

SAVING THE TROPICAL FORESTS WITH







ONEWOOD is a breed of timber called, Homogeneous Reconstituted Timber (HRT). It is made by upcycling wood fibers from fast-growing plantation trees to form a big block of hardwood equivalent material that looks and feels exactly like natural hardwood.

Each block of ONEWOOD can be processed by any carpentry or woodworking tools and converted to almost any timber product that a hardwood can provide while maintaining the look and feel of natural wood. The possibilities are immense and we cannot wait to show it to you.



REVOLUTIONARY

Created to become structurally homogeneous, ONEWOOD works well with basic carpentry tools and woodworking methods – just like natural hardwood. Every solid piece of ONEWOOD can be transformed into any timber product without compromising on its structure, strength and even grain patterns. This unique property of homogeneity also resulted in other distinguished properties such as termite resistance and dimensional stability, all of which contributes to ONEWOOD's durability.

A considerable alternative to replace natural hardwood, this product can revolutionize the built environment and become an ideal material for developers, architects, interior designers and furniture makers.

SUSTAINABLE

Every fiber from ONEWOOD is sourced from fast growing and sustainable plantations. Furthermore, its homogeneous quality gives ONEWOOD users the opportunity to refresh and reuse this product for other possible timber works.

ECO-FRIENDLY

The determination to curb deforestation was the driving force in the development ONEWOOD. It was imminent to the producers to conceptualize and deliver a green product similar to natural wood and in due course add another solution to mitigate global warming, making the world a better place.

Beyond sourcing for eco-friendly raw materials, ONEWOOD also adopts environmentally friendly production processes.





ONEWOOD can be produced as FSC™ Certified on request.







Homogeneous Property

ONEWOOD is fabricated to be homogeneous in nature. This unique feature allows ONEWOOD to have intrinsic properties through out each and every block of timber, accompanied with its distinctive yet natural wood grain patterns.



Eco-friendly & Reusable

ONEWOOD's manufacturing processes are ecofriendly. Being homogeneous, it can be refurbished and reused for other uses.



Sustainable

ONEWOOD is made using natural fibers from fast growing plantation trees and upcycled into hardwood blocks.



Perfect for Coating

ONEWOOD is compatible with Standard Polyurethane Coating (PU), Ultra-violet Curable Coating (UV), Water-based and Oil-based finishes.



Easily Processed

ONEWOOD can be processed through the use of conventional wood working equipment.



Water Resistant

ONEWOOD is naturally water resistant and is suitable for bathroom and kitchen area usage.



Dimensionally Stable

ONEWOOD undergoes high pressure and high temperature processes which allows it to be structurally stable. In comparison to tropical hardwood, ONEWOOD has better outdoor durability and outstanding dimensional stability.



Strong Structure & Durability

ONEWOOD has properties equivalent or better than tropical hardwood. ONEWOOD has achieved Durability Class 1 under the EN 113-2 and EN 350 Standards.



Low Flame Spread

ONEWOOD's fiber has been impregnated with fire retardant additives giving it its low flame spread property. ONEWOOD can achieve the following test standards.

Fire Test Standard	Results	
BS 476 Part 7	Class 1 Surface Spread of Flame	
EN 13501-1	Class B-s1,d0 / Class B _{fl} -s1	

All fire rated ONEWOOD products available on request.



Termite Resistant

ONEWOOD is less susceptible to termite infestation as compared to natural timber.

*ONEWOOD Appendix with specific details of the properties above is available on request.

Product Specifications

Tested according to ASTM D 1037 standards for evaluating properties of wood-based fiber, ONEWOOD can be placed on par with natural tropical hardwoods like Balau, Chengal, Teak and Ironwood.

Property	Results (Standard)	Results (Metric)
Density	56.2 - 62.4 lbs/ft ³	900 - 1000 kg/m³
Maximum Crushing Strength	10,297 psi	71.0 MPa
Shear Strength	967 psi	6.7 MPa
Work to Maximum Load	7.72 lbf in/in³	0.05 N mm/mm ³
Janka Hardness	1,583 lbf	7,042 N
Bending Strength (MOR)	13,714 psi	94,557 kPa
Strength Retention after Aging	100.0%	100.0%
Modulus of Elasticity (MOE)	1,989,797 psi	13,719,167 kPa

Screw Withdrawal	Results (Standard)	Results (Metric)
Face	646 lbf	2,875 N
Edge Perpendicular to Long Side	672 lbf	2,991 N
Edge Parallel to Long Side	513 lbf	2,284 N

Dimensional Stability 50% – 90% R.H.	Results (Standard)	Results (Metric)
Length Expansion	0.07%	0.07%
Width Expansion	0.204%	0.204%
Thickness Swell	0.180%	0.180%

Tonality and Grain Variation

ONEWOOD has high natural wood fiber content which results in tonality differences within each piece, and between different pieces of ONEWOOD. The grains of ONEWOOD defer in every piece / batch just like natural timber. Oxidation may occur slowly over time and slightly darken the colour of ONEWOOD. There will be tonality difference between new pieces or freshly sanded down ONEWOOD in comparison with existing pieces of ONEWOOD.

Outdoor Weathering

ONEWOOD weathers naturally outdoors similar to natural timber. The surface of ONEWOOD turns into an elegant aging grey patina when exposed outdoors. Other typical characteristics of outdoor weathering includes surface checks. These features do not compromise the strength, durability and performance of ONEWOOD.

The rate of weathering effects on ONEWOOD varies depending on the amount of exposure to the elements such as UV rays and rain / moisture. Typically, full exposure to sun and rain weathers ONEWOOD faster than partially sheltered areas. When preferred, application of exterior coating on ONEWOOD's surface can delay the effects of outdoor weathering.

^{*}For more information on weathering effects of ONEWOOD, refer to our technical data sheet.

Additional Product Specifications

Tested in accordance with European Standard DIN EN 408 (Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties) and DIN EN 13183-1 (Moisture content of a piece of sawn timber)

Property	Results (Average)	(Minimum/Maximum)
Moisture Content	9.50%	10.1% (max.)
Bending Strength (Flatwise)	90.6 N/mm²	66.0 N/mm² (min.)
Bending Strength (Edgewise)	98.1 N/mm²	91.1 N/mm² (min.)
Bending E-module (Flatwise)	19,700 N/mm²	16,600 N/mm² (min.)
Bending E-module (Edgewise)	18,700 N/mm²	17,000 N/mm² (min.)
Compressive Strength	82.0 N/mm²	72.7 N/mm² (min.)
Compressive E-module	14,700 N/mm²	13,500 N/mm² (min.)
Tensile Strength	83.2 N/mm ²	64.8 N/mm² (min.)
Tensile E-module	15,800 N/mm²	15,300 N/mm² (min.)
Shear Strength	7.9 N/mm²	6.0 N/mm² (min.)
Shear E-module	510 N/mm ²	400 N/mm² (min.)
Formaldehyde Emission**	0.1 mg HCHO/(m²h)	

^{**}According to DIN EN ISO 12460-3, the product falls well below specified value of 3.5 mg/(m²h) based on DIBt Guideline 100.

Refurbishment

ONEWOOD can be easily sanded down to reveal a fresh layer of timber. The natural wood grains will still be visible after sanding down due to its homogeneous nature. After sanding, other treatments such as coating can be done if desired.



Weathered ONEWOOD surface

Weathered ONEWOOD surface turns in silver aging grey appearance upon exposure to constant outdoor weathering.



Sanding down

Weathered ONEWOOD can be sanded down using sandpaper or woodworking tools.



Refreshed ONEWOOD surface

After light sanding, ONEWOOD surface is refreshed to its original state. Natural wood grains are still visible due to its homogeneous property.









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ONEWOOD are manufactured to blocks of 300 mm thickness by 300 mm width and lengths up to 5500 mm. Each block of ONEWOOD can provide higher yield (up to 95% yield) of usable premium sized timber.

Its homogeneous property allows further wood working processes such as sanding down and cutting them into different sizes for use.

ONEWOOD Sawn Timber can be turned into a broad spectrum of timber products from structural to decorative purposes, making it a suitable alternative to natural hardwood. These properties grants ONEWOOD the flexibility to be used in a vast range of dimensions as follow:

Sawn Timber Dimensions (Rough)	Units (mm)
Thickness Options	25 ~ 300
Width Options	25 ~ 300
Length Options	Up to 5500



newood possibilities



INTERIOR FLOORING

ONEWOOD Interior Flooring has timeless, beautiful wide ONEWOOD timber planks that can bring a luxurious feel to every interior space.

As ONEWOOD has been awarded with the Green Label and Singapore Green Building Product accreditation, it is a suitable product for interior usage.



OUTDOOR DECKING

ONEWOOD Outdoor Decking compliments every landscaping space with its natural characteristics of wood grains while offering outdoor access for everyone to appreciate its surroundings.



FURNITURE

With premium sized ONEWOOD material block, furniture makers can make a wider range of solid timber furniture that is suitable and durable for many uses.

Unique timber products such as sculptures can also be achieved using ONEWOOD.

ONEWOOD's properties and its homogeneous nature makes it suitable for a wide range of timber products. An ideal alternative to natural timber.



CUSTOMISED TIMBER WORKS

The flexibility of fabricating ONEWOOD in large dimensions provides an option for customised timber works such as large benches.



WALL AND CEILING CLADDING

ONEWOOD wall and ceiling cladding adds warmth and ambience to spaces, adding character to your home with beautiful wood profiles.



FACADE & JOINERY

Using ONEWOOD for facades, screens or even garden fencing is a great way to enhance the aesthetic feel of every home, villa or commercial area.



Flooring is an important component of every interior space and timber has always been a popular choice for flooring due to its natural grains and colour.

ONEWOOD flooring is a unique product that excels in durability and dimensional stability as compared to natural timber. Its natural wood grains add warmth to your living space.

ONEWOOD Flooring Properties



Termite Resistant



Water Resistant



Fire Resistant



Suitable for Interior

* Refer to Pg 4 for available fire test standard compliance.

Features



Suitable for High Traffic

ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible flooring finishes, the durability of ONEWOOD Flooring is enhanced, suitable for commercial places like offices and shopping centres.



Reuse and Refurbish

ONEWOOD Flooring's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.

Standard Dimensions

Thickness mm	Surface mm B	Width mm	Tongue <i>mm</i>
12	140	145	5
15	140	145	5
18	140	145	5



Section – Typical Tongue and Groove Profile

ONEWOOD Flooring is available in wide dimensions up to 210 mm width.



Wear Protection

For areas where high traffic is expected, ONEWOOD Flooring can be coated with an additional layer of flooring finish for much improved wear, chemical and moisture resistance to your floor.

Installation

ONEWOOD Solid Flooring can be installed by laying on screed / concrete, batten and plywood base.

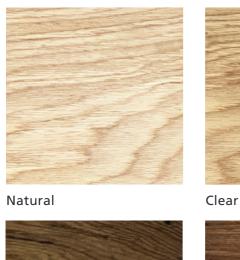
ONEWOOD Flooring Finishes can be applied as

- i. On site sand & varnish
- ii. Prefinished UV coated (MOQ required)

For technical details and drawings, kindly contact us for information.

Flooring Finishes

ONEWOOD Flooring can be coated with the following interior finishes. These finishes add resistance against wear and moisture on top of ONEWOOD's high durability and water resistant property.











Matured Teak







ONEWOOD Interior Flooring in Residential







ONEWOOD Decking system consists of solid homogeneous planks of reconstituted timber which enables resanding and refurbishing works after years of wear. It has minimal shrinkage and expansion when exposed to environmental change. Its fabrication processes allow better dimensional stability as compared to natural hardwood products.

Raised Decking / Outdoor Flooring System

When required, our decking system is compatible with high strength height-adjustable and slope correctable pedestals for raised decking or flooring conditions. It is also available in full Class 1 fire rated system including the pedestal supports.

Standard Dimensions

ONEWOOD Decking paired with PVC clip fastening system conceal screws for a neater outlook.

Thickness mm	Width mm B	Length <i>mm</i>
22	148	2500 and / or 3000
24	148	
20	95	

For enquiry on customised decking systems, please contact us.

For outdoor weathering properties, please refer to page 5 of catalogue.

ONEWOOD Decking Properties



Termite Resistant



Water Resistant



Fire Resistant*

* Refer to Pg 4 for available fire test standard compliance.

Features



Suitable for High Traffic

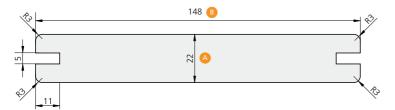
ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible decking finishes, the durability of ONEWOOD is enhanced and makes it suitable for outdoor commercial areas.



Reuse and Refurbish

ONEWOOD Decking's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.

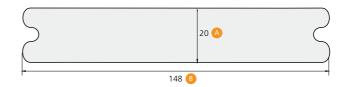
Typical ONEWOOD Decking Profile



Section – Typical ONEWOOD Decking Profile

Ez-Rail® ONEWOOD Decking Profile (%)





Section – Ez-Rail® ONEWOOD Removable Decking Profile

Typical ONEWOOD Decking System



Ez-Rail® Dimensions

ONEWOOD Decking, paired with the Ez-Rail® removable clip system, conceals the joist and allows for easy removal and replacement of decking planks.

Thickness mm	Width mm B	Length <i>mm</i>
20	148	2500 and / or 3000

Visit calvarycarpentry.com for more Ez-Rail® details.

ONEWOOD Decking Finishes

ONEWOOD Decking can be coated with the following exterior finishes. These finishes add resistance against wear and outdoor weathering on top of ONEWOOD's high durability and water resistant property.



Natural



Clear



Deep Birch





Golden Teak



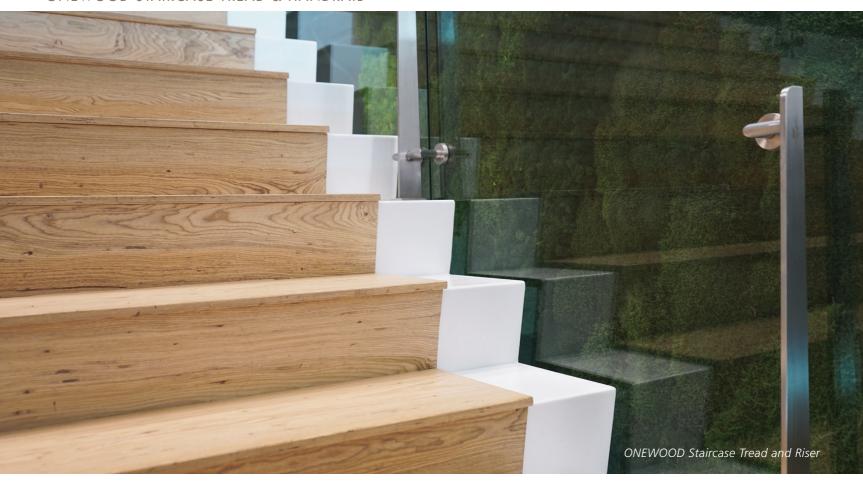
Matured Teak



Dark Walnut



Ebony





ONEWOOD Staircase Tread is available in planks of substantial width and thickness. Every tread of your staircase can be furbished to its exact dimensions without the need of joining multiple planks to form your staircase treads.

Create a seamless luxurious living area with ONEWOOD Staircase Treads, ONEWOOD Flooring and ONEWOOD Handrails.

Standard Dimensions

Thickness <i>mm</i>	Width <i>mm</i>	Length <i>mm</i>
22	Up to 300	1100
24	Up to 300	1100

For enquiry on staircase treads with customised sizes, please contact us.

Applications

- Staircase tread & riser
- Staircase landings
- Spiral staircase options available

ONEWOOD Staircase Tread Properties



Termite Resistant



Water Resistant



Fire Resistant*



Suitable for Interior



Premium Size

* Refer to Pg 4 for available fire test standard compliance.

Features



Suitable for High Traffic

ONEWOOD is a product with high density and hence resistant to areas with high traffic. Together with compatible finishes, the durability of ONEWOOD is enhanced and makes it suitable for home and commercial places.



Reuse and Refurbish

ONEWOOD's homogeneous property enables resanding to reveal a fresh layer of beautiful wood grains that can be recoated for maintenance or to achieve a new look to complement your new design.







ONEWOOD Handrail is available in various profiles to your specific design needs. Being homogeneous, ONEWOOD can be milled into beautiful profiles.

As ONEWOOD is available in premium sizes, we are able to achieve customised and curved handrail profiles.

ONEWOOD Handrail Properties



Termite Resistant



Water Resistant



Fire Resistant*



Suitable for Interior

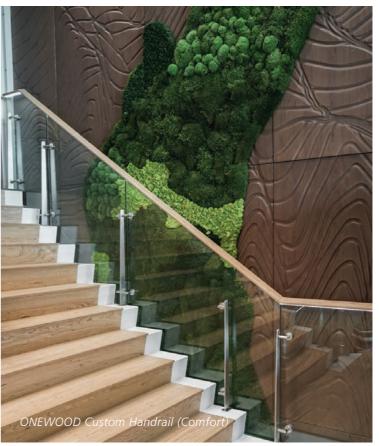


Custom Curved Profile Available

ONEWOOD Handrail Profiles

Typical Profiles	Dimensions (t x w) mm	3	
Square / Rectangular	32 x 32 45 x 45 50 x 50	1220 / 2450	Available
Round	32 mm Dia 38 mm Dia 40 mm Dia 45 mm Dia 50 mm Dia	1220 / 2450	Available
Special Profiles	Dimensions (t x w) mm	Length mm	Curved Option
		_	
Profiles	(t x w) mm	mm	Option





^{*} Refer to Pg 4 for available fire test standard compliance.







COUNTER TOPS & VANITY COUNTERS

Solid timber counter tops or vanity counters have increased in popularity to create a simple and stylish look in living and commercial areas. ONEWOOD Counter Tops & Vanity Counters have properties that can withstand high usage in bathrooms, kitchens and bar tops.

ONEWOOD Counter Tops & Vanity Counters comes in wide availability of dimensions to fit your required design. The premium sized planks allow minimal seamless joinery which exhibits ONEWOOD's beautiful wood grains.

Applications

- Bar Top Counter
- Vanity Counter (Bathroom)
- Shelving Furniture
- Table Top Furniture
- Bench Furniture

Standard Dimensions	Units (mm)		
Thickness Options	20 / 25 / 30 / 35 / 40		
Width Options	300 / 600 / 900 / 1200		
Length Options	2450 / 3000 / 3400 / 3600		

For other customised sizes, please contact us.

ONEWOOD Counter Top Properties



Termite Resistant



Water Resistant



Fire Resistant



Suitable for Interior



Premium Size



Reuse and Refurbish



ONEWOOD Cladding can be used as interior and exterior cladding for your feature walls and ceilings. The standard wall cladding consists of a tongue and groove profile and can be mounted onto a variety of areas.

ONEWOOD Cladding comes in different thickness and sizes catered to best suit the elements. Talk to us to find out more.

Standard Dimensions (Interior Use)

Thickness mm	Width mm B	Groove mm	Tongue mm	
9	90	8	8.5	
9	140	8	8.5	
12	140	8	8.5	

Standard Dimensions (Semi Exterior / Exterior Use)

Thickness mm	Width mm	Groove mm	Tongue mm	
9	90	8	8.5	
15	140	8	8.5	
18	140	8	8.5	

ONEWOOD Cladding Properties



Termite Resistant



Water Resistant



Fire Resistant*



Suitable for Interior



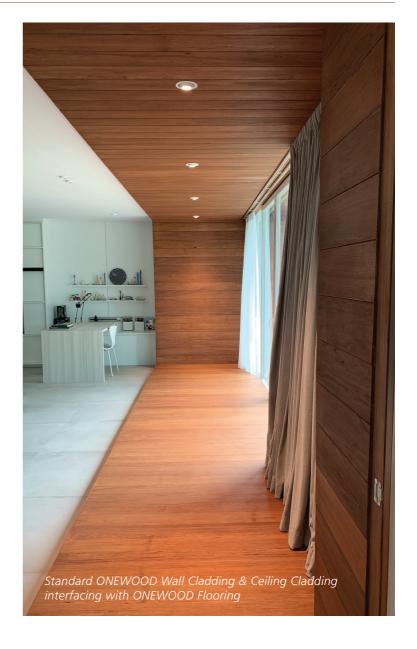
Premium Size



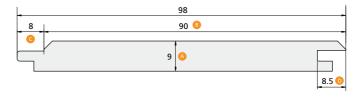
Reuse and Refurbish

Applications

- Wall Cladding
- Ceiling Cladding
- Roof Eaves Cladding



Typical ONEWOOD Cladding Profiles



Section – Typical Onewood Cladding Tongue and Groove Profile

Installation

ONEWOOD Cladding is typically installed on accompanying battens (aluminium battens / ONEWOOD battens) and cladding planks are secured through joining the tongue and groove profile of the adjacent plank.

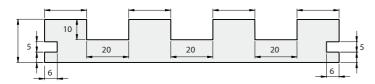
^{*} Refer to Pg 4 for available fire test standard compliance.



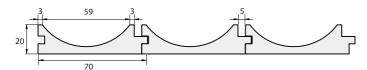
ONEWOOD Decorative Panels comes in solid reconstituted panelised planks which allows easy and much faster installation as compared to conventional decorative designs.

Available in full heights up to five meters, ONEWOOD Decorative Panels can clad the entire height to the ceiling without limitations or the need for joinery.

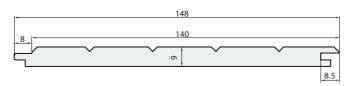
Fluted Profile



Scallop Profile



Groove Profile



ONEWOOD Cladding Properties



Termite Resistant



Water Resistant



Fire Resistant*



Suitable for Interior

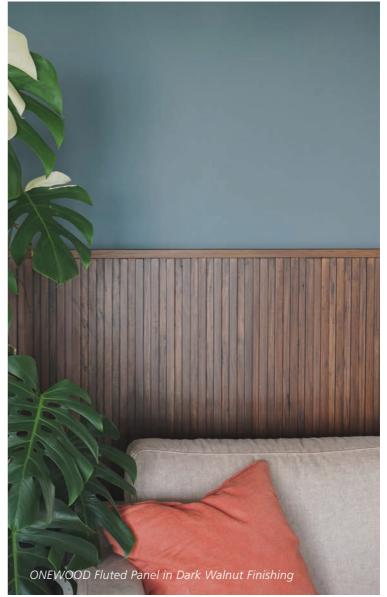
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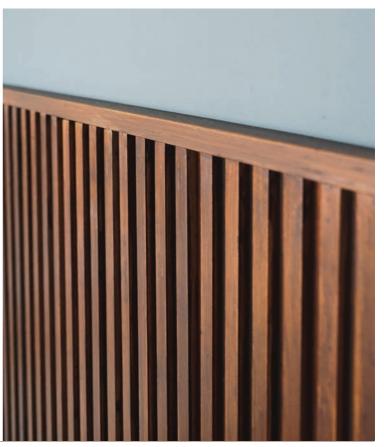
Applications

- Wall Cladding
- Ceiling Cladding

Installation

ONEWOOD Cladding is typically installed on accompanying battens (aluminium battens / ONEWOOD battens) and cladding planks are secured through joining the tongue and groove profile of the adjacent plank.











With ONEWOOD's premium sizes and beautiful wood grains, we are able to do customised panels for feature walls for home, offices or commercial areas.

Each feature wall is customised to the requirements of the project, talk to us about your unique design to understand more about our fabrication capabilities.





ONEWOOD Timber Post offers an entirely homogeneous solid post to add a tropical charm in building structures. ONEWOOD Timber Posts come in large premium sizes with exceptional physical properties and strength that is equivalent or even better than tropical hardwood.

ONEWOOD Timber Post can also be customised with additional embelishment to serve an aesthetic purpose.

Round Post (Standard D	Dimensions) Units (mm)
Diameter Options	100 / 150 / 200 / 250 / 300
Length Options	2450 ~ 5000

Square Post (Standard Din	nensions) Units (mm)
Thickness Options	100 / 150 / 200 / 250 / 300
Width Options	100 / 150 / 200 / 250 / 300
Length Options	2450 ~ 5000

ONEWOOD Timber Post Properties



Termite Resistant



Water Resistant



Fire Resistant



Suitable for Interior



Premium Size



Reuse and Refurbish

Applications

• Timber Pillars for Villas / Bungalows







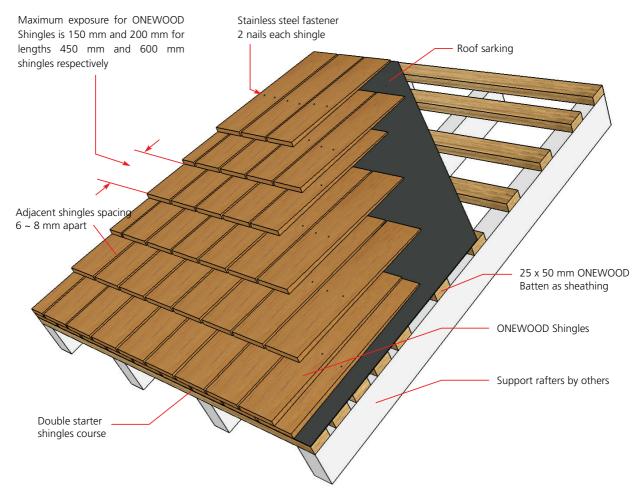
ONEWOOD Shingles is a premium grade of shingles for roofs and sidewalls. These shingles are highly durable especially in tropical climate due to its water resistant properties.

Standard Dimensions	Units (mm)	
Thickness Options	12 mm / 15 mm / 18 mm	
Width Options 100 mm / 150 mm / 200		
Length Options	450 mm / 600 mm	
Class	Premium	
Profile	Flatsawn / Tapersawn	



Typical ONEWOOD Shingle Profile

ONEWOOD Shingles Application



Typical Installation Detail for ONEWOOD Shingles

ONEWOOD Finishes

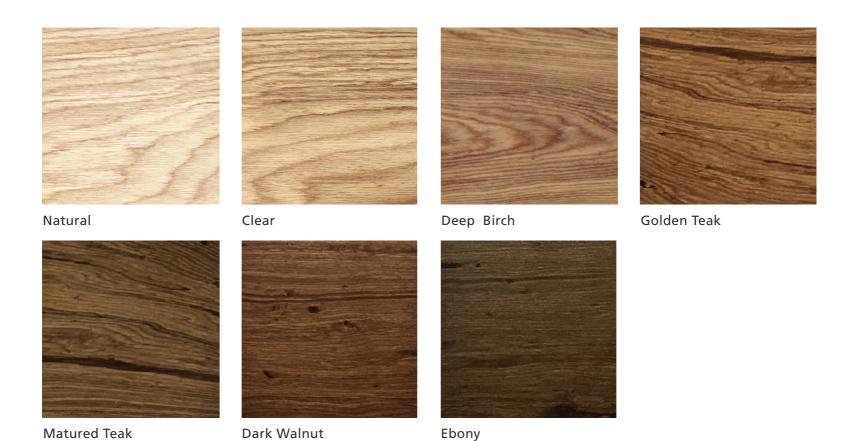
Just like natural timber, a wide range of conventional wood coating finishes are applicable to ONEWOOD such as:

Internal Applications

- i. Standard Polyurethane Flooring Coating (PU)
- ii. Ultra-violet Curable Coatings (UV)
- iii. Compatible water based Coating

External Applications

- i. Oil-based Finishes
- ii. Compatible water based Coating



Manufacturer: Office Contact No. (65) 6368 6675

PACIFIC FOREST

PACIFIC FOREST PRODUCTS PTE LTD

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Approved Distributor:



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