



***Araucaria spp.***

**Family: Araucariaceae**

**Hoop-Pine**

**Klinki-Pine**

**Other Common Names:** Pin colonnaire, Sapin de montagne (New Caledonia), Norfolk Island Pine (Norfolk Island), Bunya-bunya, Hoop Pine (Australia).

**Distribution:** Australia, New Guinea, New Caledonia, New Hebrides, and Norfolk Island. Planted as an ornamental elsewhere.

**The Tree:** Varies with species but commonly 150 ft in height with trunk diameters of 3 ft. Trees over 250 ft in height and diameters over 6 ft are reported. Plantation- grown trees in Hawaii reached a height of 90 ft and a diameter of 18 in. in 40 to 50 years.

**The Wood:**

**General Characteristics:** Heartwood light yellowish brown, occasionally with a pinkish tinge; not sharply demarcated from the straw-colored sapwood. Growth rings inconspicuous; lustrous; texture fine and even; grain typically straight; without distinctive odor or taste.

**Weight:** Basic specific gravity (ovendry weight/green volume) 0.42; air-dry density 31 pcf.

**Mechanical Properties:** (First set of data based on the 1-in. standard, second and third sets on the 2-in. standard.)

Moisture content (%)	Bending strength (Psi)	Modulus of elasticity (1,000 psi)	Maximum crushing strength (Psi)
Green (24)	7,100	1,410	3,170
12%	11,000	1,560	5,840
Green (6)	6,890	1,410	3,760
12%	13,100	1,880	7,060
Green (50)	6,120	1,460	3,170
12%	11,100	1,730	6,370

Janka side hardness 500 lb for green material and 650 lb at 12% moisture content. Forest Products Laboratory toughness 175 in.-lb for green material and 125 in.-lb for dry (5/8-in. specimen).

**Drying and Shrinkage:** The timber is easy to air season with little or no degrade. Kiln schedule T10-D5S is suggested for 4/4 stock and T8-D4S for 8/4. Shrinkage green to ovendry: radial 3.5%; tangential 5.3%; volumetric 8.9%. Movement in service is small.

**Working Properties:** The wood is easy to work with hand and machine tools; dense small knots are common and cause some torn and chipped grain in planing. Easy to nail and glue.

**Durability:** The timber is nondurable; sapwood is vulnerable to blue stain.

**Preservation:** The wood is reported to be easily treated.

**Uses:** Interior joinery, boxes, flooring, veneer and plywood, light construction, furniture components, patterns, pulp and paper.

**Additional Reading:** (6), (24), (50)

6. Bolza, E., and N. H. Kloot. 1963. The mechanical properties of 174 Australian timbers. CSIRO Div. For. Prod. Technol. Pap. For. Prod. Aust. No. 25.

24. Gerhards, C. C. 1967. Physical and mechanical properties of "Norfolk Island-Pine" grown in Hawaii. USDA For. Serv. Res. Pap. FPL 73. For. Prod. Lab., Madison, Wis.

50. Ryan, A. 1959. The mechanical properties of Klinki and Parana Pines. CSIRO Div. of For. Prod. Technol. Pap. No. 5.

***From: Chudnoff, Martin. 1984. Tropical Timbers of the World. USDA Forest Service. Ag. Handbook No. 607.***