12.3	7.7	4.4	5.66	0.97	3.65	9.4	274	2,870.6		
Pine, Slash	0.56	0.61	58.0	42.6	66	10,380	9,380	6,352	12.2	7.8	5.5	5.66	0.96	3.62	11.4	276	3,494.7		
Pine, Spruce	0.41	0.44	48.5	30.8	90	10,380	9,319	6,352	12.3	7.7	4.4	5.66	0.97	3.65	8.4	274	2,558.6		
Pine, Sugar	0.35	0.36	52.0	25.2	138	9,610	9,647	5,760	7.9	5.6	2.9	5.75	0.98	3.75	7.4	266	2,184.2		
Pine, Virginia	0.45	0.48	50.8	33.5	81	10,380	9,319	6,352	11.9	7.2	4.2	5.68	0.97	3.67	9.3	272	2,808.2		
Pine, Western White	0.36	0.38	35.0	26.6	56	9,610	9,647	5,760	11.8	7.4	4.1	5.67	0.97	3.67	7.4	273	2,246.6		
Redcedar, Eastern	0.44	0.47	36.5	32.8	33	10,000		6,060	7.8	4.7	4.1	5.79	0.97	3.75	9.3	267	2,745.8		
Redcedar, Western	0.31	0.33	27.1	23.1	40	9,700	8,700	5,829	6.8	5.0	2.4	5.78	0.98	3.79	6.6	264	1,934.6		

Used Woods

Strength And Physical Characteristics												Finish Rating	Scientific Name		Species Class
Bend- ing Strength	Com- pression	Hard- ness	Stiff- ness	Shock Resist- ance	Split- ting	Screw Holding	Drying Ease	Mach- inabi- lity	Dura- bility	Gluing Base	Rating	Genus	Species		
4	3	4	3	4	4	3	1	1	2	3	1/0	Chamaecyparis	nootkatensis	Softwood	
5	4	5	5	5	5	5	1	2	2	2	1/0	Chamaecyparis	thyoides	Softwood	
4	3	5	4	5	4	5	1	2	2	1	1/0	Libocedrus	decurrens	Softwood	
5	5	5	5	5	5	5	1	2	2	2	1/0	Thuja	occidentalis	Softwood	
4	3	4	2	3	5	4	1	1	2	3	1/0	Chamaecyparis	lawsoniana	Softwood	
3	2	4	1	4	4	3	1	2	4	2	4/0	Pseudotsuga	menziesii	Softwood	
3	3	4	2	5	4	3	1	2	4	2	4/0	Pseudotsuga	menziesii	Softwood	
4	3	5	3	5	4	3	1	2	4	2	4/0	Pseudotsuga	menziesii	Softwood	
3	2	4	1	4	4	3	1	2	4	2	4/0	Pseudotsuga	menziesii	Softwood	
5	4	5	4	5	5	4	1	3	6	1	3/0	Abies	balsamea	Softwood	
5	4	5	3	5	5	4	1	3	6	1	3/0	Abies	magnifica	Softwood	
5	4	5	3	5	5	4	1	3	6	1	3/0	Abies	grandis	Softwood	
4	3	5	2	5			1	3	6	1	3/0	Abies	procera	Softwood	
4	3	5	2	5			1	3	6	1	3/0	Abies	amabilis	Softwood	
5	4	5	3	5			1	3	6	1	3/0	Abies	lasiocarpa	Softwood	
5	4	5	3	5	4	4	1	2	6	1	3/0	Abies	concolor	Softwood	
4	3	4	3	5	4	4	1	3	6	2	3/0	Tsuga	canadensis	Softwood	
4	4	4	3	4	4	4	1	2	6	2	3/0	Tsuga	meritansiana	Softwood	
4	3	4	2	5	4	4	1	2	6	2	3/0	Tsuga	heterophylla	Softwood	
3	3	5	3	4	4	2	1	3	4	2	4/0	Larix	laricina	Softwood	
2	2	4	1	4	4	2	1	2	4	1	4/0	Larix	occidentalis	Softwood	
5	4	5	4	5	5	5	2	1	4	2	2/0	Pinus	strobus	Softwood	
4	4	4	3	4	4	3	1	2	5	2	4/0	Pinus	bankiana	Softwood	
3	3	4	2	4	4	3	1	2	5	2	4/0	Pinus	taeda	Softwood	
5	4	5	3	4	4	4	1	2	5	2	3/0	Pinus	contorta	Softwood	
2	2	3	1	3	4	2	1	2	4	2	4/0	Pinus	palustris	Softwood	
4	4	3	5	4	4	3	1	2	5	2	3/0	Pinus	rigida	Softwood	
3	2	3	5	4	4	3	1	2	5	2	3/0	Pinus	serotina	Softwood	
5	4	5	4	5	4	4	1	2	5	2	3/0	Pinus	ponderosa	Softwood	
5	4	5	3	4	4	3	1	2	5	2	4/0	Pinus	resinosa	Softwood	
3	3	4	3				1	2	5	2	4/0	Pinus	crausa	Softwood	
3	3	4	2	4	4	3	1	2	5	2	4/0	Pinus	echinata	Softwood	
2	2	3	1	3	4	2	1	2	4	2	4/0	Pinus	elliottii	Softwood	
4	4	4	3				1	2	5	2	4/0	Pinus	glabra	Softwood	
5	4	5	4	5	4	5	1	1	5	2	2/0	Pinus	lambertiana	Softwood	
3	3	4	3	4	4	3	1	2	5	2	4/0	Pinus	virginiana	Softwood	
5	4	5	3	5	5	4	1	1	5	2	2/0	Pinus	monticola	Softwood	
3	3	3	5	3	4	3	1	1	2	2	4/0	Juniperus	virginiana	Softwood	
5	4	5	4	5	5	5	2	2	2	1	1/0	Thuja	plicata	Softwood	

Table 3. (continued)**Properties of Commonly**

Common Name	Specific Gravity		Weight		Green %	Heat Value at ODW		BTUs in 1 Lbs of Mix by Wgt.	Shrinkage Pct. Based on Green Dimension			Size Dim.		Volume in BF	Weight in lbs.	Number 1,000 MBF at 8% MC	Weight of 1,000 MBF at 20% MC	
			Green	12%		Wood	Bark		0% Bark	6.00	1.00	8.00	MC %	8.00				
	Green	12%	Green	12%	%			Vol	Tang	Rad	Thickness	Width	Length					
Redwood, Old Growth	0.38	0.40	53.8	28.0	127	9,210		5,452	6.8	4.4	2.6	5.81	0.98	3.80	8.1	263	2,371.4	
Redwood, Young Growth	0.30	0.35	42.5	24.5	127	9,210		5,452	7.0	4.9	2.2	5.78	0.98	3.79	6.4	264	1,872.1	
Spruce, Black	0.38	0.40	42.9	28.0	81	8,100	8,630	4,599	11.3	6.8	4.1	5.70	0.97	3.69	7.9	271	2,371.4	
Spruce, Englemann	0.33	0.35	43.7	24.5	112	8,100	8,630	4,599	11.0	7.1	3.8	5.69	0.97	3.69	6.8	271	2,059.4	
Spruce, Red	0.36	0.38	40.7	26.6	81	8,100	8,630	4,599	12.9	7.4	4.0	5.67	0.97	3.67	7.4	272	2,246.6	
Spruce, Sika	0.37	0.40	44.1	28.0	91	8,100	8,630	4,599	11.5	7.2	4.3	5.68	0.97	3.67	7.6	273	2,309.0	
Spruce, White	0.37	0.40	41.8	28.0	81	8,100	8,630	4,599	11.5	7.2	4.3	5.68	0.97	3.67	7.6	273	2,309.0	
Yew, Pacific	0.60	0.62	53.9	43.3	44	9,200		5,445	9.7	5.4	4.0	5.76	0.97	3.73	12.6	268	3,744.3	
Imported Woods																		
Angelique	0.60		56.2		50					8.8	5.2	5.61	0.96	3.60	12.1	278	3,744.3	
Balsa	0.13	0.17	12.2	11.9	50					6.5	3.7	5.71	0.97	3.71	2.7	270	811.3	
Banak	0.42		39.3		50					8.8	4.6	5.61	0.97	3.62	8.5	277	2,621.0	
Greenheart	0.83		77.7		50					9.0	8.2	5.60	0.94	3.51	16.4	285	5,179.6	
Jehutong	0.36		33.7		50							6.00	1.00	4.00	8.1	250	2,246.6	
Larch, European	0.33		30.9		50					5.3	3.1	5.77	0.98	3.76	7.0	266	2,059.4	
Lignumvitae	0.98	1.09	91.7	76.2	50							6.00	1.00	4.00	22.0	250	6,115.7	
Luan, Bagtikan	0.48		44.9		50					8.0	3.8	5.65	0.97	3.66	9.9	273	2,995.4	
Luan, Dark Red	0.44		41.2		50					8.0	3.8	5.65	0.97	3.66	9.0	273	2,745.8	
Luan, Light Red	0.41	0.44	38.4	30.8	50					8.0	3.8	5.65	0.97	3.66	8.4	273	2,558.6	
Luan, Mayapis	0.41		38.4		50					8.0	3.8	5.65	0.97	3.66	8.4	273	2,558.6	
Luan, Red, Tanguile	0.46		43.1		50					8.0	3.8	5.65	0.97	3.66	9.5	273	2,870.6	
Luan, White	0.43		40.2		50					8.0	3.8	5.65	0.97	3.66	8.8	273	2,683.4	
Mahogany	0.45		42.1		50					5.1	3.1	5.78	0.98	3.76	9.5	266	2,808.2	
Oak, English	0.57		53.4		50					16.7	10.7	5.1	5.53	0.96	3.55	11.4	282	3,557.1
Obeche	0.33		30.9		50					5.3	3.1	5.77	0.98	3.76	7.0	266	2,059.4	
Parana Pine	0.46		43.1		50					7.9	4.0	5.65	0.97	3.66	9.4	273	2,870.6	
Pine, Caribbean	0.68		63.6		50							6.00	1.00	4.00	15.3	250	4,243.5	
Pine, Ocote	0.55		51.5		50							6.00	1.00	4.00	12.4	250	3,432.3	
Ramin	0.59		55.2		50					8.7	3.9	5.62	0.97	3.64	12.1	275	3,681.9	
Rosewood	0.75		70.2		50							6.00	1.00	4.00	16.8	250	4,680.4	
Spanish Cedar	0.34	0.36	31.8	25.2	50					6.3	4.1	5.72	0.97	3.70	7.1	270	2,121.8	
Teak	0.57	0.62	53.4	43.3	50					4.0	2.2	5.82	0.98	3.82	12.2	262	3,557.1	
Walnut, European	0.47		44.0		50					6.4	4.3	5.72	0.97	3.69	9.7	271	2,933.0	

Used Woods

Strength And Physical Characteristics												Finish Rating*	Scientific Name		Species Class
Bend-ing Strength	Com-pres-sion	Hard-ness	Stiff-ness	Shock Resist-ance	Split-ting	Screw Holding	Drying Ease	Mach-inabi-lity	Dura-bility	Gluing Ease	Genus	Species			
3	2	4	3	5	4	4	2	2	2	1	1/0	Sequoia	sempervirens	Softwood	
5	3	5	4	5	4	4	2	2	2	1	1/0	Sequoia	sempervirens	Softwood	
5	4	5	3	5	4	4	1	2	2	1	3/0	Picea	mariana	Softwood	
5	4	5	3	5	4	4	1	2	6	1	3/0	Picea	engelmannii	Softwood	
5	4	5	3	5	3	4	1	2	6	1	3/0	Picea	rubens	Softwood	
5	4	5	3	5	4	4	1	2	6	1	3/0	Picea	sitchensis	Softwood	
5	4	5	3	5	4	4	1	2	6	1	3/0	Picea	glauca	Softwood	
2	1	2	4	3	3	2	1	1	2	2	3/0	Taxus	brevifolia	Softwood	
1	1	2	1					2				Dicorynia	guianensis	Hardwood	
5	5	5	5					6				Ochroma	pyramidalis	Hardwood	
5	3	4	1					6				Virola	koschnyi	Hardwood	
1	1	1	1					2				Ocotea	rodiae	Hardwood	
5	3	5	3					5				Dyera	costulata	Hardwood	
5	4	4						6				Larix	decidua	Softwood	
1	1	1						1				Guaiacum	sanctum	Hardwood	
2	2	2	2					6			4/0	Parashorea	plicata	Hardwood	
3	2	4	2					6			4/0	Shorea	negrosensis	Hardwood	
3	2	4	2					4			4/0	Shorea	almonae	Hardwood	
3	3	3	1					6			4/0	Shorea	squamata	Hardwood	
2	2	4	1					6			4/0	Shorea	polysperma	Hardwood	
3	2	4	2					6			4/0	Pentacme	contorta	Hardwood	
2	1	3	3					2	2			Swietenia	macrophylla	Hardwood	
5	4	4	5					6				Quercus	robur	Hardwood	
3	2	4	2					6				Triplochiton	scleroxylon	Hardwood	
2	1	3	1					5				Araucaria	angustifolia	Softwood	
2	2	4	1					5				Pinus	caribaea	Softwood	
2	1	3	1					6				Pinus	oocarpa	Softwood	
2	2	4	1					6				Gonystylus	bancanus	Hardwood	
2	1	3	1					2				Dalbergia	latifolia	Hardwood	
5	4	3	4					2				Cedrela	odorata	Hardwood	
1	1	2	1					2				Tectona	grandis	Hardwood	
2	2	3	2					2				Juglans	regia	Hardwood	

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GLOSSARY

BF - Board foot. A unit of lumber measurement equal to one foot square by one inch thick, or the equivalent of 144 cubic inches.

Btu - British thermal units. The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

Commercial species - Tree species conventionally regarded as being able to develop into trees suitable for the manufacture of industrial timber products. Species which typically exhibit small size, poor form, or inferior quality are excluded.

Green Specific Gravity - Based on green volume and oven dry weight.

Hardwoods - Angiosperms; dicotyledonous trees, usually broadleaf and deciduous.

MBF - Thousand board feet.

MC - Moisture content. The percentage of moisture present in wood. $\% = \frac{\text{original wt.} - \text{oven dry wt.}}{\text{oven dry wt.}} \times 100$.

ODW - Oven dry weight.

Rad - Radial.

Seasoned Specific Gravity - Based on volume at 12% moisture content and oven dry weight.

Tang - Tangential.

Softwoods - Gymnosperms; in the order Coniferales, usually evergreen (includes the genus *Taxodium* which is deciduous), having needles or scalelike leaves.

Vol - Volume.

NOTES