

# TECHNICAL SPECIFICATIONS FOR RADIATA PINE (PINUS RADIATA)



## Strength Properties

Bending strength (MOR) = low  
Max. crushing strength = medium  
Modulus of Elasticity (stiffness) = very low  
Density (dry weight) = 31-37 lbs/cu. ft.  
Max. crushing strength = low  
Shearing strength (parallel to grain) = low  
Modulus of Elasticity (stiffness) = low  
Shearing strength (parallel to grain) = very low  
Hardness (side grain) = soft  
Density (dry weight) = 23-30 lbs/cu. ft.  
Hardness (side grain) = very soft  
Bending strength (MOR) = medium  
Shrinkage, Radial = small  
Shrinkage, Radial = moderate  
Modulus of Elasticity (stiffness) = medium  
Max. crushing strength (stiffness) = very low  
Shrinkage, Tangential = small  
Shrinkage, Tangential = moderate  
Toughness (total work) = very low  
Shrinkage, Tangential = fairly large  
Density (dry weight) = 38-45 lbs/cu. ft.  
Bending strength (MOR) = very low  
Shrinkage, Tangential = very small  
Shrinkage, Radial = very small  
Shearing strength (parallel to grain) = medium  
Hardness (side grain) = medium  
Toughness-Hammer drop (Impact Strength) = very low  
Toughness (total work) = low  
Shrinkage, Tangential = large  
Shrinkage, Radial = large  
Shrinkage, Radial = fairly large  
Crushing strength = medium

Most of the commercially available timber of Radiata pine is 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 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





## NUMERIC DATA

Item	Air Dried	Kiln Dried	Metric Unit
Bending Strength	432	726	Kg/cm <sup>2</sup>
Density		496	Kg/m <sup>3</sup>
Hardness		348	Kg
Impact Strength	45	45	cm
Max Crushing Strength	211	394	Kg/cm <sup>2</sup>
Shearing Strength		101	Kg/cm <sup>2</sup>
Stiffness	85	99	1000kg/cm <sup>2</sup>
Toughness		130	cm-kg
Work to Max. Load	0.49	0.77	cm-kg/cm <sup>3</sup>
Specific Gravity		0.44	
Weight	480	448	Kg/m <sup>3</sup>
Radial Shrinkage	3		%
Tangential Shrinkage	6		%