



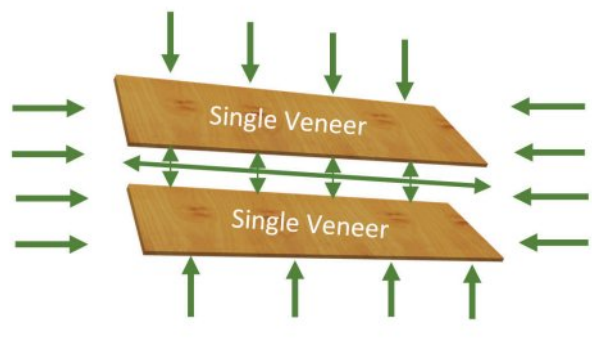
NiuBarrier is a softwood faced structural panel which is a specifically designed reflective noise barrier for arterial roads, residential and rail corridors.



NiuBarrier is Manufactured to AS/NZS2269, and is a high-quality structural panel with reliable structural properties, in a range of panel lengths to suit the most demanding applications.

Manufactured from 100% sustainable plantation pine NiuBarrier utilizes the veneer preservation treatment method to ensure complete protection from termites and fungal decay (rotting). Veneer treatment is the only way to ensure any unsealed cut panels will not decay.

Veneer treatment method is where the individual sheets of veneer are preservative treated before being fabricated into plywood to ensure 100% penetration. The treated veneers are then bonded with a permanent phenolic resin which is often referred to as “A” bond or Marine “A” or Structural bond. Structural “A” bonds require rigorous testing after submersion in boiling water for 72 hours or 6 hours under high pressure steam to ensure a high-quality bond.



The Features & Benefits of NiuBarrier

- Renewable 100% Plantation pine manufactured using hydro-electric power
- Low embodied energy
- Manufactured to stress grade F14
- Preservative treated to H4 by Veneer treatment
- Manufactured with “A-Bond” Phenolic adhesive.



Above: Inside PNGFP's fourth and newest Hydro Power Station located at Baime, Morobe Province Papua New Guinea



STRUCTURAL ATTRIBUTES	PANEL THICKNESS (mm)			
	27	27	31	33
Construction Code as per AS/NZS2269	27-30-11	27-30-9	30-30-9	33-30-11
Moment of Inertia (<i>I_{par}</i>) mm ⁴ /mm	1210	1110	1499	1940
Moment of Inertia (<i>I_{per p}</i>) mm ⁴ /mm	595	580	836	1150
Section modulus (<i>Z_{par}</i>) mm ³ /mm	86	81	98	115
Section modulus (<i>Z_{perp}</i>) mm ³ /mm	51	52	66	81
Modulus of Elasticity - <i>E_{par}</i> & <i>perp</i> Mpa	12000	12000	12000	12000
Characteristic Strength Bending- <i>f_{t par}</i> & <i>perp</i> Mpa	36	36	28.8	36
¹ Characteristic Strength Tension- <i>f_{t par}</i> & <i>perp</i> Mpa	22	22	22	22
Characteristic Strength Panel Shear (<i>f_{t par}</i> & <i>perp</i>) Mpa	4.8	4.8	4.8	4.8
¹ Scarf joint bending strength factor 0.8				

NiuBarrier Specification

Surface Finish	Reeded (Slim Line Grooves). Must be coated by installer prior to installation or on site with a suitable acrylic paint system e.g Dulux Weathershield, (or equivalent) in accordance with manufacturers recommendations.
Sheet Length	2400mm, 2700mm, 3000mm.
Sheet Width / Cover	1200mm
Sheet Thickness	27, 33mm in 2400mm long panels; 31mm in jointed 2700mm and 3000mm long panels.
Face Back Grade	BB (unfilled) or CC (unfilled).
Veneer Species	Hoop, Klinki.
Stress Grade	F14
Approximate Density	600 kg/m3: • 16 kg/m2 for 27mm • 19 Kg/m2 for 31mm • 20 kg/m2 for 33mm
Joining System	Polypropylene tongue
Preservative Treatment	ACQ H4 by individual veneer
Bond Type	"A" Bond in accordance with AS/NZS 2098.2
Product Certifications	EWPA Certificate and PEFC Chain of Custody.
Design Life	40-year bond as per guidance in AS/NZS 2754. 50-year treatment warranty. Must be coated (and maintained) with a minimum 3 coats of Acrylic paint to paint manufacturers specifications, or equivalent.
Manufacturing standards	AS/NZS 2269-2012 (unfilled defect) AS/NZS 1604-2021



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