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/cm2
Density		496	Kg/m3
Hardness		348	Kg
Impact Strength	45	45	cm
Max Crushing Strength	211	394	Kg/cm2
Shearing Strength		101	Kg/cm2
Stiffness	85	99	1000kg/cm2
Toughness		130	cm-kg
Work to Max. Load	0.49	0.77	cm-kg/cm3
Specific Gravity		0.44	
Weight	480	448	Kg/m3
Radial Shrinkage	3		%
Tangential Shrinkage	6		%