

WESTERN RED CEDAR



Western Redcedar (*Thuja plicata*)

Common Name(s): Western Redcedar, Western Red Cedar

Scientific Name: *Thuja plicata*

Distribution: Pacific Northwest United States/Canada

Tree Size: 165-200 ft (50-60 m) tall, 7-13 ft (2-4 m) trunk diameter

Average Dried Weight: 23 lbs/ft³ (370 kg/m³)

Specific Gravity (Basic, 12% MC): .31, .37

Janka Hardness: 350 lb_f (1,560 N)

Modulus of Rupture: 7,500 lb_f/in² (51.7 MPa)

Elastic Modulus: 1,110,000 lb_f/in² (7.66 GPa)

Crushing Strength: 4,560 lb_f/in² (31.4 MPa)

Shrinkage: Radial: 2.4%, Tangential: 5.0%, Volumetric: 6.8%, T/R Ratio: 2.1

Color/Appearance: Heartwood reddish to pinkish brown, often with random streaks and bands of darker red/brown areas. Narrow sapwood is pale yellowish white, and isn't always sharply demarcated from the heartwood.

Grain/Texture: Has a straight grain and a medium to coarse texture.

Endgrain: Resin canals absent; earlywood to latewood transition usually abrupt (or gradual if growth rings are widely spaced), color contrast medium-high; tracheid diameter medium to medium-large.

Rot Resistance: Western Redcedar has been rated as durable to very durable in regard to decay resistance, though it has a mixed resistance to insect attack.

Workability: Easy to work with both hand or machine tools, though it dents and scratches very easily due to its softness, and can sand unevenly due to the difference in density between the earlywood and latewood zones. Glues and finishes well. Iron-based fasteners can stain and discolor the wood, especially in the presence of moisture.

Odor: Western Redcedar has a strong, aromatic scent when being worked.

Allergies/Toxicity: Although severe reactions are quite uncommon, Western Redcedar has been reported as a sensitizer. Usually most common reactions simply include eye, skin, and respiratory irritation, as well as runny nose, asthma-like symptoms, and nervous system effects. See the articles [Wood Allergies and Toxicity](#) and [Wood Dust Safety](#) for more information.

Pricing/Availability: Should be moderately inexpensive for construction-grade lumber, though higher grades of clear, straight-grained, quartersawn lumber can be more expensive.

Sustainability: This wood species is not listed in the CITES Appendices, and is reported by the IUCN as being a species of least concern.

Common Uses: Shingles, exterior siding and lumber, boatbuilding, boxes, crates, and musical instruments.

Comments: Western Redcedar is a commercially important lumber, used in a number of applications ranging from rough-sawn lumber for use in home construction to clear quartersawn material for classical guitar soundboards.

Related Species:

Northern White Cedar (*Thuja occidentalis*)