

# INFORMATION SHEET

## SILVER BEECH



**Common names:** Tawhai, Silver Beech  
**Botanical name:** *Nothofagus menziesii*

### WHY USE SILVER BEECH?

Silver beech is sourced from sustainably managed forests, and is becoming the favoured wood to replace rimu as the prime native species. It is excellent as a turnery species, particularly good in brushes and dowels, and excellent for cabinetry. It also is renowned for its steam bending properties, and was once widely used for motor-body building. Today, it is useful for brushware and dowels, small turned goods and implements, handles and railings, and furniture.

### APPEARANCE AND DESCRIPTION:

The colour of silver beech varies with location, age and between the sap and heartwood, but always has a pinkish to red overtone. The dry sapwood is a light pinkish grey, and the heartwood pinkish brown.

### PERFORMANCE CHARACTERISTICS

#### Durability:

Silver beech is non-durable, both for heartwood and sapwood. It is unsuitable for outdoor applications but can be used for interior and indoor furniture applications without the need for further treatment.

#### Mechanical Properties:

Density at 12% moisture content (MC)	592kg/m <sup>3</sup> (ranges from 585-705 kg/m <sup>3</sup> )
Modulus of elasticity	12.0 GPa
Modulus of rupture	100 MPa
Shear strength parallel to grain	12.5 MPa
Compression strength parallel to grain	47 MPa
Side Hardness	4.5 kN
Tangential shrinkage – green to 12% MC	5.7 %
Radial Shrinkage – green to 12% MC	2.6%

#### Machining:

The wood of silver beech is very easily turned and shaped, and having no silica content, it does not blunt cutting knives. It is also an excellent carving timber.

#### Gluing and coating considerations:

No particular considerations.

## INFORMATION SHEET – SILVER BEECH (CONTD)

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### **Sustainability:**

- All supplies of available silver beech in New Zealand are required to be managed to exacting standards under detailed long term Sustainable Management Plans. Silver beech is harvested under such sustainable forest management permits from the Ministry of Agriculture and Forestry. This guarantees a sustainable supply for future generations.
- The use of sustainably managed silver beech is a positive alternative to using less sustainably managed timbers such as imported hardwoods, and illegally logged rainforest.
- The majority of Southland silver beech is from sustainably managed second growth (previously harvested and regenerated) forest, of an average age of 75-80 years, with FSC certified supplies available.
- Generally-speaking, plantation-grown and second-growth regenerated native forest timbers can produce breast height diameters of 60cm, and small quantities of heartwood within 75 years.

**To locate suppliers of silver beech, visit the vendor's database on the NZ Wood website:  
[www.nzwood.co.nz](http://www.nzwood.co.nz)**

# INFORMATION SHEET

## RED BEECH



**Common names:** Tawhairaunui, Red beech

**Botanical name:** *Nothofagus fusca*

### WHY USE RED BEECH?

Red beech is sourced from sustainably managed forests. It is extremely stable, suitable for interior joinery and flooring, and the fine even texture makes it most suitable for turning into dowels and brushware. Being very hard-wearing, it is also suitable as stair treads and flooring. As a flooring timber, it has a very attractive figurative appeal and lustre, and is significantly harder and more resistant to impact than alternative attractive softwood species such as rimu and matai. Red beech can also be used for upmarket furniture items. Due to the natural durability of the timber to H3.2 hazard class, it is a suitable alternative to hardwood timbers and makes an excellent alternative for use as outdoor furniture settings and decking timber.

### APPEARANCE AND DESCRIPTION:

The dry heartwood is a light to medium red-brown colour. The sapwood is light brown to white exhibiting toning in greys, browns, and greens. Once dry, red beech is considered the most stable timber in New Zealand due to its very tight cell structure.

### PERFORMANCE CHARACTERISTICS

#### Durability:

Red beech is naturally durable to Hazard class H3.2, and is not prone to household borer attack.

#### Mechanical Properties:

Density at 12% moisture content (MC)	630kg/m <sup>3</sup> (ranges from 625-740 kg/m <sup>3</sup> )
Modulus of elasticity	11.6 GPa
Modulus of rupture	116 MPa
Shear strength parallel to grain	13.6 MPa
Compression strength parallel to grain	54 MPa
Bending Strength	116 MPa
Side Hardness	5.4 kN
Tangential shrinkage – green to 12% MC	7.6%
Radial Shrinkage – green to 12% MC	2.4%

#### Machining:

Red beech combines the qualities of excellent sawing, machining, turning, finishing and bending properties with good strength, durability, hardness and exceptional dimensional stability.

#### Gluing and coating considerations:

No particular considerations.

### **SUSTAINABILITY:**

- All available supplies of red beech in New Zealand are required to be managed to exacting standards under detailed long term Sustainable Management Plans and Permits that are registered against the land. Red beech is harvested under such sustainable forest management plans and permits approved by the Ministry of Agriculture and Forestry. This guarantees availability of a sustainable supply for future generations.
- The use of sustainably managed red beech is a positive alternative to using less sustainably managed timbers such as imported hardwoods, and illegally logged rainforest.
- There is a substantial potential volume available from red beech. The beeches are well suited to sustainable management by restocking from natural regeneration. High quality sawlogs can also be produced in optimal conditions in 60-80 years from managed forests on a continuing basis.
- Generally-speaking, plantation-grown and second-growth regenerated native forest timbers can produce breast height diameters of 60cm, and small quantities of heartwood within 75 years.

**Visit the vendor's database on the NZ Wood website to locate suppliers of red beech:**  
[www.nzwood.co.nz](http://www.nzwood.co.nz)