Accreditation & Sustainability

PNGFP Operates a Chain of Custody Management System compliant with PEFC 2002:2013, Chain of Custody of Forest Based Products – Requirements.... www.pefc.org

Sustainable Timber Resource and Hydro Power

PNGFP’s timber is sourced from sustainable pine plantations in the Bulolo and Wau districts. These plantations are managed by the PNG Forest Authority and harvesting is carried out by PNGFP.

The plantations were established in the 1950’s and cover an area of approximately 10,000 hectares. The majority of the timber in the plantations is Hoop and Klinkii Pine which are native to the area.

PNGFP operates 3 hydro power stations at Baiune, some 20 minutes from Bulolo. These power stations supply all of the Company’s production, commercial and residential power requirements. PNGFP also supplies bulk power to PNG Power’s Ramu grid and to Wau. PNGFP operates as the power supply authority in Bulolo supplying power to local businesses and domestic consumers.

PNGFP’s 9.4MW power station at Upper Baiune, generates additional power to supply to PNG Power’s Ramu grid. This is a major undertaking for the Company and is the first such project in PNG whereby a hydro power station has been built by a private organisation as a commercial venture for the sole purpose of supplying electricity to PNG Power.

The combination of sustainable timber resources processed with sustainable hydro power makes PNGFP’s Engineered Wood Products truly and uniquely green.
PNGFP BUSINESS ACTIVITIES

Plywood manufacture: Historically the mainstay of PNGFP, high quality plywood is produced to Australian & NZ standards in accordance with Engineered Wood Products Association of Australasia Quality Assurance procedures, with regular independent testing carried out by the EWPAA. A complete range of plywood products is produced including the highly sought after marine and furniture grade plywood, concrete form ply, general structural grade plywood, wall and ceiling linings, barrier board, decks and bridges. Plywood is also available with CCA and ACQ treatment. This plywood is sold in the domestic PNG market and exported to Australia, New Zealand, Asia and the South Pacific.

Sawmill: Producing a range of plantation pine timber, poles, posts and mouldings all fully pressure treated with either CCA or ACQ. Sawn timber is sold predominantly in the domestic market place and when market conditions prevail, exported to Australia. PNGFP is the preferred supplier of most power poles throughout the country and have been the main supplier to PNG Power for decades.

Joinery Shop: The factory produces a range of quality solid timber furniture from dining and lounge room through to bedroom and outdoor furniture, as well as office and commercial cabinetry.

Doors: A range of both exterior and interior grade doors, in both hollow core and solid core are manufactured in our plymill facility. We also produce ledge and brace doors as well as timber fly screen doors.

Prefabricated Buildings: The NuHomes product range includes:
- Residential and Suburban house ranges, Hause Ples village style housing, duplexes, clinics and aid posts, school projects including double and single classrooms, all classroom furniture, dormitories, mess, library, ablution blocks and assembly halls.
- Commercial centres and retail premises, workshops, warehouses and office blocks.
- All mining camp building projects including multi-room accommodation blocks, recreational rooms, demountable units, kitchen and dining facilities.

Prefabricated Bridge & Bridge Decking: Under NiuBridge and NiuDeck brands, PNGFP produce quality modular kit bridge and decking systems which are tested to withstand up to 50 tonne payload. This comprehensive bridge building system is a cost effective solution for refurbishment of existing structures as well as new bridge construction.

Retail: PNGFP operates the largest retail outlet in the area which includes a petrol station, butchery, freezer department with fruit and vegetables, a bakery, hardware store and well-stocked variety of products including wholesale.

Farm: Our farm carries approximately 1,100 head of cattle which supplies beef to the retail stores.

Country Club: Opened in 1947 with a beautiful maintained course that has hosted many large PNG golfing events including a National Ambrose every year. The Country Club provides accommodation, meals and tours of the Bulolo region and comprises 20 fully serviced bungalows along with bar and restaurant facilities.

The JAS-ANZ Standards for plywood

The EWPAA Quality Control and Product Certification program underpins all the elements of the EWPAA's market development program.

The quality control programme commenced in 1963 as an industry wide self-help program. It has been an essential requirement to give the program credibility through public transparency and independence. To this end the EWPAA laboratory in Brisbane became a registered National Association of Testing Authorities (NATA) Laboratory in 1969. In 1994 the EWPAA Quality Control Program was registered by NATA as a Quality Managed System under ISO 9002.

The highest level of independence and credibility was achieved in 1996 when the EWPAA Quality Control Program and Product Certification Scheme was directly accredited by the Joint Accreditation System - Australia and New Zealand (JAS-ANZ) as a product certification program. The EWPAA JAS-ANZ accredited product certification scheme is an industry wide product certification based upon the requirements of the International Organisation for Standardisation (ISO) Type 5 system.

Additionally, final end product quality is independently verified by an external body (EWPAA) by testing and inspection of test samples supplied by the mill on a daily basis as well as product selected independently from the open market. This ISO Type 5 system provides the highest confidence in end product quality.

Veneer Arrangement

This diagram shows the veneer arrangement and the direction of the wood grain.

Glue Types

‘A’ Bond – Phenol Formaldehyde – Set permanently under heat & pressure.
Forms a permanent bond that will not deteriorate under wet conditions or heat and cold.

‘D’ Bond – Phenol Formaldehyde
Internal use only, cannot be used externally. Does not comply to structural requirements.

It is worth noting that the Australian National Gallery only use Hoop ply with ‘A’ Bond to store and transport the nations’ art treasures.
Veneer Face Grades
PNGFP plywood sheeting is available in a number of grades from high quality appearance grades with limited imperfections to non-structural, non-appearance grades with no manufacturing standard. This range of options ensures the best possible veneer grades for aesthetic applications whilst allowing for significant cost savings where appearance grade is not required. Please note only average product samples represented.

**A VENEER FACE**
High quality appearance grade veneer suitable for a clear finish.
*Species: Hoop, Pine*
*Products: AA Marine Ply*

**Permitted Imperfections**
- Filled holes: <= 6mm across grain. Max 4/sheet
- Knots: <= 4mm across grain. Max 4/sheet
- Pin knots: <= 2mm across grain
- Filled splits: <= 3mm across grain. Max 2/sheet
- Roughness: slight within area of imperfection
- Discolouration: slight natural discolouration

**B VENEER FACE**
Appearance grade veneer suitable for high quality paint and stain finishes - PrufPly.
*Species: Hoop, Pine*
*Products: Cladding & Furniture*

**Permitted Imperfections**
- Filled holes: <= 20mm across grain over 500mm2
- Knots 1: <= 25mm across grain: no limit
- Knots 2: >25mm <40mm. Max 4/sheet
- Filled splits: <= 3mm across grain: no limit
- Glue bleed through: no limit
- Roughness: slight within area of imperfection
- Discolouration: no limit

**C VENEER FACE**
Non-Appearance grade veneer with a sanded solid surface suitable for non decorative applications.
*Species: Hoop, Klinkii, Caribbean Pine*
*Products: Structural, Common Ply.*

**Permitted Imperfections**
- Filled holes: <= 50mm across grain: no limit
- Knots (sound): <= 50mm across grain: no limit
- Splits 1: <= 9mm across grain and <= 600mm long
- Glue bleed through: no limit
- Roughness: slight within area of imperfection
- Discolouration: no limit

**D VENEER FACE**
Non-Appearance grade veneer with permitted open imperfections.
*Species: Hoop, Klinkii, Caribbean Pine*
*Products: Structural Ply, Bracing Ply, Econo Ply*

**Permitted Imperfections**
- Filled holes: <= 50mm across grain: no limit
- Knots (sound): <= 50mm across grain: no limit
- Splits 1: <= 9mm across grain and <= 600mm long
- Glue bleed through: no limit
- Roughness: slight within area of imperfection
- Discolouration: no limit

**E GRADE**
Non-structural Non-appearance grade
No manufacturing standard
No imperfections limit
Ideal for packing grade applications
*Species: Hoop, Klinkii, Caribbean Pine*
*Products: Packaging EE Grade*

**NIUFORM**
NIuForm is a softwood, faced formwork panel which is suitable for most visual applications. When used in conjunction with good formwork practices, NIuForm achieves a class 3 off form finish as per AS 3610.

- **Sheet Sizes:** 1800 x 1200 & 2400 x 1200
- **Thickness:** 17mm
- **Manufacturing Standard:** AS/NZS 6669
- **Stress Grades:** F14 or F17
- **Class:** 3 Off form finish

**OUTPFORM**
OUTPform is a high quality softwood, faced formwork panel with a speciality phenolic resin impregnated overlay, specifically designed to provide a smooth surface finish and allow for multiple reuse of panels in concrete pours. OUTPform F17 achieves a class 2 or 3 off form finish as per AS/NZS 6669 and is ideal for both commercial and civil construction applications.

- **Sheet Sizes:** 1800 x 1200 & 2400 x 1200
- **Thickness:** 12mm & 17mm
- **Manufacturing Standard:** AS/NZS 6669
- **Stress Grades:** F17, F22, F27
- **Class:** 2 Off form finish*

* subject to conditions detailed in PNGFP Technical Information sheet

**NIUCLAD**
NIuClad is a superior external plywood cladding that provides a sophisticated external appearance for residential and commercial buildings.

- **Sheet Size:** 2440 x 1216
- **Thickness:** 12mm
- **Treatment:** ACQ treated veneer

Available in rough sawn profile
DURAPLY | DURAFLOOR
DuraPly is a treated structural plywood suitable for applications in both residential and commercial sectors, in areas of high moisture and intermittent wetting. DuraFloor is tongue & groove treated structural plywood suitable for flooring in both residential and commercial sectors.

- Sheet Size: 2400 x 1200
- Thickness: 15, 17, 19, 21 & 25mm
- Manufacturing Standard: AS/NZS 2269
- Stress Grade: F14
- Treatment: ACQ treated veneer

Available in CD Hoop and Klinkii faces

NIUCOACH
NiuCoach is an economical structural plywood panel designed for use on bus floors and which has a unique preservation treatment protecting the floor from fungal decay for at least 15 years.

- Sheet Size: 2400 x 1200
- Thickness: 15, 17, 19, 21 & 25mm
- Manufacturing Standard: AS/NZS 2269
- Stress Grade: F14
- Treatment: ACQ treated veneer

NIUBARRIER
NiuBarrier is designed to protect home owners and pedestrians from road or rail noise. It has a very high acoustic damping performance, reducing noise levels dramatically.

- Sheet Size: 2400 x 1200
- Thickness: 27, 33mm
- Manufacturing Standard: AS/NZS 2269
- Stress Grade: F14
- Treatment: ACQ treated veneer H3, H4

MARINE PLY
Marine Ply is a structural plywood designed for use in the hulls of boats and other marine applications as well as aircraft construction and kitchen joinery.

- Sheet Size: 2400 x 1200
- Thickness: 4, 6, 7, 9, 12, 15, 17, 19, 21 & 25mm
- Manufacturing Standard: AS/NZS 2272
- Stress Grade: F14
- Face Grade: AA

Available in Hoop faces

STRUCTURAL PLY
Structural plywood is designed for use in many applications including shelving, bracing, and commercial flooring.

- Sheet Size: 2400 x 1200
- Thickness: 4, 6, 7, 9, 12, 15, 17, 19, 21 & 25mm
- Manufacturing Standard: AS/NZS 2269
- Stress Grade: F14
- Face Grades: CD, DD
- Available in Hoop, Klinkii & Caribbean

PRUFPLY
PrufPly is suitable for use internally, as lining, feature panels, door skins or furniture where a clear or painted finish is required.

- Sheet Size: 2400 x 1200
- Thickness: 4, 6, 9, 12, 15, 17mm
- Manufacturing Standard: AS/NZS 2270
- Face Grade: BD
- Available in Hoop, Klinkii & Caribbean

COMMONS
Commons is suitable for 101 uses around the home and general construction, where a filled face for a painted finish is acceptable.

- Sheet Size: 2400 x 1200
- Thickness: 4, 6, 9, 12, 15, 17mm
- Manufacturing Standard: AS/NZS 2270
- Face Grade: CD
- Available in Hoop, Klinkii & Caribbean

ECONO PLY / PACKAGING PLY
Econo Ply is a low grade ply for use internally and for packaging where a natural or painted finish is acceptable.

- Sheet Size: 2400 x 1200
- Thickness: 4, 6, 9, 12, 15, 17mm
- Face Grade: DD
PNGFP manufactures high quality, flush panel solid & hollow core doors for exterior & interior use. Doors can be clear finished or painted.

**Standard Grade**
- Sizes: 2040 x 820 x 35mm, 2040 x 820 x 35mm
- Core: Solid or Hollow
- Face Grade: BB

**Commons Grade (paint grade)**
- Sizes: 2040 x 820 x 35mm, 2040 x 760 x 35mm
- Core: Solid or Hollow
- Face Grade: CC

### Plywood Applications - plus many more...
- Sound Barriers
- Structural Ply
- Niu Form
- Boat Building
- Furniture
- Flooring
- Packaging
- Walls and Cupboards
- Bridges - Niu Bridge
- Niu Form

### Plywood Treatment Methods

**ACQ - Full Veneer Treatment**
PNGFP ACQ treated plywood is manufactured by the Veneer treatment method where each veneer is treated prior to the drying process and subsequent manufacture into plywood. This method ensures surface dryness of the treated panel and complete (100%) penetration to ensure maximum protection against rotting and insect attack. 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.

**CCA - Envelope Treatment**
CCA employs an envelope treatment where untreated plywood is pressure impregnated with the preservation treatment chemical in a treatment cylinder. At the end of this process the plywood is saturated with moisture contents in excess of 50%. In order to ensure dimensional stability for the intended application, the plywood is air dried to a moisture content of approximately 15%. The air drying process consists of separating adjacent sheets of plywood with sticks of timber placed across the sheet and evenly spaced along the sheet. These sticks separate the sheets and allow airflow between the sheets which is necessary for the drying process. The “sticks” tend to leave cosmetic marks on the sheet due to the drying process, however this does not affect the structural performance of the plywood or the efficacy of the treatment process.

### Treatment manufacturing standard:
AS/NZS 1604.3 Specification for preservative treatment Part 3: Plywood

### Working Safely with Treated Plywood

**Don’t forget to wear**
- Gloves
- Goggles
- Mask

**Never...**
- Cook with it
- Use it for animal litter
- Burn it

**Always...**
- Wash separately
- Dispose waste in approved landfill
NIUDECK
NiuDeck is a purpose designed and engineered heavy plywood decking system primarily used for re-decking traditional timber bridges, but can also be used with steel supporting structures including wharf and rail deck applications.

- AS/NZS 2296: Plywood – Structural
- AS/NZS 1604.3 Specification for preservative treatment Part 3: Plywood
- Design Life 50+ years
- Optional bitumen sealing available

NIUBRIDGE
NiuBridge is a light weight modular system that can be installed on suitable supporting structures in hours. NiuBridge is available in single and double lane configurations for both single and multiple span applications. It includes superstructure modules, plywood decking, ballast boards, timber piles and headstocks to enable construction of bridges up to 24m.

- AS/NZS 2296, Plywood – Structural
- AS/NZS 1604.3 specification for preservative treatment Part 3: Plywood
- Design Life 50+ years
- Optional bitumen sealing

Easy and quick installation in remote areas makes NiuBridge the most cost effective simple access solution.
### TIMBER TREATMENT CHART

<table>
<thead>
<tr>
<th>Hazard Number</th>
<th>Exposure &amp; Protection</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong></td>
<td>Inside (above ground)</td>
<td>House Framing, Flooring, Furniture, Joinery</td>
</tr>
<tr>
<td><strong>H2</strong></td>
<td>Outside (above ground)</td>
<td>Fence posts, Garden walls, Greenhouses, pergolas, landscaping</td>
</tr>
<tr>
<td><strong>H3</strong></td>
<td>Outside (inside ground)</td>
<td>Window frames, Weatherboards, House Framing, Fencing, decking</td>
</tr>
<tr>
<td><strong>H4</strong></td>
<td>Outside (in ground) contact or in fresh water</td>
<td>Fence posts, Garden walls up to 1m, Greenhouses, pergolas, Landscaping</td>
</tr>
<tr>
<td><strong>H5</strong></td>
<td>Outside (in ground) contact or in fresh water</td>
<td>Corrugated Sheet Filling, Retaining walls, House shingles, Building Poles, Filling</td>
</tr>
<tr>
<td><strong>H6</strong></td>
<td>Marine waters</td>
<td>Boat hulls, Marine Fences, Jetty Cross-Breaching, Siding, Wharves</td>
</tr>
</tbody>
</table>

*and always remember.... IF YOU CUT IT, YOU NEED TO RESEAL IT*

Treated timber available from PNGFP distributors nationwide.

---

**PNGFP NiuPine**  
Engineered Wood Products

**PROTECTED FROM TERMITES & ROTTING**  
**STRONG & LONG LASTING**

**TAIM BILONG USIM PINE**

**EASY TO WORK WITH**

**VALUE FOR MONEY**

Don't be a Heri Hapsens... It's time to use Pine!

www.pngfp.com
FRAMING & TRUSSES
- Timber Sizes: 19 x 90, 140 | 35 x 140
  45 x 70, 90, 120, 140, 190mm
- Hazard Class: H3

EXTERIOR CLADDING
- Timber Sizes: 19 x 90, 140mm
- Hazard Class: H3

Vertical Shiplap
Suitable for external use

PNGFP’s exterior cladding, made from Plantation Hoop and Klinkii pine, is planed before treatment to guarantee a great surface. When the treated cladding is fixed to the framing it does not require any further protection, leaving a rustic look, although it can be painted or stained for a different look.

HORIZONTAL WEATHERBOARD
- Timber Sizes: 19 x 90, 140mm
- Hazard Class: H3

Suitable for external use

Our exterior weatherboard is made from plantation Hoop and Klinkii and planed before treatment to provide an outstanding surface finish. The weatherboard retains a natural rustic appearance and needs no further protection after installation. It can also be painted or stained to create any look required.

SOLID WOOD FLOORING, CEILING & WALL CLADDING
- Tongue & Groove Sizes: 19 x 75, 90, 140mm
- Hazard Class: H3

Suitable for external use, treated or untreated

Wood is a functional and decorative choice for flooring and wall cladding. Our solid-wood flooring is made exclusively of plantation Hoop or Klinkii pine, with their excellent characteristics giving the floor and walls natural strength and a rustic character.

WINDOW SILL
- Timber Sizes: 140 x 45mm
- Hazard Class: H3

Suitable for external use

Made from Plantation Hoop or Klinkii pine, the sill is dressed before treatment to ensure a perfect surface finish with an appealing rustic look. No further protection is needed after installing and it can be stained or painted as desired.

MOULDINGS
- Timber Sizes: Various
- Hazard Class: H2

Suitable for internal use, treated or untreated

Wood is a functional and decorative choice for mouldings. Our mouldings are made exclusively from plantation Hoop or Klinkii pine and can be either painted or stained for a different look.

DECKING
- Timber Sizes: 19 x 70, 90mm
- Hazard Class: H3

Suitable for external use

The natural qualities of Plantation Hoop and Klinkii pine give our decking strength and a unique warmth and character that will complement any home. Pressure treated according to AS/NZ standard they are ideal for external use and can be painted or stained to achieve a different look.
PLANTATION HOOP | KLINKII PINE

PNGFP produces standardised solid-wood products with a high degree of customisation. Manufactured from high-quality Plantation Hoop or Klinkii pine, the timber has excellent characteristics that make it suitable for many applications.

Dimensions: Width: 25 - 250 mm Thickness: 12 - 90 mm Length: 1.8 – 6.0 m

Wood type: Plantation Hoop/Klinkii Pine

Finishing: Dressed all round (DAR) Rough Sawn (R/S) or according to customer specifications

Moisture content: Kiln or air dried

Packaging: With or without plastic packaging according to customer preference

The base of raw materials is supplied from the pine plantations of Bulolo, Morobe Province, Papua New Guinea. All forestry operations are certified in accordance with the standards of the Forest Stewardship Council (FSC) and the programme for the endorsement of Forest Certification (PEFC).

Please contact us if you require products outside the standard selection.

### Nominal Standard Timber sizes

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>25mm</th>
<th>38mm</th>
<th>50mm</th>
<th>75mm</th>
<th>100mm</th>
<th>125mm</th>
<th>150mm</th>
<th>175mm</th>
<th>200mm</th>
<th>250mm</th>
<th>290mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 25 - 250 mm Thickness: 12 - 90 mm Length: 1.8 – 6.0 m</td>
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<tr>
<td>Wood type: Plantation Hoop/Klinkii Pine</td>
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<tr>
<td>Finishing: Dressed all round (DAR) Rough Sawn (R/S) or according to customer specifications</td>
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<td>Moisture content: Kiln or air dried</td>
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<td>Packaging: With or without plastic packaging according to customer preference</td>
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### Finished Standard Timber sizes

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>19mm</th>
<th>35mm</th>
<th>45mm</th>
<th>70mm</th>
<th>90mm</th>
<th>120mm</th>
<th>140mm</th>
<th>170mm</th>
<th>190mm</th>
<th>240mm</th>
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<tr>
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</table>

- Hazard Class: H4

Please contact us if you require products outside the standard selection.
FURNITURE
PNG Forest Products designs, manufactures and sells quality pine furniture. Produced in Bulolo at the PNGFP mill, our range of quality pine furniture is a very smart edition to any space. PNGFP also custom design and make furniture, so if you are after a unique piece or fit-out, please contact us.

Bedroom
PNG Forest Products new bedroom range is designed and manufactured using 100% locally sourced plantation timber. There is a range of furniture products to fit your lifestyle and budget.

PNG Forest Product budget bunk bed has been designed to meet the safety requirements as prescribed in Australian Standards ASNZS 4220:2010

www.pngfp.com

Finishes Available....
All furniture shown in Blackbean finish

Disclaimer: PNG Forest Products reserves the right to change any of the furniture designs without prior notice

Quality timber furniture made from 100% sustainable pine plantations right here in Papua New Guinea.
The Residential range provides premium kit homes with many optional extras to supplement this huge array of standard inclusions:

* Timber Components
* Hardware Kit
* Plumbing Kit
* Electrical Kit
* Interior / Exterior Paint

* Ceramic Tile Kit
* Joinery Kit
* Waterproofing Kit
* Ceiling Fans
* Sliding Doors

* Engineered Wood Products

Our Suburban range provides affordable, quality kit homes and offers a variety of optional extras as well as these standard inclusions:

* Timber Components
* Hardware Kit
* Plumbing Kit
* Electrical Kit
* Interior / Exterior Paint

* Ceramic Tile Kit
* Joinery Kit
* Waterproofing Kit
* Ceiling Fans
* Sliding Doors

* Engineered Wood Products

3 Bedroom models from K160,000

3 Bedroom models from K123,000

3 Bedroom models from K180,000

3 Bedroom models from K200,000
The Haus Ples range provides distinctive, rural housing with a large array of optional extras along with these standard inclusions.

- Timber Components
- Hardware Kit
- Interior / Exterior Paint
- Engineering Certificates

Haus Ples range from K80,000

**Haus Ples**

Village Living at its Best

**Floor Area**

- **Yumi High Set**: 47m²
- **Lewa Low Set**: 38m²
- **Lewa High Set**: 38m²
- **Pasin High Set**: 56m²
- **Tura**: 61m²
- **Yumi Low Set**: 36m²
- **Wara Tenks**: 10m²
- **Lik Lik Haus**: 1.1m²

**Verandah**

- 9m²

**Total**

- 56m²
- 47m²
- 47m²
- 76m²
- 70m²
- 47m²
- 3m²
- 4.4m²

**Amenities Range**

- **Building Kit**: 10m²
- **Low Set**: 3m²
- **High Set**: 4.4m²

**Ph:** 323 5995  **Web:** www.pngfp.com  **Email:** buildingsales@pngfp.com

Welcome Home
What is marine plywood?
Marine plywood is the same as structural plywood except that the veneer grades are much higher, eliminating all core gaps and defects. The glue line is exactly the same in marine ply as in structural plywood. Marine plywood is very rarely treated as it is usually given a resin, fibreglass or paint finish. However, structural plywood has greater durability when ACQ is used.

Can plywood be used in a structural diaphragm?
PNGFP plywood provides an effective diaphragm solution when designed and constructed in accordance with appropriate engineering specifications.

What filler should be used to plug nail holes in plywood?
Common wood fillers can be used with plywood, but it is important to consider the durability requirements of the application. For example, an epoxy filler must be compatible with the coating system to be applied over the plywood.

What is the weight of plywood?
The approximate density of PNGFP plywood is 620 kg/m for all types and sizes. This can vary however, dependent on species or conditions.

How should plywood be used to maximise its stiffness properties?
Structural plywood has greatest stiffness along the long-grain of the sheet, i.e. along its length, not across the width. Accordingly, flooring and roofing must be laid with the length running across the joists. If cutting plywood for shelving, the long-grain should be used between shelf supports.

What standards govern plywood production?
The highest quality for plywood production is the Engineered Wood Products Association of Australasia (EWPAA) Process Quality Control Program which assures the quality of PNGFP products with an independent quality assurance system. PNGFP products are certified by EWPAA as being E0 - in the lowest formaldehyde emission class available.

What grades of veneer are available on plywood faces?
A grade - Clear wood grain and limited natural features such as AC and AA Marine.
B grade - Attractive wood character, minor features blended with uniform wood grain such as NiuClad and PrufPly.
C grade - Displays the true nature of wood with sound natural features and distinctive wood grain such as Structural CD and Commons.
D grade - Non-appearance face such as Econo Ply.

Does plywood emit formaldehyde vapour?
PNGFP plywood is certified to EO standard, the lowest vapour rating possible and well below the international E1 standard.

Should nails or screws be used to fasten plywood to posts?
PNGFP recommends that screws (self-drilling or countersunk) be used in this application. Flat-head nails can be used but may be subject to “pulling” should the posts swell and contract.

What signa can be painted over and used with treated plywood?
Co-polymer sealants can be painted over and are compatible with treated plywood, both CCA, ACQ. Silicone sealants are not recommended in these applications.

Do cut edges of treated plywood need to be re-treated in an outdoor application?
Not if you are working with ACQ product. With CCA it is important to re-seal any cuts or machining profiles with brush-on remedial treatments.
What types of glues are used in the manufacture of plywood?
The PNGFP plywood product range uses A-bond phenol formaldehyde “Phenolic” resin that is designed for structural applications. It is thermosetting glue that will not deteriorate under the stress of heat, cold or water. It is dark red/brown in colour. It emits no formaldehyde once set, achieving the E0 emission standard.

What expansion should be allowed for in plywood that may be wet during construction?
Typically, a 2400mm x 1200mm sheet of plywood will swell between 1.3mm and 2.3mm both across and along the sheet when wet. When using tongue and groove flooring, it is recommended that a 5mm expansion gap be allowed for around the perimeter of the floor.

How long can plywood be left exposed to the weather during construction?
Untreated plywood will maintain its integrity for up to three months under normal construction conditions. It is important to minimise pooling of water on plywood during construction. Some yellowing and surface checking cracks may occur if left unprotected.

Can untreated plywood be painted or sealed and still used outside?
Preservative treatment of plywood is the only means of guaranteeing long-term durability in exposed external applications or where the moisture content will regularly exceed 18%. However, if it can be guaranteed that the plywood will remain dry, for instance by encapsulating it in fibreglass, then an untreated product will suffice. It should be noted that most paint systems are 20% to 30% porous in exposed weather conditions.

What preservative treatments are available for PNGFP products?
Bifenthrin is recommended for appearance and can be used below the Tropic of Capricorn as per QLD treatment regulations. Odourless and colourless, it is an additive to the glue formulation in the pressing of the panel.
- Bifenthrin H2 - inside above ground
- CCA is recommended for non-appearance applications and industrial solutions. Green in colour and based on a Copper-Chrome-Arsenic formulation.
  - CCA H3 - Outside above ground
  - CCA H4 - Outside in-ground
  - CCA H5 - Outside in-ground contact fresh water
  - CCA H6 - Marine waters

Expertise & Experience
PNG Forest Products is the industry leader in Engineered Wood Products and has been an invaluable player in building PNG’s future for over 60 years. Our extensive range of products for the domestic and export markets includes treated pine timber, plywood, kit homes & pre-fabricated buildings, bridges, decks, girders and kerbing.

Technology
Our modern sawmills and processing facilities offer a range of technical solutions for adapting to customer needs and specifications. We can refine our own high quality raw materials to produce customised treated pine timber, engineered wood products, blanks and components.

Raw Material
The Hoop and Klinkii pine plantations have unique qualities that are especially suited to visible wood applications and interior use. The base of raw materials is supplied from the government managed pine plantations of Morobe Province.

Distribution and Logistics
PNGFP provides flexible warehousing, distribution and logistic solutions throughout PNG, Australia, New Zealand, and the South Pacific. We work through the value-added chain with expertise, commitment and creativity.

Environment and Sustainability
All timber comes from responsibly managed renewable forests supporting the ecosystem and biological diversity. Processing facilities are powered by PNGFP’s own Hydro Power stations. The combination of sustainable timber resources, processed with sustainable hydro power makes PNGFP’s Engineered Wood Products truly and uniquely 100% green.
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