



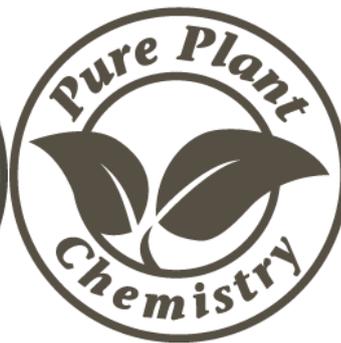
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## Grading and Specifications

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**Grading** is based on green sawn visual grading rules. Grading includes a subjective visual assessment of two edges and the best face of each board. Green sawn grading establishes an accurate assessment of the timber to ensure heart wood is extracted for use in cladding, decking and general exterior categories. Green sawn grading is very important where natural durability **Class Rated** timbers are concerned. All Class ratings for natural durability timbers are based on heartwood. Sapwood inclusions open a pathway for decay to enter the timber and shorten the durability term considerably.

**Table 1. Natural Durability Classes:**

Foreverbeech™ products consist of species with naturally occurring durability. As such they are classified by Branz / Scion in accordance with the durability class system shown below. Heart wood of red beech is classified as Class 2 durable hazard class equivalent H3.2 treatment. Red beech sapwood is class 3 moderately durable. Silver beech heartwood is Class 3 moderately durable. Silver beech sapwood is class 4 non-durable Hazard class equivalent H3.1.

Source <http://www.nzwood.co.nz/forestry-2/red-beech/>

Durability class	Fully protected from weather	Above ground but exposed to weather	In-ground contact and exposed to weather
Class 1 -very durable	50+ years	40+ years	25+ years
Class 2 - Durable	50+ years	15-40 years	15-25 years
Class 3 - Moderately durable	50+ years	7-15 years	5-15 years
Class 4 – Non-durable	50+ years	0-7 years	0-5 years
<b>Source: BRANZ bulletins <sup>-1</sup></b>	<a href="http://www.nzwood.co.nz/forestry-2/red-beech/">http://www.nzwood.co.nz/forestry-2/red-beech/</a>		

**Table 2. Physical Characteristics:**

Timbers from natural sources can be very variable in physical characteristics. The table below summarises physical characteristics from BRANZ bulletins.

Physical characteristics	Red Beech	Silver Beech
Tangential shrinkage (green to dry)	7.1-7.5%	5.7-6.9 %
Radial shrinkage	2.4-3.3%	3.1-3.7 %
Strength group S1-S8	S3	S4
Density	740 kg/m <sup>3</sup>	450-650 kg/m <sup>3</sup>
Hardness	5.2	3
Durability class	2	3
Lyctid susceptibility	NS	NS
Machining	Excellent workability	Easy to work with only moderate blunting effect on cutting edges
Bending		Can be easily steam bent
Staining	Stains and polishes well with a deep lustrous finish	Stains and polishes well with a deep lustrous finish
Stability	Excellent dimensional stability once dry	Excellent dimensional stability once dry
Other	Has corrosive effect on ferrous fasteners	
<b>Source: BRANZ bulletins</b> <sup>-1</sup>	<a href="http://www.nzwood.co.nz/forestry-2/red-beech/">http://www.nzwood.co.nz/forestry-2/red-beech/</a>	

<b>Species</b>	<b>Red Beech Class 2 Botanical name: Nothofagus fusca</b>
<b>Grade description</b>	Heartwood timber specifically targeted at exterior use application such as cladding. Knots limited to tight and sound.
<b>Species</b>	Red and hard beech
<b>Status</b>	Kiln Dried to average moisture of 12%
<b>Durability</b>	The heart wood of red and hard beech is classified as a naturally durably <b>class 2</b> timber and as such is considered suitable for external use.
<b>Widths (mm)</b>	150, 125, 100, 75
<b>Thickness (mm)</b>	25
<b>Lengths</b>	1.000 to 5.400 random length pack lots.
<b>Straightness</b>	Must be less than 10% of width of board as measured at the mid-point on a line between inside ends
<b>End splits</b>	End splits longer than 50mm not allowed
<b>Surface checking</b>	Fine surface checking with checks less than 2mm wide allowed on back face only
<b>Surface distortion</b>	Surface distortion can be expected. Timber is cut oversize to allow any distortion to be machined out.
<b>Cracks</b>	Not allowed.
<b>Knot holes</b>	Tight and sound knots up to 50mm. 3 knots permissible per metre.
<b>Pinhole</b>	Max 10 per board.

<b>Species</b>	<b>Red Beech &amp; Silver Beech Class 3 to Class 4</b>
<b>Grade description</b>	Predominantly sapwood and colour timber specifically targeted at interior use application such as flooring and decorative uses. Knots limited to tight and sound.
<b>Status</b>	Kiln Dried to average moisture of 12%
<b>Durability</b>	Sapwood is <u>not</u> regarded as durable for external use.
<b>Widths (mm)</b>	200, 150, 125, 100, 75
<b>Thickness (mm)</b>	50mm Silver Beech only 25mm Red and Hard Beech
<b>Lengths</b>	0.600 to 5.400 random length pack lots.
<b>Straightness</b>	Must be less than 10% of width of board as measured at the mid-point on a line between inside ends
<b>End splits</b>	End splits longer than 50mm not allowed
<b>Surface checking</b>	Fine surface checking with checks less than 2mm wide allowed on back face only
<b>Surface distortion</b>	Surface distortion can be expected. Timber is cut oversize to allow any distortion to be machined out.
<b>Cracks</b>	Not allowed.
<b>Knot holes</b>	Tight and sound knots up to 50 mm diameter. 3 knots permissible per metre
<b>Sapwood</b>	Unlimited
<b>Water stain</b>	
<b>Fillet Stain</b>	Allowed, shown to dress out
<b>Pinhole</b>	Max 10 per board.

<b>Species</b>	<b>Heritage Red &amp; Silver Beech Class 3 – Class 4</b>
<b>Grade description</b>	Mixture of sap and heartwood timber exhibiting high feature appearance caused by historical platypus beetle attack of live trees. Beetle does not survive kiln drying process or in green sawn timber
<b>Species</b>	Red and silver beech
<b>Durability</b>	Sap wood is <u>not</u> regarded as durable for external use.
<b>Widths (mm)</b>	125, 100
<b>Thickness (mm)</b>	25
<b>Lengths</b>	0.600 to 5.400 random length pack lots.
<b>Straightness</b>	Must be less than 10% of width of board as measured at the mid-point on a line between inside ends
<b>End splits</b>	End splits longer than 50mm not allowed
<b>Surface checking</b>	Fine surface checking with checks less than 2mm wide allowed on back face only
<b>Surface distortion</b>	Surface distortion can be expected. Timber is cut oversize to allow any distortion to be machined out.
<b>Cracks</b>	Minor cracking allowed
<b>Knot holes</b>	Tight and sound knots up to 50mm. 3 knots permissible per meter
<b>Sapwood</b>	Unlimited
<b>Water stain</b>	Allowed
<b>Fillet stain</b>	Allowed, shown to dress out
<b>Pinhole</b>	Unlimited. Defining appearance characteristic of grade. It is important to note that pinhole borer do not exist in dried timber and beech timber is regarded as not susceptible to common Lyctid household borer.

<b>Grade name</b>	<b>Green Sawn Red Beech Class 2 – Class 3</b>
<b>Grade description</b>	Green sawn heart beech
<b>Species</b>	Red, and hard beech
<b>Status</b>	Green sawn
<b>Durability</b>	The heartwood of red and hard beech is classified as a naturally durably <b>class 2</b> timber and as such is considered suitable for external use.
<b>Widths (mm)</b>	200, 150, 125, 100, 75
<b>Thickness (mm)</b>	100, 75, 50, 25
<b>Lengths</b>	1.200 to 5.400 random length pack lots.
<b>Straightness</b>	
<b>End splits</b>	End splits longer than 100mm not allowed
<b>Surface checking</b>	Surface checking can be expected to occur as timber seasons.
<b>Cracks</b>	Tension occurring in seasoning timber may lead to end checking.
<b>Knots</b>	Tight and sound knots up to 50mm
<b>Sapwood</b>	Up to 20% of width of board if constrained to one edge
<b>Water stain</b>	NA
<b>Fillet stain</b>	NA
<b>Pinhole</b>	Unlimited

<b>Grade name</b>	<b>Green Sawn Silver Beech Class 3 – Class 4</b>
<b>Grade description</b>	Green sawn heart beech
<b>Species</b>	Silver Beech
<b>Status</b>	Green sawn
<b>Durability</b>	Sap wood is <u>not</u> regarded as durable for external use.
<b>Widths (mm)</b>	200, 150, 125, 100, 75
<b>Thickness (mm)</b>	100, 75, 50, 25
<b>Lengths</b>	1.200 to 5.400 random length pack lots.
<b>Straightness</b>	
<b>End splits</b>	End splits longer than 100mm not allowed
<b>Surface checking</b>	Surface checking can be expected to occur as timber seasons.
<b>Cracks</b>	Tension occurring in seasoning timber may lead to end checking.
<b>Knot holes</b>	Tight and sound knots up to 50mm
<b>Sapwood</b>	Up to 20% of width of board if constrained to one edge
<b>Water stain</b>	NA
<b>Fillet stain</b>	NA
<b>Pinhole</b>	Unlimited