



# Vaaro® Cladding – Vertical Grain



New Growth Feature Timbers

## ○ Overview

Vaaro® – Vertical Grain is a fire retardant wood, created from thermally modified, rapidly renewable plantation timber that is pressure impregnated with a leach-resistant fire-retardant system.

The thermal modification process and engineered vertical grain structure means Vaaro® has enhanced stability, reduced resin content, is a beautiful homogeneous brown colour, with high durability.

Fire retardancy properties of the timber are enhanced to achieve ASTM E84 Class A for exterior siding and interior applications.

Vaaro® is available in a range of architectural profiles and can be supplied factory coated in Abodo Protector – Abodo’s high performance penetrating exterior coating.

## ○ Key Benefits

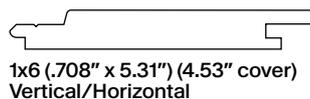
- Class A fire performance for exterior and interior applications.
- Attractive homogeneous natural timber with enhanced UV resistance.
- Excellent long-term durability and leach-resistance.
- Low dimensional movement.
- Increased density and hardness.
- FSC® certified timber from renewable resource.
- Tested with Abodo Protector semitransparent coating system.
- Low maintenance (when left to weather uncoated or clear coated).

## ○ Wood Species

Thermally Modified Impregnated Radiata Pine (Pinus Radiata).

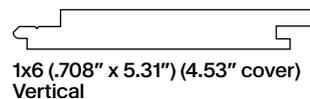
## ○ Made to Order Profiles

### ○ WB18



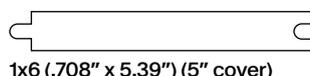
1x6 (.708" x 5.31") (4.53" cover)  
Vertical/Horizontal

### ○ WB12



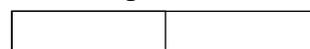
1x6 (.708" x 5.31") (4.53" cover)  
Vertical

### ○ TG21



1x6 (.708" x 5.39") (5" cover)

### ○ Screening



1x3 (.708" x 2.68"), 1x6 (.708" x 5.43")

All profiles are supplied as standard with bandsawn face. Brushed or dressed finish available on request subject to price premium. Made to order profiles are subject to minimum order quantity. Other profiles may be available subject to prior agreement with Abodo.

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○ Lengths 2.1 – 5.4m.

Lengths are subject to availability. Some shorter cut back lengths down to 1.2m may be supplied as part of the order. Please check with distributor prior to placement of order.

○ Colours Colours presented are in Abodo's Protector coating and are indicative only. Colour may change/fade as a part of the natural weathering process. Coating performance on brushed finish may be lower compared with bandsawn finish.

Clear coated and uncoated will fade with exposure to the weather, eventually settling to a silver-grey colour in exposed areas.

## Bandsawn Range:



## Brushed Range:



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# Vaaro® Cladding – Vertical Grain

## Product Specifications

- Name Abodo Vaaro® Cladding – Vertical Grain.
- Grade **Select**/Front face and edges virtually free of any defects but with one edge knot and one small face defect allowed per piece in 20% of boards only. Back side with some defects allowed. Skip dress and up to 5/32” undersize lamina allowed on the back face. See Abodo Appearance Grade Rules.
- Finish Fine band sawn face. Brushed finish available optionally on request. (Some variation in the visual appearance of the finish can be expected).
- Process Thermally modified 230°C degrees schedule and pressure impregnated with Vaaro® heat-cured polymeric fire-retardant resin system.
- Durability Durability Class 1 (EN350-1).
- Insect Attack Resistant to many wood boring insects, moderate resistance to termites.
- Scope of Intended Use Above ground exterior siding, screening, soffits and interior wall and ceiling lining, in residential and commercial buildings.
- Expected Serviceable Life Exterior – 40 years or more when maintained according to manufacturer’s recommendations. Interior – lifetime of the building.
- Warranty 40 years against fungal decay (subject to terms and conditions).
- Moisture Content Approx. 8% MC (+/-2%) at time of dispatch.
- Construction Laminated with vertical grain orientation.
- Adhesive Polyurethane adhesive – VOC, solvent and formaldehyde free. Exterior Type 1 – AS/NZS4364. Approved for Service Class 3 (exposed exterior applications).
- Expected Dimensional Change in Structure Width expansion approx 3%, length expansion approx 0.25%, thickness expansion approx 5% (from 8%MC to fibre saturation – variation will occur between boards).
- Fire Testing and Compliance Vaaro® has been third party tested before and after accelerated weathering, in uncoated form.

Application	Classification	Standard	Test Method	Test Report	Protector Coated	Uncoated
Interior/ Exterior Wall & Ceiling Linings	Class A	a) Section 2303.2 2021 International Building Code, referencing ASTM E84, Extended 20 minutes. b) ASTM E2768-11 (2018) Standard Test Method for Extended Duration Surface Burning Characteristics of Building materials (30min Tunnel test). c) UBC No8-1 and SFM 12-7-A-5 per Chapter 7A of the 2019 California Building Code – Ignition Resistant Material 30 minute test.	ASTM E84 and E2768-11(2018) + accelerated weathering according to ASTM D 2898-10 Method A.	QAI	Yes*	Yes

\* Protector coated product was tested prior to ASTM 2898 accelerated weathering. Test reports available on request.

Note: Always seek professional advice from a registered Fire Engineer and refer to the Building Code prior to specification and/or commencement of construction.



## Vaaro® Cladding – Vertical Grain

- Average Density ~43.4 lb/ft<sup>3</sup>.
- Brinell Hardness Medium (25.0 N/mm<sup>2</sup>).
- Dry Weight ~3.3 lb/ft<sup>2</sup> (18mm finished board thickness).
- Thermal Properties (Indicative) ~0.12 W/(mK).
- pH (Indicative) ~5.5.
- Formaldehyde Emissions 0.2 mg/L (JIS A1460), Super E0/F\*\*\*\*
- Compatibility Vaaro® can be placed in contact with most building materials and metals (separation may be required to zinc). Normal cross linking PVA, PU, MUF glues and RF resins can be used. Testing prior to use is recommended. Stainless steel fixings are recommended in exterior applications.
- Coating Vaaro® can be left uncoated or can be coated with Abodo Protector as part of the tested system. Protector coating will give optimal initial weathering performance. If natural weathering is desired, Protector Bare (Clear + 5% White) or Patina can be applied to start with, then allow the timber to silver off naturally. Vaaro® will take most stains, penetrating oils and paints well, though up-take of coating is generally higher than normal. Testing prior to using other coatings is required. Coatings must be tested for Class A fire performance and compatibility prior to use.
- Patent USA Pat. 10695945.
- Forest Certification FSC®-certified mixed, No.: SGS-COC-004944.
- Place of Manufacture New Zealand.
- Storage**
  - Keep product dry and out of the weather or under plastic wrap, elevated minimum 4" off the ground on even flat surface strapped on least four bearers.
  - Keep product strapped until installation time.
  - Avoid storing in direct sunlight as UV can change the colour of the timber.
  - Avoid moisture entry into timber packets as this can lead to water damage and mould growth.  
If this happens ensure that the timber is allowed to dry out by placing into fillet under cover out of the weather.
  - Moisture content of timber at supply is approximately 8-10%. Timber should not be installed if above 16%.
  - For interior applications, acclimatize the timber by sitting it in the room it will be installed in, ensuring it will remain dry with plastic wrap removed for at least 14 days.
  - Some movement and surface cracking can be expected as part of the natural weathering process of timber.
  - Installed product indicates acceptance of the product and quality.



# Vaaro® Cladding – Vertical Grain

## Product Handling

Vaaro® wood is not classified as dangerous goods however still requires to be handled as with any treated wood product.

See below guidelines and product Safety data sheet. This should be read in conjunction with local building regulations and best practice for handling treated wood.

- Wear recommended personal protective equipment when handling treated wood.
- Wear a dust mask and goggles when cutting or sanding timber to protect against dust inhalation.
- If machining timber, ensure adequate mechanical extraction to remove wood dust.
- All sawdust and construction debris should be cleaned up and disposed of after construction.
- Wear gloves when working with timber is good practice to avoid splinters and finger marks.
- Wash exposed skin thoroughly.
- All sawdust and construction debris should be cleaned up and disposed of after construction.
- Wash work clothes separately from other household clothing before re-use.
- Vaaro® timber should not be used where it may come into direct or indirect contact with drinking water, except for uses involving incidental contact such as freshwater docks and bridges.
- Do not use Vaaro® timber under circumstances where the timber may become a component of food, animal feed, or beehives.

## Processing Requirements

To meet Class A classification:

- When machining profiles a maximum of 0.039" (1mm) may be taken from the front face.
- Profiled wood must have minimum 0.708" (18mm) net finished thickness.
- Only Protector coating may be used. Other coating systems must be tested for compatibility and fire performance.

## Fixing and Installation Guidance – Exterior Siding/Soffit

The below is intended for guidance purposes only. Please refer to the project specification and detail drawings approved by a qualified fire engineer prior to installation.

- Specification and installation must be in accordance with International Building Code and local building code requirements. Installation requirements may vary depending on the project.
- Timber or steel framing must comply with relevant local standards and building regulations.
- Fix siding over a weather resistive barrier and rigid sheathing in accordance with the product manufacturer's instructions. Fire performance properties of the substrate materials must be selected in conformance with the project specification.



## Vaaro® Cladding – Vertical Grain

- A cavity system is recommended to allow drainage, free movement of moisture and ability to dry in service. Siding battens (furring strips) may be timber or metal of suitable durability and fire performance to suit the requirements of the specified wall system.
  - Horizontal siding – Vertical timber siding battens must be minimum 11/16" thick x 1-3/4" wide.
  - Vertical siding – Horizontal structural timber siding battens must be minimum 5/4" thick x 2-3/4" wide structurally fixed over minimum 11/16" thick x 1-3/4" wide counter battens.

Siding battens must be fastened at maximum 24" OC with #10 countersinking screws to match stud spacing, with minimum 1-1/2" fastener penetration into studs.

Optionally, a drainage mat system such as Vaproshield WrapShield RS Rainscreen (or equivalent) with minimum 1/8" (3mm) thickness may be used in place of cavity battens. Subject to fire performance requirements such mats are most suitable in dry or arid climate zones. Refer to manufacturer's instructions for specification and installation. Note: this construction method is not recommended in areas with high rainfall or humidity and may not be suitable for certain fire performance situations.

- A cavity is not required for soffits.
- Fasten siding boards either vertically or horizontally as appropriate to the profile type specified at maximum of 24" OC.
- Siding fasteners must be stainless steel. 316 Stainless steel fixings must be used when face-fixing and/or in sea spray zones in all cases. Note: Silicone bronze/copper fixings can be subject to oxidation during weathering, resulting in discolouration and weeping around fixing head.
- Use self-drilling self-countersinking head screws so as to achieve 1-1/4" penetration into stud or structural siding batten as appropriate, or at least 3 threads penetration into metal battens.
- Fixings at ends of boards must be at least 1/2" from edge, and must be pre-drilled before applying fastener.
- Ensure 1/16" expansion gap to back of boards.
- All exposed end grains and notches must be sealed using Abodo's Protector End Seal.
- Joins between board ends must be made over battens only, off-set by minimum 16" OC using a 35degree mitre, and application of sealant at the join e.g. Sikaflex 11FC.
- Use perforated non-combustible cavity base closer flashing or mesh at base board to allow drainage, air flow and keep out vermin.
- Siding must finish minimum 6" above ground. Base of siding must not sit directly into flashings or other siding materials such as masonry.
- Minimum 3/8" gap must be left to flashings allowing fall to shed water away from the wall cavity.
- Use Abodo finishing mouldings backed by hemmed corrosion resistant internal flashings as required, corners, windows, doors and where siding meets soffit. Fix mouldings with 1 1/2" stainless steel flat head ring shank nail (hand driven) or screws at max 16" centres.
- If Protector coated, it is recommended to apply coating all sides prior to installation and then a further one or two coats applied once boards are fixed in place.

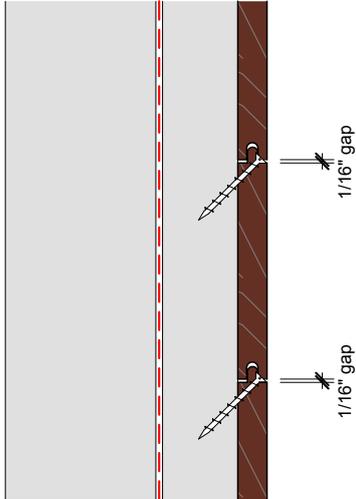


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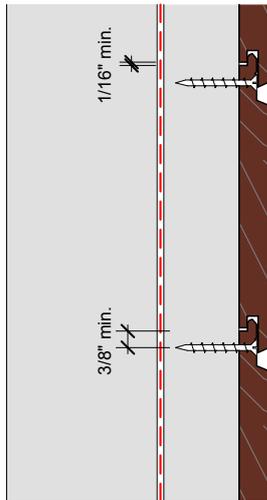
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## ○ Horizontal T&G 'Nickel Gap' Siding – Hidden Fixed

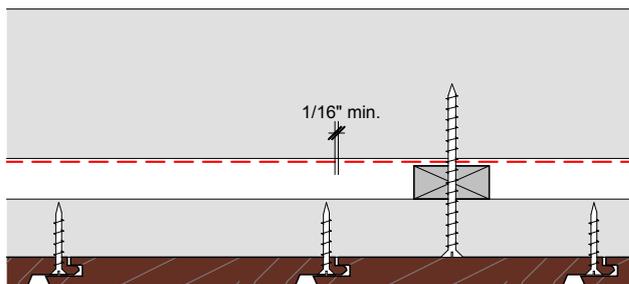


○ Profiles <5-1/2" width only.

## ○ Horizontal T&G Siding – Hidden Fixed



## ○ T&G Siding – Hidden Fixed



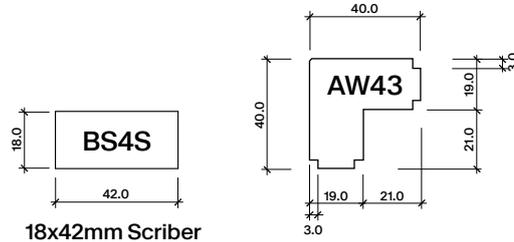
○ Vertical Grain Profiles <8" width may be fixed with a single screw.



# Vaaro® Cladding – Vertical Grain

- Fixing and Installation**
- Timber or steel framing with studs at maximum 24" OC.
- Guidance – Interior Wall/Ceiling Lining**
- If fixing Interior wall lining board vertically dwangs at maximum 24" centres.
  - Boards may be direct fixed to studs/nogs or to battens at max 24" OC using secret fixing method with screws to achieve 3/4" penetration into timber or minimum 3 threads depth into steel. Regular interior grade fixings may be used.

Mouldings:



## Maintenance

- Lightening of the Timber



Vaaro® Teak  
As delivered

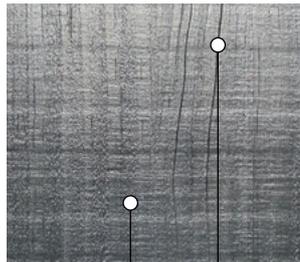


Vaaro® Teak  
Weathered 12 months  
exterior install

We cannot guarantee against wear or color changes to any products which result from weather, sun, wind and/or the natural aging process of the wood.

- Surface Checking

- Checking (cracks) may be observed on the face and ends of Vaaro® timber. Checks are acceptable to install. Checking may become more apparent as the material weathers naturally in place. Fibre pull at laminated glue lines is also possible. These are not defects and are considered a natural part of this wood product. Maintenance with a coating and thorough sealing of end grains with wax sealer will improve long term weathering characteristics.



Laminated  
glue seams

Face  
check



End split/  
Glue pull

- Exterior Maintenance

- Wash down every 12 months with gentle detergent, warm water and soft brush.
- Make a maintenance check every two summers. Check all siding, junctions, flashings, mouldings and replace or remediate as required to maintain weather tightness of the system.
- For heavily soiled or mouldy areas use Rejuvenator or similar oxalic timber cleaner, apply active mouldicide.
- Uncoated or Protector Clear coated timber may be left to weather off.  
In addition, if the timber has been coated:
- Re-coat every 2-4 years or as required to maintain colour and integrity of coating.



## Vaaro® Cladding – Vertical Grain

- Re-coat period may be longer or shorter depending on climatic conditions and/or positioning of siding to the sun.
- Preparation with Rejuvenator or other similar oxalic timber cleaner is recommended prior to coating.
- Wipe clean as necessary with a wet cloth.

○ Interior  
Maintenance

Accessories

Abodo Protector:



○ Disclaimer

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