**Pinus caribaea**  
**Family: Pinaceae**  
**Caribbean Pine**

**Other Common Names:** Pino (generally in Latin America), Ocote (Mexico, Guatemala, Honduras, Nicaragua).

**Distribution:** Belize, Honduras, Nicaragua, Guatemala, Bahama Islands, and Cuba; widely introduced as a plantation species throughout the world (Australia, South Africa, Surinam, and elsewhere).

**The Tree:** Grows to a height of 100 ft and with trunk diameters of 30 to 40 in., occasionally larger. Boles are clear up to 70 ft and with moderate taper.

**The Wood:**  
**General Characteristics:** Heartwood generally golden brown to red brown and distinct from the lighter sapwood. Texture somewhat coarse; grain is typically straight; luster medium; strong resinous odor; growth zones generally clearly defined but often lacking in juvenile wood. Compression wood often present, at least in plantation-grown wood.

**Weight:** Basic specific gravity (ovendry weight/green volume) varies considerably and may range from 0.34 to 0.68; air-dry density 26 to 51 pcf.

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

<table>
<thead>
<tr>
<th>Moisture content</th>
<th>Bending strength (Psi)</th>
<th>Modulus of elasticity (1,000 psi)</th>
<th>Maximum crushing strength (Psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green (4)</td>
<td>11,190</td>
<td>1,880</td>
<td>4,900</td>
</tr>
<tr>
<td>12%</td>
<td>16,690</td>
<td>2,240</td>
<td>8,540</td>
</tr>
<tr>
<td>Green (1)</td>
<td>9,000</td>
<td>1,610</td>
<td>4,600</td>
</tr>
<tr>
<td>12%</td>
<td>14,700</td>
<td>1,950</td>
<td>7,830</td>
</tr>
<tr>
<td>12% (2)</td>
<td>8,830</td>
<td>920</td>
<td>NA</td>
</tr>
</tbody>
</table>

Janka side hardness 980 lb for green material and 1,240 lb at 12% moisture content. Forest Products Laboratory toughness average for green and dry material is 251 in.-lb. (5/8-in. specimen).

**Drying and Shrinkage:** The timber air-seasons rather slowly with a tendency for end splitting in thick stock. Low density plantation wood reported to dry rapidly with no checking and only slight
warp. Kiln schedule T1 0-D4S is suggested for 4/4 stock and T8-D3S for 8/4. Shrinkage green to ovendry: radial 6.3%; tangential 7.8%; volumetric 12.9%.

**Working Properties:** The timber is easy to work with either hand or machine tools; however, high resin contents may cause some downtime due to gumming of cutters and machine tables. Takes nails and screws well and glues satisfactorily.

**Durability:** Durability and resistance to insect attack varies with resin content, heartwood generally rated moderately durable. Sapwood prone to blue stain.

**Preservation:** Sapwood is highly permeable and is easily treated by open-tank or pressure-vacuum systems. Heartwood is rated as moderately resistant and depends on the resin content.

**Uses:** General light and heavy construction, carpentry, flooring, joinery, utility poles and railroad crossties (treated), boat building, vats, utility plywood, pulp and paper products.

**Additional Reading:**