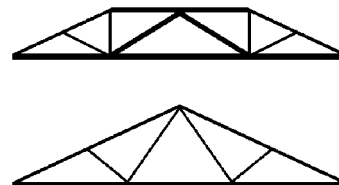
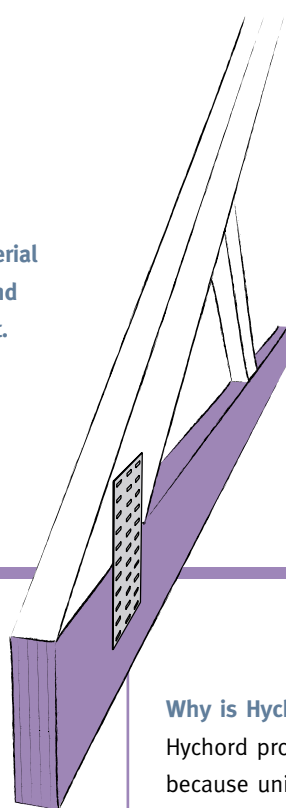


Hychord® – The new truss fabrication material for high load applications where high strength and predictable deflection performance are paramount.



With Hychord designers can confidently exploit the excellent strength properties for minimum sections and then utilize the predicted deflection performance to apply just the right amount of camber to ensure flat ceilings and a no ‘dips or bumps’ roof line.

The difference between Hychord and ordinary timber, in this respect, is enormous – consider the following example.

A truss designer has designed a girder truss and calculated the long term deflection as 20 mm based upon the average E given in AS 1720 for the particular grade of timber being used. Camber of 20 mm is to be used to offset the effect of differential deflection. Consider the three scenarios illustrated in the following table –

TRUSS MATERIAL	Range of possible truss deflections		
	High	Average	Low
1. F-grade timber	30 mm	20 mm	10 mm
	Possible variation ± 10 mm		
2. MGP grade timber	26 mm	20 mm	14 mm
	Possible variation ± 6 mm		
3. Hychord LVL	23 mm	20 mm	17 mm
	Possible variation ± 3 mm		

Note: The calculations of the range of possible actual deflections have been performed using relationships between average E and lower fifth percentile E given in AS 1720. Lower bound estimates of deflections are based on the assumption of a symmetrical normal distribution.

In all three cases, the material is within grade, the design is ‘correct’ but only in the case of Hychord can the designer select the appropriate amount of camber with the confidence that the end result will provide the quality of finish demanded.

Why is Hychord better?

Hychord provides predictable deflection performance because uniformity is built-in during manufacture. Radiata pine veneer is ultrasonically graded and sorted for stiffness and then laminated into twelve layers in a carefully controlled predetermined pattern that ensures a high degree of uniformity for Modulus of Elasticity and the predictable deflection performance needed for efficient use of camber in truss design.

Hychord also has some other important qualities –

- Straight and true for ease of positioning and assembly and distortion free trusses.
- Lengths available to 12.0 metres – minimize jointing and wastage
- Set length packs are standard – careful selection of purchase lengths will minimize wastage and speed production
- Ready availability
- High strength (comparable to F17) yet light to handle
- Plates readily pressed
- Distinctive purple colour – helps to promote quality
- Manufactured from 100% plantation pine – a totally renewable resource
- Wood based product – use of structural wood stores carbon and helps reduce greenhouse gas emissions
- Manufactured and properties evaluated in accordance with AS/NZS 4357 Structural laminated veneer lumber – totally compatible for engineering design in accordance with AS 1720.1 – 1997, Timber structures, Part 1: Design methods.
- Product certified by the Plywood Association of Australia – your guarantee of performance.



Laminated Veneer Lumber to AS/NZS4357



HYCHORD SPECIFICATION

Hychord is structural laminated veneer lumber manufactured in accordance with AS/NZS 4357 and having the structural design properties specified in the adjacent table.

Veneer

Thickness (nominal)	3.2 mm
Species	Radiata Pine
Grade	D AS/NZS 2269
Joints face	Scarf
Joints other	Butt/Scarf

Moisture Content: 7% - 15%

Dimensional Tolerances:

Depth	-0 mm, + 2 mm
Thickness	-0 mm, + 2 mm

Density: 600 kg/m³ (approximately)

Adhesive & bond: Phenolic adhesive
Type "A" (marine) bond
Refer AS/NZS 2098 & AS 2754

DESIGN PROPERTIES FOR HYCHORD

Characteristic strength

Bending	f'_b	48 MPa
Tension parallel to grain	f'_t	30 MPa
Compression parallel to grain	f'_c	45 MPa
Shear in beams	f'_s	5.3 MPa
Compression perpendicular to grain	f'_p	12.0 MPa
Shear at joint details	f'_{sj}	5.3 MPa

Modulus of elasticity

E 11.0 GPa

Joint group

For nails, bolts and screws only	JD4
For nail-plates	refer to nail-plate manufacturer

Finish: Unsanded faces, sawn edges & arrises chamfered. Painted with one coat of purple acrylic stain.

Branding: Each piece of Hychord is branded at least once with the Hychord, PAA and JAS-ANZ Logos for identification and evidence of compliance with manufacturing quality control standards.

HYCHORD SIZES, QUANTITIES PER PACK AND LENGTH AVAILABILITY

Hychord sizes	90 x 35	115 x 35	130 x 35	150 x 35	170 x 35	200 x 35
Pieces/pack	65	50	45	40	35	30

Lengths Any length to 12.0 m in 0.3 m increments

Enquiry recommended for sizes and lengths outside of the above range.

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