VULCAN TECHNICAL DATA

INCLUDING CLADDING INSTALLATION INSTRUCTIONS





VULCAN CAREFULLY CRAFTED TIMBER



WHAT IS IT?

Vulcan products are made from thermally modified timber (TMT) clears grade FSC certified New Zealand Radiata Pine. Thermal modification significantly increases the durability and very importantly particularly in WA the stability of wood and results in an aesthetically pleasing brown colouration – effectively creating a new sustainable, environmentally friendly timber species. Thermal modification is achieved simply by using steam and high temperatures in excess of 230 degrees celsius. The real trick to the process is in the cooling and reconditioning phase. This is achieved using purpose-built computer-controlled kilns that ensure every stick of timber is modified to the correct specification and quality. At the end of the process the chemical and physical properties have been permanently changed.



THERMAL MODIFICATION PROCESS IN A NUTSHELL

PHASE 1

Kiln is slowly elevated in temperature until the moisture content of the wood is essentially zero %. Heating then continues further until it reaches the desired modification temperature- in most cases 230 degrees Celsius for outdoor end-use applications.

PHASE 2

The kiln is held at this temperature for the prescribed time to achieve full modification (this is critical to the process).

PHASE 3

The kiln is allowed to cool, and the wood is reconditioned with steam bringing the moisture content back to around 7%.

VULCAN TECHNICAL DATA

Wood Species	Thermally Modified Timber (Pinus Radiata).			
Quality	Superior Grade virtually clear, some minor natural characteristics allowed. Vulcan is still a natural product, variation in colour and characteristics are to be expected.			
Construction	Laminated with vertical grain orientation (quartersawn) to the width.			
Treatment	Thermally modified to TM230 schedule and H3 LOSP Treated or H3 OPX Azole Treated per AS 1604.			
Source	New Zealand - plantation grown and manufactured in the North Island.			
Certification	Vulcan is produced from FSC® Certified Forests and Austim holds FSC® Chain of Custody Certification.			
Glueline	Purbond HBS. New generation polyurethane adhesive Type 1 – AS/NZS1328.			
Moisture Content	Approx. 7% MC (+/-2%)\.			
Density	430-450 kg/m3.			
Hardness	Medium-low (3.5kN Janka).			
Thermal Properties	Approx 0.099 W/Mk / R1.35 per 25mm thickness.			
Compatibility	Use galvanised or stainless steel fixings for exterior applications.			
Gluing	Normal PVA, PU, MUF glues and RF resins can be used.			
Ph (indicative)	3.9.			
Serviceable Life	30 years or more when properly maintained in above ground applications.			
Appearance	Fine Bandsawn, Brushed or Dressed Smooth. We recommend fine Bandsawn or Brushed finish externally, whilst either finish is suitable internally.			
Warranty	25-year limited warranty against rot, fungal decay and termite attack.			
Fire Rating	Can be used as wall cladding in properties designated Bal 12.5 up to Bal FZ but is design dependent and may require assistance from a Fire Engineer.			
Handling	Must be kept clean and dry under cover prior to installation. Timber must be stored horizontally on bearers at least 70mm off the ground. Wear a dust mask and eye protection when cutting timber. Do not burn Vulcan timber. Dispose of off-cuts in lined landfill or an approved furnace.			

COATINGS

Vulcan is available with one factory applied coat of Protector Oil (7 colours) to all sides saving both time and money, a second coat applied on-site is required following installation.

Also available is SiOO:X, best factory applied this coating system utilises nature to form a silicon based shell on the timber. The timber will weather quickly and uniformaly to a natural silver-grey.

PROTECTOR OIL DESCRIPTION

Protector Oil is a plant-based, penetrating timber finish and preservative, that will nourish and protect external timbers. It contains plant oils, essential oils and extracts impregnated with refined caunuba waxes and earth oxides. Also contains a zinc UV protector for more fade resistance. With modest maintenance, this product provides a natural and slightly transparent finish on exposed timber.

COLOURS

Colours presented are on thermally modified radiata pine and are indicative only. Lighter colours such as Straw, Teak, Manuka, Graphite and Patina are recommended for high UV exposure areas.



SIOO:X DESCRIPTION

SiOO:X is a two part wood protection system inspired by how nature products itself using its own natural technology. This is based on how trees and plants absorb silica from the soil, transport it out with water, where it precipitates and strengthens the organisms. SiOO:X is not a pigmented product, it applies almost clear but accelerates the natural weathering of the timber when exposed to moisture.



VULCAN SIOO:X WEATHERED

VULAN RAW UNWEATHERED

*Indicative only

VULCAN CLADDING SERIES

Intended Use	Use in residential and commercial buildings, externally or internally.				
Finish	Fine Bandsawn Face or Brushed Face is recommended for external exposed situations, either Bandsawn, Brushed or Dressed Face can be used internally.				
Profiles	Hector	Fine Bandsawn or Brushed 125x20	Dressed Smooth 125x18		
	Hector XS30/50 Hector XI	125x20 150x20	125x18 150x18		
Options	Use a mix of Hector and Hector XS profiles to create a randomised look.				
Weight	Approx. 8.2kg/m2, light weight.				
Length	Random length 0.9m to 4.8m (in 100mm increments), set length subject to availability at time of order.				
Fixing	Secret fix with 45mm stainless screws onto timber batten recommended, see installation details.				



VULCAN LINING SERIES

Intended Use	Use in residential and commercial buildings internally or weather protected.			
Finish	Dressed Smooth Face (*can be produced with a Fine Bandsawn or Brushed Face).			
Profiles	Victor* Tango* Echo TMT Tango	135x12 135x12 156x26 80x10		
Weight	Approx. 6.3kg/m2, very light weight Victor & Tango. Approx 9.6kg/m2, Echo. Approx. 5.2 kg/m2, TMT Tango.			
Length	Random length 0.9 to 4.8m (in 100mm increments).			
Fixing	Stainless or galvanised pin fix with construction adhesive.			

Special Notes: TMT Tango 80x10 is produced from solid backsawn Vulcan (it is not vertical grain laminated construction) nor is it H3 treated.





Note: Diagrams not to scale, for illustration purposes only.

VULCAN FINS BATTENS SCREENING POST BEAMS

Intended Use	Use in residential and commercial buildings, externally or internally.						
Finish	Fine Bandsawn or Brushed Finish recommended for external exposed situations, either Bandsawn, Brushed or Dressed Finish can be used internally. Arrised edges Note some larger sizes are available Bandsawn only.						
Size mm	40 x 18 60 x 18 80 x 18 110 x 18 140 x 18 170 x 18 200 x 18 230 x 18 290 x 18	40 x 30 60 x 30 80 x 30 110 x 30 140 x 30 170 x 30 200 x 30 230 x 30 290 x 30	40 x 40 60 x 40 80 x 40 110 x 40 140 x 40 170 x 40 200 x 40 230 x 40 290 x 40	60 x 65 80 x 65 110 x 65 140 x 65 170 x 65 200 x 65 230 x 65 290 x 65	95 x 95 130 x 130 170 x 130 200 x 130 230 x 130 290 x 130		
Length	Set lengths 0.9m to 6.0m (in 300mm increments) subject to availability at time of order.						
Fixing	We recommend the use of Stainless Steel or Galvanised fixings.						

EXTERNAL CORNER CLADDING MOULD

Fine Bandsaw approx 42x42mm Dressed approx 40x40mm



INTERNAL CORNER CLADDING & LINING MOULD

Fine Bandsaw approx 22x22mm Dressed approx 20x20mm



, 22.00mm ,

ALUMINIUM Y PROFILE

External Corner Cladding Detail Raw mill finish, 3.6m lengths only



ALUMINIUM F PROFILE

Bottom Cladding Detail Raw mill finish, 3.6m lengths only



Note: Diagrams not to scale, for illustration purposes only. Aluminium can be powdercoated to desired colour by contractor.

VULCAN AND THE **ENVIRONMENT**

Austim is committed to providing a product to the market with the lowest possible environmental footprint. Vulcan is harvested from sustainable plantation forests allowing us to meet today's needs without disadvantaging future generations.

To demonstrate this Austim has proudly held FSC® Chain of Custody certification since 2010 and can provide FSC® Mix Certified Vulcan under our certificate FSC®-SCS - COC - 005010. This is an assurance that:

- Forest Management practices are monitored and audited annually.
- High conservation value forests are preserved.
- Waterways are protected.
- Wildlife habitat and species are protected.
- · Laws and regulations are respected and adhered to.
- · Worker safety and economic wellbeing is enhanced.
- The rights of indigenous people are respected.
- · Local community rights are respected and enhanced.

- FSC[®] SPECIFICATION -

To ensure you receive Vulcan FSC® Certified use the standard Austim Vulcan product specification and add the wording:

At the time of ordering timber builder must request FSC® Certified. Ensure you receive documentary evidence in the form of an invoice with each line item annotated with FSC® Mix and the certificate code SCS-COC-005010 "





Fixing

- Timber framing is to be in accordance with AS1684, the NCC and or relevant local building regulations.
- Fix boards either vertically or horizontally at appropriate centres to comply with NCC and/or other relevant local building regulations.
- We recommend Austim 45mm Stainless Steel Cladding Screws to ensure optimum fixing performance. Pre-drilling may be necessary.
- Also acceptable are at round head annular grooved/ring shank stainless steel nails 55 x 2.8mm power or hand driven.
- For power driven nails a protective rubber attachment on the nail gun tip must be used to prevent damage to the timber board.
- All fixings must be driven so head sits flush with timber surface.
- Allow minimum 30mm penetration into the timber framing.

INSTALLATION INSTRUCTIONS

Horizontal Fixing

- For timber frame construction apply vapour permeable sarking over studs keeping all overlaps pointing downwards and tape all joints, then fix battens. This will create an air gap between sarking and cladding.
- Polyethylene film foil or other non-permeable materials should never be used as sarking directing behind timber cladding.
- Cladding to be direct fixed battens at max 600mm centres.
- Where fixing to masonry, structurally fix treated timber batten at no more than 600mm centres with masonry anchors in accordance with all relevant standards and regulations. Select appropriate fixings according to batten thickness.

SIDE VIEW

DIA 1: HORIZONTAL FIX TO TIMBER

DIA 3: HORIZONTAL FIX TO MASONARY

SIDE VIEW





INSTALLATION INSTRUCTIONS

Vertical Fixing

- Horizontal battens to be spaced at no more than 600mm centres and fixed in accordance with all relevant building regulations.
- Apply vapour permeable sarking over stud wall keeping all overlaps pointing downwards and tape all joints, then batten over.
- Polythylene film foil or other non-permeable materials should never be used as sarking directly behind timber cladding.
- Cladding boards to be direct-fixed to horizontal battens spaced at max 600mm centres.
- Where fixing to masonry, structurally fix treated timber battens horizontally with suitable masonry anchors in accordance with all relevant buildings regulations.

SIDE VIEW

DIA 2: VERTICAL FIX TO TIMBER

DIA 4: VERTICAL FIX TO MASONARY

SIDE VIEW





INSTALLATION INSTRUCTIONS

All Systems

- Secret fix boards into positioning groove located on tongue. Pre-drill to avoid splitting tongue. Where fixing into timber use a 45mm stainless screw or similar wingtek screw where fixing into steel, max 600mm centres. Ensure head is flush with surface - do not over-drive.
 - Face-fix board at bottom of wall (horizontal fix) or corner of wall (vertical fix) with same fixings positioned minimum 30mm from edge.
 - Allow a 2mm expansion gap between boards. Using gauging stick, mark the cover increments of each row up the studs off the top of the starter board to keep everything straight and parallel. This is particularly important around windows and doors. Alternatively use a spacer block in the shadow line to assist even spacing.
 - Fixings at ends of boards must be at least 30mm from edge, and must be pre-drilled before applying fastener.
 - Cut ends must be sealed with Endcheck sealer. All joints and connecting ends must be sealed with construction sealant. Butt joins should be cut at 15°.
 - A total of 2 coats of Protector Oil within 2 months of install, applied according to coating manufacturers instructions. (Typically 1st coat has been applied in factory).

Cladding Joins

- Joins should be mitred at a 15 degree angle and joined over the stud, nogging or batten only.
- Apply one fixing pre-drilled either side of the join at least 30mm from the edge. (Double block batten).
- Joins in vertical boards should have the mitre sloping down to shed water away from the join and down the face of the cladding.
- All joints should be sealed with construction sealant. The easiest way to apply the joint sealant is to apply it to the end of one board and allow it to squeeze out as the two boards are pushed together. The excess will mushroom off the two edges. Let it dry fully, and then scrape it flush with a sharp chisel.
- All end grain is to be sealed with Endcheck sealer.

INSTALLATION INSTRUCTIONS

External Corners Using Vulcan 42 x 42 Timber Moulding

- Use Vulcan 42 x 42 external corner moulding.
- Install flashing as required to waterproof corner detail.
- In horizontal application butt board ends snugly into the corner moulding and seal with construction adhesive/sealant.
- In vertical cladding application allow a 3mm expansion gap and seal with colour matched construction sealant.





DIA 7: HORIZONTAL FIX TO MASONARY EXTERNAL CORNER

SIDE VIEW



DIA 8: VERTICAL FIX TO MASONARY EXTERNAL CORNER TOP VIEW



INSTALLATION INSTRUCTIONS

External Corners using Austim Aluminium Y Profile

- Use Austim's external corner Y profile raw (or powder-coated by builder).
- Install flashing as required to waterproof corner detail.
- Attach aluminium Y profile to stud or batten with suitable 8g x 24mm stainless screws at 450mm intervals on both edges.
- Mitre cut board ends 2-3mm short of the Y profile. Use colour matched construction sealant to fill 2-3mm gap between board and Y profile.



DIA 10: VERTICAL FIX TO TIMBER EXTERNAL CORNER





DIA 11: HORIZONTAL FIX TO MASONARY EXTERNAL CORNER

WITH ALUMINIUM Y PROFILE - TOP VIEW



DIA 12: VERTICAL FIX TO MASONARY EXTERNAL CORNER

WITH ALUMINIUM Y PROFILE - TOP VIEW



INSTALLATION INSTRUCTIONS

Internal Corners using 22 x 22 Timber

- Use Vulcan 22x22mm internal corner moulding.
- Install flashing as required to waterproof.
- Fix corner moulding to stud or batten with stainless pins at 450mm intervals.
- Butt board ends snugly into the corner moulding and seal with construction sealant.



INSTALLATION INSTRUCTIONS

Base of wall using Austim Aluminium F profile

- Fix aluminium F profile to bottom plate.
- Cut bottom edge of board at 15 degree angle to shed water effectively. Apply Endcheck sealer.
- Follow relevant building regulations in allowing suitable gap from bottom edge of board to ground level. Recommended 100-150mm depending on the ground surface material.
- F profile provides a straight edge to work off, creates a clean negative detail and reduces water uptake.



Internal Corners using 22x22 Moulding Top of wall

- Use 22x22 internal corner moulding to close off wall and sofit lining.
- Fix with pin and/or construction adhesive as necessary.



DIA 20: VERTICAL FIX TO TIMBER WALL



INSTALLATION INSTRUCTIONS

Roof/Wall Top Detail

• Ensure flashing extends a minimum 50mm down the cladding to protect end-grain.

DIA 21: HORIZONTAL FIX TO TIMBER WALL

WALL/ROOF DETAIL - SIDE VIEW



DIA 22: VERTICAL FIX TO TIMBER WALL

WALL/ROOF DETAIL - SIDE VIEW



Window Head Detail

- Apply vapour permeable sarking and flashing as appropriate to direct away from window head.
- Cut bottom of cladding board at a 15 degree angle to allow water to shed.
- · Leave a 5mm gap from bottom of cladding to minimise uptake of water that may collect in the flashing.



DIA 24: VERTICAL FIX TO TIMBER WALL

WINDOW HEAD DETAIL - SIDE VIEW



INSTALLATION INSTRUCTIONS

Window Sill Detail

- Apply vapour permeable sarking and flashing as appropriate to direct water away from window sill.
- Cut top of cladding board at a 15 degree angle and apply construction sealant to seal gap between cladding board and window frame.



INSTALLATION INSTRUCTIONS

Window Jamb Detail

- Apply vapour permeable sarking and flashing as appropriate.
- Butt cladding board up to window frame applying construction sealant.
- If installing boards vertically, leave 1-2mm expansion gap to window frame, fill with colour matched construction sealant.



DIA 28: VERTICAL FIX TO TIMBER WALL

WINDOW JAMB DETAIL - TOP VIEW



STABLE. BEAUTIFUL. NATURAL.

THERMALLY MODIFIED TIMBER.





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