



Radiata Pine (Pinus Radiata)

Botanical Name:	Pinus radiata
Other Common Names:	Radiata pine, Monterey pine, Insignis pine
Common Uses:	Factory construction, Figured veneer, Form work, Heavy construction, Joinery, Light construction, Packing cases, Paneling , Pulp/Paper products, Pulpwood, Rough construction, Veneer, Wainscotting, Boxes and crates, Building construction, Building materials, Cabin construction, Construction, Decorative veneer
Region:	Africa, Latin America, North America, Oceania and S.E. Asia
Country:	Australia, Chile, New Zealand, South Africa, United States

Numerical Values for: *Pinus radiata*

<u>Category</u>	<u>Green</u>	<u>Dry</u>	<u>Unit</u>
Bending Strength	5700	11020	psi
Max. Crushing Strength	2660	6038	psi
Impact Strength	18	22	inches
Stiffness	1140	1330	1000 psi
Work to Maximum Load	9	15	in-lbs/in ³
Hardness		820	lbs
Shearing Strength		1700	psi
Specific Gravity		0.48	
Weight	40	32	lbs/cu.ft.
Density (Air-dry)		32	lbs/cu.ft.
Radial Shrinkage (G->OD)		3	%
Tangential Shrink. (G->OD)		7	%
Volumetric Shrink. (G->OD)		11	%

Tree & Wood Descriptions for: *Pinus radiata*

Product Sources	<p>The largest Radiata pine resource in the world is believed to be in Chile, where the climate is reported to be quite favorable for the cultivation of Radiata pine. Radiata pine trees grown on plantations in Chile are reported to be often ready to harvest in 16 to 25 years. The species is also grown for commercial consumption on plantations in several countries, including New Zealand, Australia, and South Africa. It is reported to be the most often planted softwood in both temperate and warm climates, with most of the timber on the market originating from plantation grown trees.</p> <p>Reports from New Zealand indicate that there are currently (March, 1995) no independently certified sources of Radiata pine. Local laws governing the management of New Zealand plantation forests prohibit activities that will adversely affect the environment. Certified wood products are, however, expected to become available in the near future. Most of the exports from New Zealand are reported to be in the form of two-by-four sawn boards for construction and logs to Australia, Asia, and some to the United States.</p>
Tree Data	<p>The tree usually has a straight trunk, and grows to a height of about 50 to 100 feet (15 to 30 m), with a diameter of about 12 to 36 inches (30 to 90 cm). The tree is reported to be rather fast growing, and can reach mature size in 20 years. The tree is reported to be popular as an ornamental tree in England, the Mediterranean and in North Africa.</p>
Sapwood Color	<p>The sapwood is described as wide and distinct from the heartwood. It is usually pale-colored.</p>
Heartwood Color	<p>The heartwood is generally pink-brown in color.</p>
Grain	<p>The material may contain spiral grain, but it is generally straight-grained.</p>
Texture	<p>Compared to other pines, there is little contrast in the appearance of the growth rings, which makes the texture relatively even and uniform.</p>
Odor	<p>There is no characteristic odor or taste.</p>
Natural Durability	<p>Heartwood is reported to have very little natural resistance to attack by decay fungi and other wood destroying organisms, and is prone to damage by insects.</p> <p>Resistance to Impregnation Most of the timber sold on the market are reported to be readily permeable sapwood from young, rapidly grown plantation trees. They are reported to be easily treated by immersion.</p>
Strength Properties	<p>Strength properties are reported to be rather low in bending and stiffness, and</p>

crushing strength and shock resistance are rated as moderate. Most of the commercially available timber of Radiata pine is reported to be composed of fast grown plantation trees. These trees are reported to contain very high percentage of sapwood which makes them very easy to treat with preservatives. Radiata pine is reported to be steadily growing as a replacement for the more expensive Ponderosa pine in the United States. Genetic improvements in Chile have resulted in Radiata pine trees that are relatively free from knots and are also high in physical and mechanical properties.

Working Properties for: *Pinus radiata*

Cutting Resistance	The material is reported to saw relatively easily.
Planing	Radiata pine is reported to work rather easily and responds to thin and very sharp cutting edges well, with little dulling effect. Area around knots may tear, but most machining operations, including planing, turning, moulding, and boring generally produce a clean finish.
Gluing	Gluing properties are reported to be satisfactory.
Nailing	The timbers are reported to possess good nail-holding characteristics.
Screwing	Screw holding properties are rated as good.
Staining	The wood is reported to respond well to staining.
Polishing	Polishing properties are rated as satisfactory, and Radiata pine is reported to accept a wide variety of paints.

Drying for: *Pinus radiata*

Ease of Drying	The timber of Radiata pine is reported to season easily and rapidly at high temperatures (commercially up to 120 degrees C) with medium shrinkage.
Drying Defects	Spiral grain in immature trees may cause boards to warp during drying. The degrade can be reduced by weighting down and steaming stacks for several hours.
T/R Ratio	2.33 This indicator is more meaningful if it is used together with other drying information and actual shrinkage data in the tangential and radial directions. (Refer to the Numerical Values window).

*Credits for information:
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