technology transfer *fact sheet*

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Pinus taeda L.
Family: Pinaceae
Loblolly Pine

The genus *Pinus* is composed of about 100 species native to temperate and tropical regions of the world. Wood of pine can be separated microscopically into the white, red and yellow pine groups. The word *pinus* is the classical Latin name. The word *taeda* is the ancient name of resinous pines. Loblolly pine is one of the southern pines.

Other Common Names: Bastard pine, black pine, black slash pine, bog pine, buckskin pine, bull pine, Carolina pine, cornstalk pine, foxtail pine, frankincense pine, heart pine, Indian pine, kienbaum, lobby pine, loblolly pine, longleaf pine, longschap pine, longschat pine, longshucks, longshucks pine, longstraw pine, maiden pine, meadow pine, North Carolina pine, old pine, oldfield pine, pin a l'encens, pin taeda, pinho-teda, pino de incienso, pino dell'incenso, prop pine, Rosemary pine, sap pine, shortleaf pine, shortstraw pine, slash black pine, slash pine, soderns gul-tall, southern pine, southern yellow pine, spruce pine, swamp pine, sydstaternas gul-tall, taeda pine, taeda-pijn, torch pine, Virginia pine, Virginia sap pine, yellow pine.

Distribution: Loblolly pine is native to the Coastal Plain and Piedmont from southern New Jersey and Delaware south to central Florida and west to eastern Texas, and in the Mississippi Valley to extreme southeastern Oklahoma, central Arkansas and southern Tennessee.

The Tree: Loblolly pine trees reach heights of 150 feet, with diameters of 5 feet. A record was reported to be 163 feet tall with a diameter of 56 inches.

General Wood Characteristics: The sapwood of loblolly pine is a yellowish white, while the heartwood is a reddish brown. The sapwood is usually wide in second growth stands. Heartwood begins to form when the tree is about 20 years old. In old, slow-growth trees, sapwood may be only 1 to 2 inches in width. The wood of loblolly pine is very heavy and strong, very stiff, hard and moderately high in shock resistance. It also has a straight grain, medium texture and is difficult to work with hand tools. It ranks high in nail holding capacity, but there may be difficulty in gluing. All the southern pines have moderately large shrinkage but are stable when properly seasoned. The heartwood is rated as moderate to low in resistance to decay. The sapwood is more easily impregnated with preservatives.

Mechanical Properties (2-inch standard)

	Specific gravity	MOE $x10^6$ lbf/in^2	MOR lbf/in^2	Compression		WML[a] in-lbf/in^3	Hardness lbf	Shear lbf/in^2
				Parallel lbf/in^2	Perpendicular lbf/in^2			
Green	0.47	1.40	7300	3510	390	8.2	450	860
Dry	0.54	1.79	12800	7130	790	10.4	690	1390

[a]WML = Work to maximum load.
Reference (56).

Drying and Shrinkage

Type of shrinkage	Percentage of shrinkage (green to final moisture content)		
	0% MC	6% MC	20% MC
Tangential	7.4	5.9	2.5
Radial	4.8	3.8	1.5
Volumetric	12.3	9.8	4.1

References: (56, 192).

Kiln Drying Schedules[a]

Conventional temperature/moisture content-controlled schedules[a]

Condition	4/4, 5/4 stock	6/4 stock	8/4 stock	10/4 stock	12/4 stock	British schedule 4/4 stock
Standard	T13-C6	T12-C5	T12-C5	T10-C4	T10-C4	L
Highest Quality	279	279	279	T10-C4	T10-C4	NA

[a]Reference (28, 92,185).

Conventional temperature/time-controlled schedules[a]

	Lower grades			Upper grades			
Condition	4/4, 5/4 stock	6/4 stock	8/4 stock	4/4, 5/4 stock	6/4 stock	8/4 stock	12/4, 16/4 stock
Standard	281	NA	282	281	NA	282	284

[a]References (28, 92, 185).

High temperature[a]

Condition	4/4, 5/4 stock	6/4 stock	8/4 stock	Other products
Standard	401/402	NA	NA	2 by 4's 403
				2 by 10's 403
				4 by 4's 404

[a]References (28, 92 185).

Working Properties: is difficult to work with hand tools. It ranks high in nail holding capacity, but there may be difficulty in gluing.

Durability: The heartwood is rated as moderate to low in resistance to decay.

Preservation: The sapwood is more easily impregnated with preservatives.

Uses: The denser and higher strength southern pine is used extensively in construction of factories, warehouses, bridges, trestles, and docks in the form of stringers, and for roof trusses, beams, posts, joists, and piles. Lumber of lower density and strength finds many uses for building material, such as interior finish, sheathing, subflooring, and joists and for boxes, pallets, and crates. Southern pine is also used also for tight and slack cooperage. When used for railroad crossties, piles, poles and mine timbers, it is usually treated with preservatives. The manufacture of structural grade plywood from southern pine has become a major wood-using industry.

Toxicity: In general, working with pine wood may cause dermatitis, allergic bronchial asthma or rhinitis in some individuals (6,10&15).

Additional Reading and References Cited (in parentheses)

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