



## *Lithocarpus densiflorus*

Family: Fagaceae

Tanoak

Tanoak is a genus with about 100 species native to North America [1] and Asia/Indomalaysia [100]. It is believed to be an evolutionary link between the oaks (*Quercus* spp.) and chestnuts (*Castanea* spp.). The name *lithocarpus* is derived from the Greek, stone and fruit, in allusion to the hard acorns. *Cyclobalanops* spp., *Quercus densiflora* and *Pasania densiflora* are old scientific names.

*Lithocarpus densiflorus* -California chestnut oak, chestnut oak, live oak, peach oak, tanbark oak.

### Distribution

Southwestern Oregon south to southern California, on the coast and in the Sierra Nevada.

### The Tree

The flowers of tanoak resemble chestnut flowers, while the fruits look more like those of oaks (acorns). Tanoak grows mostly in association with redwood, Douglas-fir and California live oak. In close stands the trunks are long and rarely straight, while in the open they are short and thick. The bark is pale brown tinged with red, and can be gray in places. It can be smooth, or broken into wide, square plates by narrow seams. Tanoak is a slow-growing species, resistant to insects, but susceptible to fire injury. The flowers are produced in upright spikes or catkins, with the male flowers on the upper three-fourths of the flower spike and the female flowers (one-several) at the base. The fruits are acorns with fringed cups and thin scales. Tanoak requires moist climates and grows in association with coastal redwood, Port Orford cedar, Douglas-fir, bigleaf maple and box elder.

### The Wood

#### General

The sapwood and heartwood are light to dark red brown. The wood of tanoak is diffuse porous with wide rays.

#### Mechanical Properties (2-inch standard)

	Specific gravity	MOE x10 <sup>6</sup> lbf/in <sup>2</sup>	MOR lbf/in <sup>2</sup>	Compression		WML <sup>a</sup> in-lbf/in <sup>3</sup>	Hardness lbf	Shear lbf/in <sup>2</sup>
				Parallel lbf/in <sup>2</sup>	Perpendicular lbf/in <sup>2</sup>			
Green	0.58	1.55	10,500	4,650	3,640	13.4	–	1,410
Dry	–	2.16	16,600	9,200	1,660	–	–	1,960

<sup>a</sup>WML = Work to maximum load.  
Reference (59).

## Drying and Shrinkage

Type of shrinkage	Percentage of shrinkage (green to final moisture content)		
	0% MC	6% MC	20% MC
Tangential	11.7	–	8.0
Radial	4.9	–	2.7
Volumetric	17.3	–	–
References: 0% MC (98), 6% and 20% MC (90).			

## Kiln Drying Schedules<sup>a</sup>

Condition	Stock				
	4/4, 5/4, 6/4	8/4	10/4	12/4	16/4
Standard	T3-B1	T3-B1	–	–	–
<sup>a</sup> References (6, 86).					

**Working Properties:** No information available at this time. **Durability:** No information available at this time.

**Preservation:** No information available at this time.

**Uses:** Flooring, crossties, fuel wood, mine timbers, baseball bats, veneers, pulpwood, furniture. Historically, bark was used for tannin extraction.

**Toxicity:** No information available at this time.

## Additional Reading and References Cited (in parentheses)

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