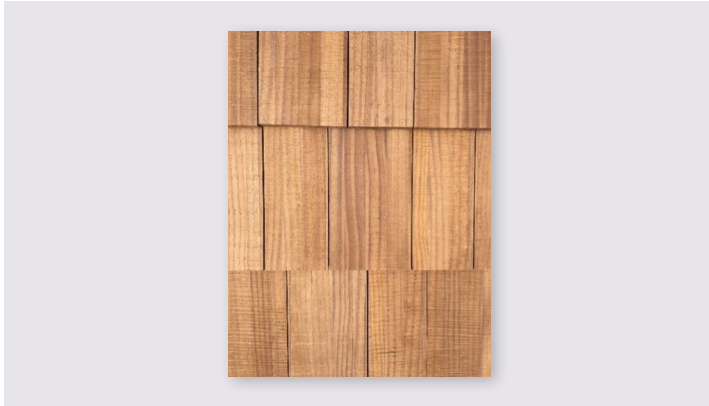


Vulcan Shingles – Walls



Overview

Vulcan Shingles are created from thermally modified New Zealand plantation timber and engineered with a patented vertical grain construction for superior weathering characteristics. A fine sawn face allows a depth of grain, and optimal weathering performance.

The thermal modification process combined with vertical grain structure and OPX water-based preservation system means Vulcan Shingles have enhanced stability and reduced resin content. The beautiful homogenous brown colour will silver off with exposure to weather if left uncoated.

Vulcan Shingles provide a unique high end architectural finish for wall and gable end applications.

Wood species: Thermally Modified Radiata Pine (Pinus Radiata).

Standard profiles: Width: 90mm or 120mm – can be supplied as single or mixed width.
Thickness: 12mm/6mm tapered with Band Sawn face.
Length: 450mm.



450x90mm



450x120mm



12mm/6mm tapered

Coverage:

Application	Pitch ¹	Exposure ²	Approximate coverage pcs/ m ²		Approximate weight kg/m ²
			90mm	120mm	
Wall	90°	200mm	53	40	5.4

Notes:

¹Pitch = slope of the wall.

²Exposure = the section of shingle left exposed to the weather after fixing.

³Coverage rates above are indicative only and do not include allowance for on-site wastage, starter course, valleys and capping. More accurate quantities should be confirmed prior to order.

Packaging:

Mini-bundles of 6 pcs each, one width per bundle.

Pallets with approximately:

- 90mm width - 1296 pcs.
- 120mm width - 972 pcs.

One width per pallet.

Generally supplied as mixed widths with a minimum ratio of 70:30.

Supply of one width only is subject availability- please enquire prior to order.

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Product specifications

Name:	Abodo Vulcan Shingles.
Quality:	Select Grade/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. Being a visually graded product up to 5% may be out of grade allowing for human error.
Finish:	Bandsawn face, back face may be smooth or bandsawn (Variation in sawn finish appearance can be expected).
Durability:	Thermally modified Thermowood 230 degrees Celsius schedule. Field tested at SCION, Rotorua. Suitable for uses described in NZS3602:2003 Table 2A 'Requirements for wood-based building to achieve a 15 year durability performance. Members exposed to exterior weather conditions and dampness'. Class 2 above ground (AS5604), Durability Class 1 (EN350-1).
Preservative treatment:	OPX - water-based azole + permethrin H3 (AS1604).
Insect attack:	Resistant to attack from termites and borer.
Intended use:	Intended for above ground use in residential and light commercial buildings for wall cladding.
Wind zone:	Up to and including Extra High up to 1.82 kps ULS (rigid air barrier required in Extra High wind zones)
Serviceable life:	30 years or more when maintained according to manufacturer's recommendations.
Warranty:	15 years against fungal decay (subject to terms and conditions).
Moisture content:	Approx 16% +/- 2% at time of despatch.
Construction:	Laminated with vertical grain orientation.
Glue:	New generation polyurethane adhesive- VOC, solvent and formaldehyde free. Third party certified to AS/NZS1328.1. Exterior Type 1 - AS/NZS4364. Approved for Service Class 3 (exposed exterior applications).
Expected dimensional change in structure:	Width expansion approx 2%, length expansion approx 0.25%, thickness expansion approx 2.5% (from 12%MC to fibre saturation -variation will occur between boards).
Density:	~420 kg/m ³ .
Fire:	Suitable for buildings <10m height or >1m to boundary. For designs outside this, the system is subject to specific fire engineering design.
Hardness:	Medium-Low (2.5kN Janka).
Approx. weight:	Wall 90° ~5.4 kg /m ² ('light weight cladding' NZS3604).
Thermal properties:	~0.095 W/(mK) (EN12667).
pH (indicative):	3.9.
Compatibility:	Vulcan has little or no corrosiveness on most metals though care must be taken to separate from zinc and can be placed in contact with most building materials Normal PVA, PU, MUF glues and RF resins can be used. Suitable for all climate zones.
Coating:	Vulcan will take most stains, penetrating oils and paints well, though up-take of coating is generally higher than normal. May be left to silver off without coating or otherwise least two coats must be applied to the front face and edges with Abodo Protector Oil, Sioo:x, or other approved proprietary paint or stain.
Patent:	NZ Pat. 601245.
Certification:	FSC®-certified mixed, No.: SGS-COC-004944.
Green building points:	Greenstar - 2.5pts /Homestar - 2pts + 1 innovation pt. Red List Free.
Environmental Product Declaration (EPD) registration number:	S-P-01543.

Vulcan Shingles – Walls

Product handling

- Shingles and accessories must be kept clean dry, under cover and out of the weather prior to installation.
- Timber must be stored horizontally on pallets at least 100mm off the ground.
- Extra care must be taken during installation so as not to damage the factory finish of the boards.
- Wear dust mask, eye protection when cutting timber.
- Do not burn treated timber. Dispose of off-cuts in lined land fill or an approved furnace.

Installation instructions

To be read in conjunction with the Abodo Shingles literature and full set of CAD/ PDF detail drawings available at: <https://www.abodo.co.nz/resources>

Ventilated walls:

Design must include ventilation to deal with solar-driven moisture transfer. Ventilation must be created to allow the backs of the shingles to dry out in service. This can be achieved through passive roof or wall ventilation elements to provide an air channel.

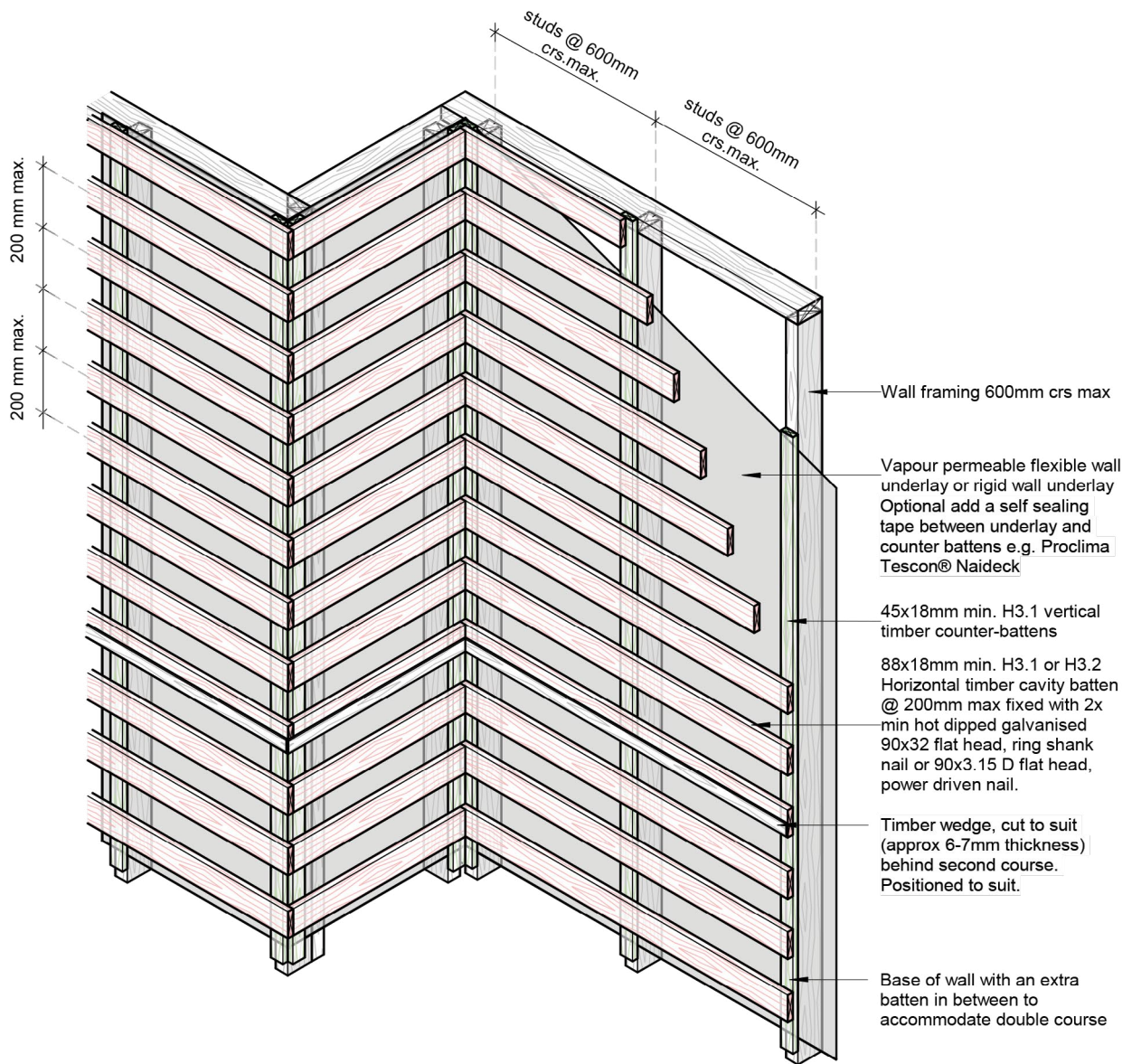
Preparation

Walls:

- Timber framing shall be in accordance with NZS3604 or otherwise a specific designed system or steel framing in compliance with NZ building code.
- Wall studs at max 600mm centres.
- Install vapour permeable flexible wall underlay or rigid wall underlay, complying with E2/AS1, across studs according to manufacturer's instructions.
Optional add a self sealing tape between underlay and counter battens e.g. Proclima Tescon® Naideck.
- In Extra High wind zones a rigid wall underlay must be specified and installed according to the manufacturer's requirements.
- A ventilated cavity must be formed by placement of minimum 42x18mm H3.1, Abodo Vulcan or equivalent vertical timber counter-battens at max 600mm centres between studs and horizontal timber battens.
- Horizontal timber battens must be minimum 88x18mm H3.1 or H3.2 treated pine or equivalent and spaced according to the shingle exposure dimensions to a maximum 200mm.
- Horizontal battens must be structurally fixed with two minimum hot dipped galvanised 90x32 flat head, ring shank nail or 90x3.15 D flat head, power driven nail to achieve 40mm fastener penetration into each stud.
- Divide wall height by exposure cover and make set out rod to aid with accurate installation of battens and shingles.

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Cavity batten fix



Horizontal battens fixed to studs at max 600mm centers with two hot dipped galvanized nails or screws to achieve min 40mm penetration into stud. Stainless steel fixings must be used in sea spray zones.

Fixing guide

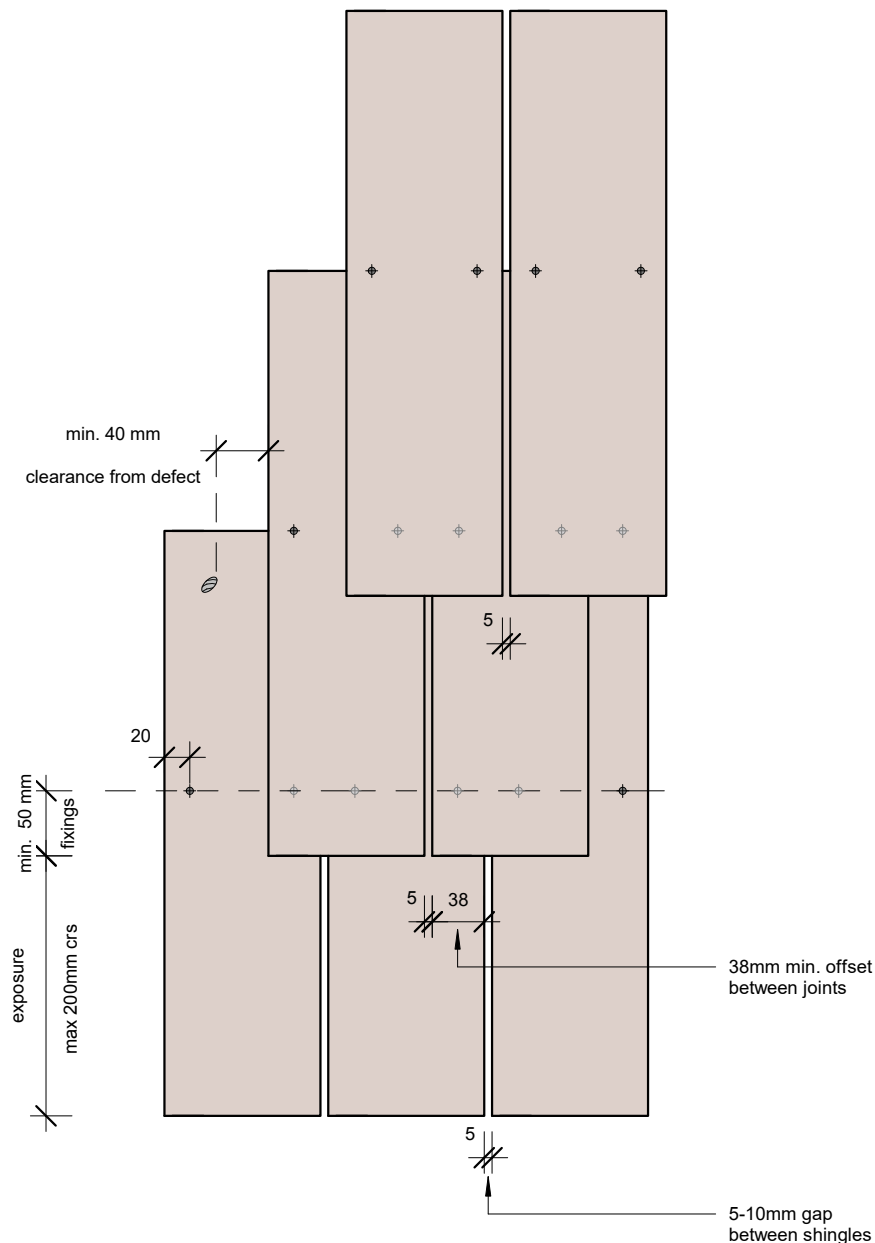
- Fix shingles to horizontal timber battens with minimum 4x2.5mm stainless steel flat head ring shank nails or 6g x 40mm self-drilling self-countersinking stainless-steel screws to achieve minimum 19mm penetration into the batten. Stainless steel 316 must be used when the fixing head is exposed to the weather and in sea spray zones.
Exposed stainless steel fixings can still oxidise and may lead to bleeding.
- Apply two fixings per board 20mm from side edges and 50mm above the exposure line. Fixings must penetrate the batten and be hand driven flush with the surface of the shingle. Do not over drive fixings.
- A starter course must be installed at base of wall consisting of a layer of shingles close butted together, with overhang to the bottom plate by not less than 50mm.

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Fixing guide

- The first course is then laid directly over the starter course, off-set 15mm lower to provide a drip edge. Shingles must be off-set with minimum 38mm cover to each side of the edge joint in the underlying course and with 5-10mm spacing between shingles. Fasteners must penetrate through the starter course and into the batten.
- The second and subsequent courses must maintain minimum 38mm cover to joints in the underlying course and with 5-10mm gap between edges. Fasteners must be positioned 50mm above exposure line and penetrate into the batten.
- Position shingles so that within any three courses joints are not in alignment. Shingles must be laid in a random pattern to avoid tracking of water into gaps. To achieve this the first shingle in each course can be cut to varying widths.

Shingle set out and fixings



Vulcan Shingles – Walls

Finishing of walls

- Top of wall:
- Ensure that the cladding cavity is sealed off from the roof space unless there is a wall to vented roof transition junction.
 - Apply Vulcan AW32 eaves moulding (optional).
 - Apply flashing at roof to wall junction where required e.g. raking soffit.
 - Install mesh or flashing to allow venting to top of the cavity.
- Base of wall:
- Base of wall cladding must finish minimum 100mm above paved surface or 175mm above un-paved surfaces.
 - Shingles must be installed with minimum 50mm overlap past the bottom plate, with the first course positioned 13mm lower than the starter course to provide a drip edge.
 - A cavity closer must be used at base of wall to stop vermin while allowing free movement of air and moisture through the cavity.
- External corners:
- Options:
- a) overlap shingles alternately with butyl rubber applied between each shingle course to give 'laced effect'.
 - b) fabricate box corner from AW91 and AW92 Vulcan cover boards and scribe.
 - c) metal soakers.
- Internal corners:
- Apply internal metal, PVC or rubber membrane back flashing with minimum 75mm cover and
 - a) lap and scribe shingles alternately into each other, or
 - b) butt shingles into Vulcan AW41 40x40 corner moulding.
- Windows and doors:
- Aluminium joinery shall be manufactured to AS/NZS4211, or timber joinery to BU481, or with current Codemark specified according to certificate conditions.
 - Install appropriate head, jamb and sill flashings according to building code requirements.
 - Use flashings at junctions and penetrations to deflect water to the outside of the wall and maintain weathertightness.
 - Cut and fit scribe to edge of jambs, optionally use cover boards. Fix with annular grooved stainless-steel nails to achieve minimum 19mm penetration into shingles.

Coating

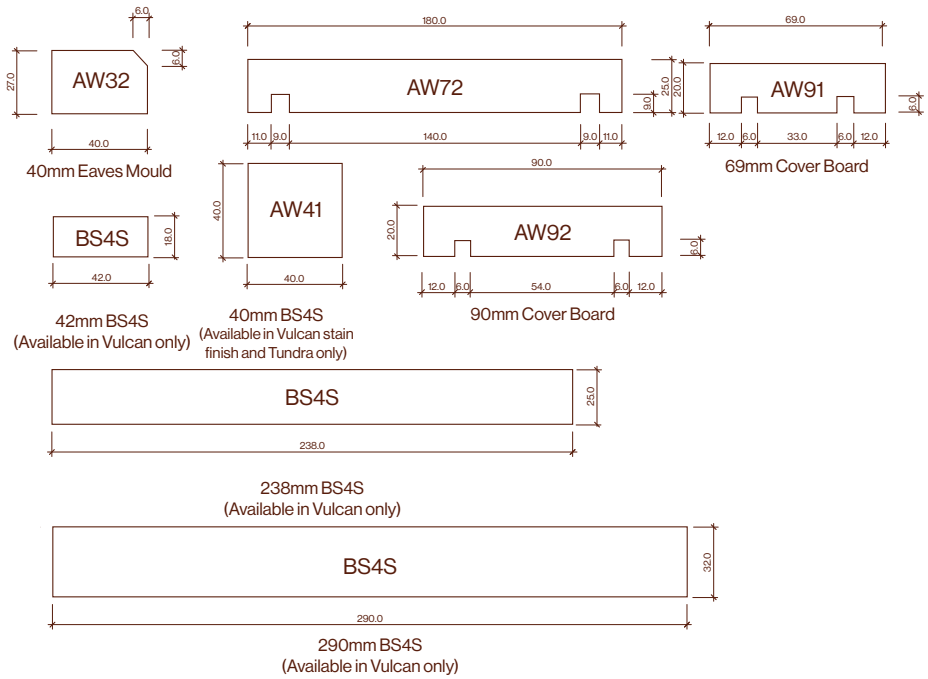
- Without application of a coating the shingles will lighten with exposure to the weather, eventually becoming a silver-grey colour that will vary depending on level of exposure, design and positioning on the building (e.g. under soffits). Clear non-pigmented coatings will change in a similar manner.
- Optionally apply at least two coats of Protector oil, Sioo:x or latex paint within 90 days after installation according to manufacturer's instructions.
- If retention of colour is desired, then a pigmented coating must be applied and maintained to prevent the colour silvering off.
- If coated in Sioo:x maintain per Sioo:x timber coating requirements.
- Paint finishes may require application of a primer prior to topcoats depending on manufacturer's recommendations. Ensure shingles are clean and dry max 12% MC prior to coating.

Maintenance

- Wash down at least every 12 months with gentle detergent, water and soft brush.
- Rinse with low pressure water only. Water blasting is not permitted.
- For heavily soiled or mouldy areas use Rejuvenator or similar timber cleaner and apply active mouldicide.
- Ensure leaves and debris are not allowed to accumulate on or around the shingles.
- Make a maintenance check every two summers. Check all shingles, junctions, flashings, mouldings and replace or remediate as required to maintain weather tightness of the system.
- Over time uncoated shingles will lighten and change to a weathered silver-grey tone, possibly varying depending on exposure to weather and location in the design of the building.
- If coated indicative re-coat approximately every 2-3 years (oil finish), 6 years (Sioo:x or Paint finish) or as required to maintain colour and integrity of coating. Re-coat period may be longer or shorter depending on climatic conditions and/or positioning of shingles to the sun.
- If coated in Sioo:x maintain per Sioo:x timber coating requirements.

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Exterior mouldings



Accessories

Abodo Protector 4L, 10L:



Sioo:x – Step 1/Step 2, 5L:



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