

# WESTERN RED CEDAR

Botanical Name: *Thuja plicata*

Other Names: Cedar, Giant Arbor Vitae, Red Cedar

Origin: North America

## General

**Certification:** PEFC™

**Seasoning:** Smaller sizes dry easily, larger boards need extra care to prevent internal checking and collapse. Almost no tendencies to warp and check once dry with little swelling or shrinking movement.

**Working Qualities:** The timber is easily worked, but its brittle nature can cause splintering also its soft character can lead to chip-bruising. Care should be taken when planning and moulding, sharp cutters will also help create a nice finish. Stains and paints well.

**Uses:** Interior panelling, fine furniture, interior and exterior joinery, weatherboards and cladding.

**Price (I-10):** 5



## Availability

**Stocked:** Yes

**Grade Description:** Premium Clears No.1 PC1 is the highest grade of Western Red Cedar imported into NZ. It is primarily sourced from the coastal forests of British Columbia, Canada. The grade is generally considered a 'clears' grade with a small number of allowable knots and defects per metre. The timber is visually graded so up to 5% may be considered out of grade or below grade. End splits are a characteristic of the drying process. End splits are allowable up to the length of the width of the profile. I.e. for an ex 200mm profile an end split up to 200mm is within grade. These natural imperfections are generally docked out by the user, but this will depend upon the end use requirements. It is the responsibility of the Builder/Installer to ensure the grade being used is compliant to the required building code or consent issuing authority requirements. Refer to compliance section below. Premium Clears No.2 PC2 is similar to PC1 except there is a higher percentage of knots and defects allowed per metre.

These natural imperfections are generally docked out by the user but this will depend upon the end use requirements. PC2 grade generally means there will be a shorter length spread as a higher number of excluded knots and defects results in a more boards being docked, and therefore percentage of wastage may be higher. Compliance Although every care is taken to ensure the timber in each grade is within the grade specification, it is the responsibility of the Builder/Installer to exclude knots, defects and splits that will not be compliant to the required building code or consent issuing authority requirements.

Generally, for external cladding applications, knots that are 'loose,' 'bark-encased', or liable to fail should be removed. Any knot that contains star-checks and splits that will allow moisture ingress must also be removed. Tight inbound knots that pose no weathertightness risk and that will remain sound for the expected serviceable life of the cladding system may be allowed under current guidelines outlined in the NZ building code, and considered a natural feature of Western Red Cedar.

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## Basic Info

Durability Above Ground: Durable

Density Air Dry: 380 kg/m<sup>3</sup>

Shrinkage Radial: 2 %

Shrinkage Tangential: 5 %

Stability Kiln Dry: Very stable

Stability Green: Stable

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## Mechanical Properties

Janka Hardness: 1.6 kN

Modulus of Rupture: 53 MPa

Modulus of Elasticity: 7.7 GPa

Max Crush Strength: 35 MPa

Strength Group unseasoned: S7

Strength Group Seasoned: SD7

Comp Strength Perp to Grain: 3.4 MPa

Shear Strength Parallel to Grain: 5.6 MPa

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## Fire

NZAS Ignitability: 14

NZAS Flame Spread: 10

NZAS Heat Evolved: 9

NZAS Smoke Developed: 4

ASTM Flame Spread: 70

ASTM Smoke Developed: 213

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P: 0800 ITI NZL

E: [sales@ititimspec.co.nz](mailto:sales@ititimspec.co.nz)