

A-lign Technical Manual

Rusticated Weatherboard





Ingrained Precision

in everything we do

claymark.co.nz

A-lign[®] by Claymark aligns[†] natural sustainable timber[†] to modern design needs[†] combining striking good[†] looks with guaranteed[†] high performance.

- ✓ From Renewable Wood
- **BRANZ** Appraised
- ✓ NZBC Compliant
- Ø Primed & Undercoated
- ♂ Fast Install & Less Waste



Renewable natural pine

The NZ radiata pine used in the A-lign timber cladding system solution is from renewable and sustainable plantation resources.

It is a remarkably versatile timber renowned for exceptional machining properties, durability and lightness. Once finger-jointed they form products that exceed the pine's original physical and structural characteristics by over 400%.

This makes it a brilliant natural 'environmentally friendly' construction choice over alternative building materials made from non-renewable fossil fuels.



Branz Impact Test

Impact resistance is a key criteria for cladding materials being used in the construction of schools and similar light commercial buildings not exceeding 10 metres in height. To meet regulatory and specifier requirements, A-lign timber weatherboards (18mm thick) were subjected to hard body high impact resistance tests performed by BRANZ. High density fibre cement weatherboard (16mm thick) were also included in these tests. A-lign timber weatherboard performed significantly better than the fibre cement weatherboard and, although the level of damage caused to both was small, the fibre cement weatherboard had a greater depth of ball indentation.

Independently assessed

A BRANZ Appraisal is a comprehensive independent assessment of building products and systems for fitness for purpose and Building Code compliance.

The A-lign timber cladding system solution has been vigorously assessed from manufacturing processes, through to fitness for purpose, durability, weather-tightness performance and structural capability over a drained and vented cavity.

A-LI	GN COMPONENTS	2
A-LI	GN NAILING SCHEDULE	3
INTE	RODUCTION	4
SPE	CIFICATIONS FOR EXTERIOR CLADDING	5
1.0	Before application of the cladding	5
2.0	A-lign rusticated weatherboard	5
2.1	A-lign rusticated weatherboard sizes	5
2.2	A-lign timber accessories	5
2.3	Accessories by Quickflash	5
3.0	Detailing	5
4.0	A-lign on site	5
4.1	Storage	5
4.2	Handling	6
5.0	Wall underlays	6
5.1	Non-rigid underlays	6
5.2	Rigid underlay installation	6
5.3	Building wrap installation	6
5.4	Synthetic wall wrap installation	7
6.0	Flashings	7
6.1	Supply	7
6.2	Materials	7
6.3	Fabrication and installation	7
7.0	Sealants	7
7.1	Materials	7
8.0	Air Seals	8
8.1	Materials	8
8.2	Installation	8
9.0	Drained and vented cavities	8
9.1	Design	8
9.2	Materials	8
9.3	Fixing A-lign battens	8
9.4	Cavity closure	9
10.0	Fixing A-lign rusticated weatherboard	9
10.1	Fixings	9
10.2	Fixing method	9
10.3		9
10.4	Fixing procedure for rusticated weatherboard	9
10.5	Joining weatherboard	10
10.6	External box corners	10



10.7	External mitred corners	10
10.8	Internal corners	10
11.0	Window and door openings	10
11.1	Aluminium windows	10
11.2	Timber windows	10
11.3	Flashings	10
11.4	A-lign facings	11
11.5	Air seals	11
12.0	Painting A-lign	11
12.1	Materials	11
12.2	Painting	11
13.0	General information	11
13.1	Handling	11
13.2	Installation	11
13.3	Finishing	12
13.4	Moisture	12
13.5	Heat generating colours	12
14.0	Building maintenance	12
14.1	New construction	12
14.2	Regular washing	12
14.3	Maintenance painting	12
CLA	YMARK A-LIGN WARRANTY	13
DRA	WINGS DIRECTORY	14
SET	OUT GUIDES	17
3-DII	MENSIONAL DIAGRAMS	20 – 28
CAD	DRAWINGS – direct fixed	29 – 53
CAD	DRAWINGS – cavity fixed	54 – 79
CLA	YMARK – WARRANTY	80

Components

H3.1 – Primed and Undercoated

A-lign Components*	Item #	Size	Length	Profile
A-lign Rusticated Weatherboard	04671	142 x 18mm	6.1 metres	
A-lign Rusticated Weatherboard	04683	142 x 18mm	7.2 metres	
A-lign Rusticated Base Board	04677	142 x 18mm	6.1 metres	
A-lign Rusticated Weatherboard	04674	187 x 18mm	6.1 metres	
A-lign Rusticated Weatherboard	04686	187 x 18mm	7.2 metres	
A-lign Rusticated Base Board	04680	187 x 18mm	6.1 metres	
A-lign Cavity Batten (structural)	04563	45 x 19mm	5.4 metres	_
A-lign 142 Rusticated Pre-cut Scriber (for 142 x 18)	04658	27 x 18mm	5.4 metres	
A-lign 142 Rustic. Transition Scriber (for 142 x 18)	04697	42 x 27mm	5.4 metres	
A-lign 142 Rustic. Transition Scriber (for 142 x 18)	04698	66 x 18mm	5.4 metres	
A-lign 187 Rusticated Pre-cut Scriber (for 187 x 18)	04661	27 x 18mm	5.4 metres	
A-lign 187 Rustic. Transition Scriber (for 187 x 18)	04699	42 x 27mm	5.4 metres	
A-lign 187 Rustic. Transition Scriber (for 187 x 18)	04700	66 x 18mm	5.4 metres	
A-lign 142 Rustic. Internal Scriber (for 142 x 18)	04666	27 x 27mm	5.4 metres	
	0.4055	07 07	F A B	
A-lign 187 Rustic. Internal Scriber (for 187 x 18)	04655	27 x 27mm	5.4 metres	
A-lign Weatherhead and Sill Mould	04595	42 x 30mm	5.4 metres	
A-lign Rusticated Scalloped Filler Mould	04689	50 x 9mm	5.4 metres	
A-lign Eaves Mould	04576	42 x 18mm	5.4 metres	
A-lign Facing (grooved)	04573	42 x 19mm	E 4 motros	
		42 x 18mm	5.4 metres	
A-lign Facing (double grooved)	04603 04606	66 x 18mm 90 x 18mm	5.4 metres 5.4 metres	
	04609	116 x 18mm	5.4 metres	
	04612	138 x 18mm	5.4 metres	
A line Dro fabricated Day Care	04615	185 x 18mm	5.4 metres	
A-lign Pre-fabricated Box Corner	04592	102 x 102 x 18mm	5.4 metres	

Nailing Schedule



Description Profile	Timber Size (mm)	Nail Size	Specification Clause
A-lign Rusticated Direct Fixed Weatherboard	142 x 18 / 187 x 18	60 x 2.80 hot dipped galv* jolt head	10.1 and 10.2
A-lign Rusticated Cavity Fixed Weatherboard	142 x 18 / 187 x 18	60 x 2.80 hot dipped galv* jolt head 75 x 3.15 mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zone Extra High, and specific design wind pressures up to and including design differential 2.5kPa ULS.	10.1 and 10.2
A-lign Cavity Batten (structural)	45 x 19	 60 x 2.80 hot dipped galv* or stainless steel ring shank Jolt head hand driven 64 x 2.80 hot dipped galv* gun driven / 65 x 2.87 stainless steel ring shank gun driven 	9.3 9.3
A-lign Rusticated Pre-cut Scriber	36 x 18	60 x 2.80 hot dipped galv* jolt head	10.6
A-lign Rusticated Internal Corner Scriber	27 x 27	60 x 2.80 hot dipped galv* jolt head	10.8
A-lign Weatherhead and Sill Mould	42 x 30	60 x 2.80 hot dipped galv* jolt head	
A-lign Rusticated Scalloped Filler Mould	50 × 9	30 x 2.50 hot dipped galv* flat head/clouts	
A-lign Eaves Mould	42 x 18	60 x 2.80 hot dipped galv* jolt head	
A-lign Grooved Facing	All sizes	50 x 2.50 hot dipped galv* jolt head	11.4
A-lign Prefabricated Box Corner	102 x 102	50 x 2.50 hot dipped galv* jolt head	10.6
Quickflash Flashings	All sections	30 x 2.50 hot dipped galv* flat head/clouts	2.3, 6.1 and 9.4

* In sea spray zones (refer to NZS 3604 paragraph 4.2.3) all fixings must be type 316 stainless steel.

Introduction



Scope

The A-lignTimber Cladding Solution can be used for the cladding specification of light commercial and domestic buildings where the:

- Building is within the scope of NZS 3604 timber framed buildings and E2/AS1.
- Building height does not exceed 10 metres.
- Building is situated within NZS 3604 Building Wind Zones up to, and including 'Extra High'.
- Cladding solution uses the Timber A-lign accessories and Quickflash flashings given in this specification.
- Building has A-lign rusticated weatherboard installed over a drained and vented cavity where the E2/AS1 risk score exceeds 6.

Note: The A-lignTimber Cavity Cladding Solution can also be used for cladding timber framed buildings subject to specific design, up to a design differential ulitmate limit state (ULS) wind pressure of 2.5 kPa.

These specifications:

- Cover the installation of A-lign rusticated weatherboard as a complete cladding solution following the details given in this document and associated CAD files.
- Must be made specific to each building project by including only those clauses that apply and omitting those that do not apply.
- Are written as direct instructions to the contractor (it does not make use of the words 'should' or 'shall') and this format must be adhered to.

Note: The success of the cladding solution is partially dependent on the stability and accuracy of the framing which must meet the minimum standards set by NZS 3604.

Note: The 3-Dimensional diagrams and CAD drawings in this manual are current at the date of this manual (Sept 2018). For any amendments or updates to these diagrams or drawings, please refer to our web site: www.claymark.com/triptech/a-lign-nail-fix-cad-details

Specifications for exterior cladding

1.0 Before application of the cladding

Before beginning installation of the A-lignTimber Cladding Solution ensure that:

- The framing complies with the requirements of NZS 3604 timber framed buildings.
- The framing is straight and within the tolerances allowed by Table 2.1 Tolerances of NZS 3604.
- The moisture content of the framing timber does not exceed 20%.
- Additional studs are included at internal corners where there is a cavity.
- The wall underlay complies with the requirements of Table 23 E2/AS1 and is installed in accordance with Section 5.0–5.4 of this specification.
- Window and meter box openings are framed out to give a 7.5mm minimum clearance between the reveal or window frame and the trimmed opening (5mm minimum finished clearance when window installed).

2.0 A-lign weatherboard

2.1 Rusticated weatherboard sizes

- 142 x 18mm
- 187 x 18mm

Lengths 6.1m and 7.2m

Rusticated base board sizes

- 142 x 18mm
- 187 x 18mm

Lengths 6.1m (7.2m by arrangement)

2.2 A-lign timber accessories

Note: A-lign accessories are finger-jointed, treated to H3.1 and primed and undercoated. The A-lign cavity batten is treated but not painted.

- A-lign prefabricated 102 x 102mm box corner in 5.4m lengths.
- A-lign pre-cut 27 x 27mm internal corner scriber pencil edge in 5.4m lengths.
- A-lign pre-cut 42 x 27mm and 66 x 18mm transition scribers with pencil edge in 5.4m lengths.
- A-lign facing boards available in 42, 66, 90, 116, 138, 185 x 18mm thickness in 5.4m lengths.
- A-lign rusticated scalloped filler mould in 5.4m lengths.

- A-lign structural cavity batten 45 x 19mm in 5.4m lengths.
- A-lign bevelled soffit eaves mould 42 x 18mm in 5.4m lengths.
- A-lign weatherhead and sill mould 42 x 30mm in 5.4m lengths.

2.3 Accessories by Quickflash

Use of Quickflash flashings are an integral part of the A-lign cladding system as defined in the CAD drawings. Select the flashings required.

3.0 Detailing

A-lign rusticated weatherboard CAD details and computer generated 3-Dimensional construction diagrams are contained in the full A-lign technical manual.

4.0 A-lign on site

Arrange for delivery of A-lign timber weatherboards just prior to being required.

4.1 Storage

Note: Correct storage of weatherboards on site is critical.

A-lign weatherboards, structural cavity battens and accessories have been machined to fine engineered tolerances from fingerjointed clear wood base material with an equilibrium moisture content of 11% plus or minus 2%. If A-lign weatherboards, structural cavity battens and accessories are exposed to moisture before installing, as wood is hygroscopic and primers do not prevent moisture uptake, some dimensional swelling will occur and the ease of the system installation will be impaired. Correct storage of the weatherboards, battens and accessories is critical for ease of installation.

Store weatherboards

On a firm level base with timber supports at not greater than 900m centres. Clear of the ground by a minimum of 150mm under cover and protected from sun and rain.

Where A-lign weatherboards are delivered with factory packing, keep the packing and store as described.

To ensure product remains dry provide a secondary cover. Weatherboards should be stored indoors where practical to provide total weather protection.



Specifications for exterior cladding

4.2 Handling

Do not tip the weatherboards from a truck. Either use a mechanical lifting device or unload the weatherboards by hand.

Do not drag weatherboards across the ground.

Always carry individual weatherboards with their long section vertical to avoid excessive bending.

5.0 Wall underlays

Note: A wall underlay is any material placed on the framing and behind the cladding to act as a second line of weathering defence.

Note: The selected wall underlay must have a serviceable life of at least 50 years.

Wall underlays include flexible materials, such as Kraft based papers or synthetic wraps, and rigid sheathings such as plywood or fibre cement board.

Wall underlays suitable for use with the A-lign Timber Cladding Solution are those meeting the requirements of Table 23 of E2/AS1.

5.1 Non-rigid underlays

Note: Specify the actual name/insert specific manufacturer/ product of underlay you wish to have installed and select the specific installation instructions.

A wall underlay complying with the requirements of E2/AS1 Table 23 must be installed to the outer face of the wall framing.

Select one option from the following:

- Fire retardant Kraft paper (insert specific manufacturer/product).
- Heavyweight bitumen soaked Kraft paper (insert specific manufacturer/product).
- Absorbent synthetic wall wrap (insert specific manufacturer/product).
- Non-absorbent synthetic wall wrap (insert specific manufacturer/product).

For buildings with other than flush-stopped sheet internal linings or areas of unlined wall, the wall underlay must meet the air-tightness requirement of E2/AS1 Table 23. Openings for windows, doors and meter boxes must have the opening trimmed with flexible flashing tape compatible with the wall underlay, as required by details in E2/AS1.

5.2 Rigid underlay installation

Note: Specify the rigid sheathing or rigid air barrier material to be used.

Support all rigid sheet edges with framing. Fix in accordance with the sheet manufacturers instructions.

Use hot-dip galvanised fixings, except for bracing and sea spray zones where stainless steel fixings must be used.

Fit PVC or butyl 'Z' flashings along all horizontal joints of the rigid sheathing.

Fix rigid sheathing in place with sufficient fixings to resist wind loading (the sheathing will be finally held in place by the cladding fixings).

5.3 Building wrap installation

Note: Select to suit the underlays.

Lay the Kraft-based building paper horizontally across the framing members with a minimum 150mm overlap at all joints.

Run material continuously around internal and external corners – do not join material at corners.

Install taut and ensure that there are no creases in the building paper.

Fix with clips or staples and tape in accordance with the building paper manufacturer's instructions.

Turn wall underlay into the framing all round windows, doors and meter box openings and tape the 'V' cut corners and the full width of the sill trimmer with compatible flexible flashing tape.

Cover the wall from bottom to top plate.

Repair all holes or tears in the building paper before commencing cladding installation. Ensure the building paper has not been exposed to the weather for more than the time allowed by the wrap manufacturer.



For installation under cavity battens install horizontal strips of plastic tape at 300mm centres and staple to the framing to prevent bulging where batten spacing exceeds 450mm centres.

5.4 Synthetic wall wrap installation

Lay the synthetic wall wrap horizontally across the framing members with a minimum 150mm overlap at sheet joints.

Run material continuously around internal and external corners – do not join material at corners.

Install taut and ensure that there are no creases in the wrap and use fixings that will resist tearing under wind loads.

Fix with clips or staples and tape in accordance with the synthetic wrap manufacturer's instructions.

Turn wrap edges into the framing all round windows, doors and meter box openings and tape the 'V' cut corners and the full width of the sill trimmer with compatible flexible flashing tape.

Cover the wall from bottom to top plate.

Repair all holes or tears in the wrap before commencing cladding installation.

Ensure the synthetic wrap has not been exposed to the weather for more than the time allowed by the wrap manufacturer.

For installation under cavity battens install horizontal strips of plastic tape at 300mm centres stapled to the framing to prevent bulging where batten spacing exceeds 450mm centres.

6.0 Flashings

Note: Flashings as noted on the construction details must be provided and may be made from either sheet steel with a galvanized or zinc/aluminium alloy coating, aluminium or from stainless steel. They may be factory pre-finished if required. Refer to NZS 3604 section 4 or E2/AS1Table 20 for durability requirements.

6.1 Supply

Flashings for use with the A-lign Timber Cladding Solution are those manufactured by Quickflash as detailed in the CAD drawings. Where the A-lign cladding abuts a different cladding use flashings as shown in the A-lign CAD details.

Aluminium window head flashings are the responsibility of the window supplier.

6.2 Materials

Note: Select the appropriate material for the environment.

Select the flashing material from:

- 0.55 BMT galvanised sheet steel.
- 0.55 BMT zinc/aluminium alloy coated.
- 0.55 BMT galvanised sheet steel factory coated.
- 0.55 BMT zinc/aluminium alloy coated factory coated.
- 316 grade stainless steel.
- 0.9mm powder-coated aluminium for window head flashings window head flashing by window supplier.

6.3 Fabrication and installation

Flashings must be machine bent accurately to the detailed profile.

Where necessary, site-cut each flashing to suit each circumstance and form stop-ends where appropriate.

Fix flashings using compatible fixings and ensure that the building wrap is installed as shown in the A-lign CAD details.

Isolate zinc/aluminium alloy coated steel, galvanised steel and uncoated aluminium flashings from timber treated with copper-based treatments with a layer of kraft paper wall underlay.

7.0 Sealants

Note: Sealants are used to assist with weathering at joints and laps. Sealants must not be relied on for primary weather protection.

7.1 Materials

Sealant suitable for use with the A-lign Timber Cladding Solution is a (specify brand/ manufacturer) sealant complying with E2/AS1 or a sealant covered by a valid BRANZ Appraisal used in accordance with the manufacturer's instructions.

Specifications for exterior cladding

8.0 Air seals

Note: Air seals are an essential element of the air barrier component of the cladding solution. They complete the air barrier by sealing between the building wrap and the door and window reveals and meter boxes. The air seal is formed by applying sealant over a backing rod to which the sealant will not bond or by using self-expanding polyurethene foam over a backing rod.

8.1 Materials

Backing rod: closed cell PEF rod of a diameter to suit the gap.

Air seal: acrylic latex or modified silicon sealant complying with ISO 11600 used in accordance with the manufacturer's instructions or low expansion self-expanding polyurethane foam in accordance with the requirements of E2/AS1.

8.2 Installation

Insert the backing rod into the gap between the window reveal/meterbox and the trim framing to the perimeter of the opening. Press in approximately 15mm. Apply the sealant/expanding foam. Trim off excess material.

9.0 Drained and vented cavities

Note: For designs following E2/AS1 a drained and vented cavity is required behind rusticated weatherboards when the weathertightness risk score for that building face exceeds 6. The cavity is formed by fixing A-lign treated battens over the studs. A-lign cavity battens are to be structurally fixed in accordance with BRANZ Bulletin 582. Vermin proofing, which allows draining and ventilation, must be fitted to the bottom of the cavity.

9.1 Design

The cavity must be open to the exterior at the bottom of every second storey and across the tops of windows, doors and other penetrations such as meter boxes. Fit Quickflash cavity closures to prevent vermin entry.

9.2 Materials

8

Structural battens: A-lign structural cavity battens – 45 x 19mm are treated to H3.1.

Cavity closure: zinc/aluminium alloy coated steel, aluminium or stainless steel supplied by Quickflash with a minimum ventilation area of 1000mm2 per lineal metre of wall.

9.3 Fixing A-lign battens

Note: Refers to the fixing of A-lign structural cavity battens, over wall underlay, to the wall studs. This allows the A-lign rusticated weatherboard to be fixed directly to the cavity battens eliminating the need for larger fixings (refer 10.1 fixings).

Fix batten as follows:

- Over framing members.
- With a gap between battens at corners and below windows. Note that battens must be kept at least 100mm away from the line of the trimmed opening below windows.





- Where penetrations of the wall cladding (other than windows) are wider than the cavity batten spacing, allowance must be made for air flow between adjacent cavities by leaving a minimum 10mm gap between the bottom of the vertical cavity batten and the flashing to the opening.
- With no continuous horizontal battens below windows.
- Vertical battens continuous past the ends of head flashings.
- Fix A-lign structural cavity battens over wall underlay to studs with 60 x 2.80 hot dipped galvanised or stainless steel ring shank jolt head hand driven. 64 x 2.80 hot dipped galvanised gun driven/65 x 2.87 stainless steel ring shank gun driven at 300mm centres. Stagger fixings 12mm either side of the batten centre line.

9.4 Cavity closure

Fit continuous Quickflash cavity closure trim to the bottom of all cavities, including across the tops of openings to prevent vermin entry. Fix with 30 x 2.50mm galvanized flat head nails/clouts at 400mm centres.

10.0 Fixing A-lign rusticated weatherboard

Note: Select the appropriate fixings for the installation – whether direct fix or over A-lign structural cavity battens.

Note: In sea spray zones (refer to NZS 3604 paragraph 4.2.3) all fixings must be type 316 stainless steel. Hot-dip galvanising must meet the requirements of AS/NZS 4680:2006.

10.1 Fixings

A-lign rusticated weatherboard fixings over structural cavity battens (Timber Frame): 60 x 2.8mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zones up to and including Very High, or 75 x 3.15 mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zone Extra High, and specific design wind pressures up to and including design differential 2.5 kPa ULS.

Note: Nails must penetrate structural framing by a minimum of 35mm. Where structural battens are used the batten is part of the minimum 35mm penetration.

10.2 Fixing method

Note: Hand nailing is recommended by Claymark. Some gun driven fixings may bruise the surface. If the builder asks to use them it is important that they be tested to make sure that they do not damage the finished surface.

A check should also be made as to the adequacy of the galvanised coating. Claymark endorses the use of the Paslode JoltFast weatherboard nailing system using the appropriate nailing specification.

Note: It is important to use only one fixing per board per stud to allow for movement.

Fix each board with one nail per board at every stud or batten, locate fixing 40mm above the bottom edge of the overlap board to allow for expansion and contraction.

Start fixing weatherboards near the middle of the board and work outwards to the ends.

Pre-drill for fixings if within 50mm of the end of the board.

Punch all nails 2mm below the face of the board.

10.3 Setting out

Note: Movement across the width of A-lign rusticated weatherboards is not restricted by board rebates.

Minimum lap for rusticated weatherboards: 25mm. Use A-lign pre-cut scriber as a storey-rod to locate the position of each successive board to ensure that scribers will fit accurately to weatherboards. Keep dry for consistent measurement accuracy.

10.4 Fixing procedure for rusticated weatherboards

Establish the position of the bottom weatherboard or base board to give a minimum overlap of 50mm below the bottom plate or bearer.

Fix the A-lign rusticated base board in place. Use A-lign rusticated scalloped filler mould where necessary for solid backing.

Cut the final board to fit to the soffit.

Specifications for exterior cladding

10.5 Joining weatherboard

Fix weatherboards in full wall lengths where possible. Make joints where unavoidable over studs or battens. Scarf the joint at 45° and use one fixing through the overlapping board.

Prime the cut-ends of scarf joints with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

10.6 External box corners

Fit A-lign prefabricated 102 x 102 x 18mm external box corner with a minimum of 50mm cover over the weatherboards and fix with two, 50 x 2.50mm galvanised jolt head nails.

Locate the fixings 40mm above the bottom edge of the overlap:

- 468mm centres for 142mm weatherboards (4 laps).
- 486mm centres for 187mm weatherboards (3 laps).

Fit an A-lign pre-cut 18mm scriber over the weatherboards, tight against the box corner and fix through pre-drilled holes with 60 x 2.80mm galvanised jolt head nails at 400mm centres.

10.7 External mitred corners

Prime the cut-ends of scarf joints with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

Install:

- A 65 x 65mm Quickflash hemmed angle back flashing as detailed directly over the wrap.
- Join the weatherboards with a tightly fitting 45° mitre joint.

10.8 Internal corners

Install a 65 x 65mm Quickflash hemmed angle back flashing over the wrap.

Scribe and notch alternate weatherboards or use the A-lign pre-cut 27 \times 27mm internal corner double scriber.

Prime the cut-ends of scarf joints with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

11.0 Window and door openings

Note: The integrity of the junctions at the interface of the cladding and the window and door openings is a vital part of the weatherproofing system. Care must be taken to ensure that the work is carried out correctly and that all flashings, weatherings and air seals are in place.

Note: This specification applies to the use of aluminium windows and doors that are in accordance with E2/AS1 paragraph 9.1.10. Use of bi-fold, sliding or other non-hinged windows and doors and timber windows and doors must be submitted to the Building Consent Authority as an Alternative Solution to NZBC Clause E2/AS1.

11.1 Aluminium windows

Aluminium windows installed into an A-lign Timber Cladding Solution must:

- Comply with NZS 4211 for the building location.
- Have a minimum 10mm flange covering the weatherboard trim.
- Incorporate scribers to the flange.
- Include a full width sill tray for direct fixed. Cavity fix requires window support bars for trim opening wider than 600mm. Refer to E2/AS1 9.1.10.5.
- Have window trimmed openings constructed as shown in E2/AS1 with flexible flashing tapes and air seals.

11.2 Timber windows

Note: Timber windows within a weatherboard cladding is not covered by E2/AS1 and must be consented by a BCA as an Alternative Solution.

Timber windows installed into an A-lign Timber Cladding Solution must:

- Have profiles in accordance with NZS 3610.
- Incorporate facings and scribers.
- Incorporate full width sill tray flashings.
- Have window trimmed openings constructed as shown in E2/AS1 with flexible flashing tapes and air seals.

11.3 Flashings

Flashing material and fabrication in accordance with section 6.0 of this specification. Stop-ends to finish at back of cladding.



Head flashings must have:

- 10mm stop-ends when used with a 20mm cavity.
- 15° cross fall.
- 10mm min cover to the window flange.
- 50mm min back upstand to give 35mm min cladding cover.

Fit sill flashing as detailed with stop-ends to all windows.

Sill flashings must have:

- A 5° cross fall.
- 35mm cladding cover at front downturn.
- 20mm stop-ends.
- A 5mm turn up to the back edge.

11.4 A-lign facings

Fit A-lign grooved facings with a minimum of 50mm cover over the weatherboards and fix with two, 50 x 2.50mm hot dipped galvanised jolt head nails.

Locate the fixings above the lap of the weatherboard at:

• 468mm centres for 142mm weatherboards (4 laps).

• 486mm centres for 187mm weatherboards (3 laps).

Fit A-lign pre-cut 18mm scriber over the weatherboards, tight against the facing and fix through pre-drilled holes with 60 x 2.80mm hot dipped galvanised jolt head nails at centres as above.

11.5 Air seals

On completion fit air seals around all window and door openings as specified.

12.0 Painting A-lign

12.1 Materials

A premium factory applied primer and undercoat has been applied in two separate coats. Site prime all bare timber surfaces and cut-ends with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

Finishing coats: 100% premium acrylic house paint (insert specific manufacturers product) as specified in Parts 7, 8, 9 and 10 of AS 3730.

12.2 Painting

Note: Resin bleed may occur from timber in hot conditions or where painted in dark colours. Adherence to the above specification will help minimize the problem.

Note: Primers cannot withstand exposure to weather for extended periods.

Note: Using light colours lessens the chance of distortion by reducing solar heat build up in the weatherboards.

Carry out all painting work in accordance with the appropriate clauses of AS/NZS 2311 Guide to Painting of Buildings.

Finishing coats to be applied after installation of the exterior sheathing, joinery and trim.

Prior to applying finishing coats ensure no moisture related dimensional swelling is evident by measuring profiles against original profile sizes. If swelling is present, delay finish coating until the timber profiles have returned to their original machined sizes.

Fill all nail holes with an exterior grade filler, sand to a smooth surface and spot-prime filled areas and wherever the coating is damaged.

Apply a minimum of two full coats of 100% premium acrylic house paint with a gloss level of 10% and a Light Reflective Value of 45% or greater (ASTM C1549 or ASTM E903).

13.0 General information

13.1 Handling

Store the product where it is dry and kept off the ground using bearers. If stored outside use a secondary waterproof cover but allow for good air circulation. When handling, take care to avoid any damage to surfaces.

13.2 Installation

Avoid scratching or marking of the board during installation and cutting. Prime the cut-ends of scarf joints with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

Specifications for exterior cladding

13.3 Finishing

Remove all loose material, dirt etc. Spot prime exposed bare timber with selected premium timber primer, putty all nail holes, use a filler and sealants nominated as exterior type suitable for overcoating with 100% acrylic paint. Apply a minimum of two coats of 100% premium acrylic house paint as per instructions on the container.

13.4 Moisture

Tannin extracts (dark stains in the film) are a result of the board being allowed to get wet. This is neither a board nor paint issue as it is a result of excessive moisture, which infiltrates the board through not following these guidelines. After installation of the board it is recommended that the painter be allowed to complete the finishing work as soon as practical. Refer to 12.2 Painting.

13.5 Heat generating colours

Dark colours absorb heat from the sun. Light colours reflect significantly more heat. Testing has shown that dark colours can generate temperatures in excess of 85°C in direct sunlight whereas light colours under the same conditions can be as much as 35°C cooler. It is recommended that the chosen colour therefore has a Light Reflective Value greater than 45 (LRV of white is 95/100, LRV Black is 0).

14.0 Building maintenance

14.1 New construction

Building movement and settlement is inevitable. Paint coatings are affected by this occurrence whether it be concrete or timber substrate. It is important to deal immediately with new issues that are as a result of substrate movement – in the case of timber it is movement of the board. Make good these areas by priming and then touching up with the original, topcoat paint.

14.2 Regular washing

Exterior building surfaces benefit from being cleaned regularly. This is particularly important under eaves and overhangs. Mould, fungi and marine salts can have a detrimental effect on the paint coating and the substrate if left. Arrange to lightly wash all surfaces at least annually. This is particularly important in a marine environment.

14.3 Maintenance painting

When required use a premium primer and undercoat, followed by the topcoat originally selected. In some circumstances where maintenance is delayed for many months it may be required to make good the repair area and then fully coat the whole section because of the change in the appearance of the coatings. Loss of gloss, colour change etc. is normal for paint.

Mostly walls facing north will be subject to this requirement, particularly if maintenance is delayed.

It is however, beneficial for both the paint film and the substrate to apply another coat. This maintenance should be viewed as a positive outcome for both the paint, the substrate and your investment in the home/ building.

Building movement normally reduces over time. Experience has shown that areas that have been subject to maintenance in the main do not require further repairs providing the substrate is not subjected to continual movement.

As part of your maintenance, always check flashings, sealant and fastenings to ensure they do not permit the passage of water into the substrate. Left unchecked, water entry into the substrate can cause substantial damage which can become expensive to remedy.

Follow these instructions to ensure that your investment in A-lign natural solid timber products will stand the test of time.

For more information on A-lign call the Claymark Helpline on:

0800 25 44 61

Monday to Friday 8am–5pm

For more technical information and downloadable CAD and 3-D drawings, visit: **Claymark.co.nz**

12

A-lign Warranty



Warranty

Claymark Limited ('Claymark Ltd') warrants for a period of 15 years from the date of purchase that it's A-lign cladding and A-lign accessories (The 'Products'), will be free from production defects, and subject to compliance with the conditions below, will be resistant to cracking, rotting, and damage from borer attacks to the extent set out in Claymark Ltd's product literature current at the time of installation.

The A-lign Technical Manual sets out the approved and recommended methods for cladding installation. A copy of the A-lign Technical Manual is available from Claymark Ltd, phone toll free on: 0800 25 44 61 Monday to Friday 8am–5pm.

Conditions of Warranty

The warranty is strictly subject to the following conditions:

(a) The Products must be installed by a competent and qualified builder, strictly in accordance with the A-lign Technical Manual current at the time of installation, utilising A-lign components or products specified in the A-lign Technical Manual. Where the A-lign Technical Manual does not provide a suitable detail for installation of The Products then installation must be in accordance with best trade practice determined in consultation with the Territorial Authority and designer of the building works. Further, all other products, including coating and jointing systems, applied to or used in conjunction with The Products must be applied or installed strictly in accordance with the relevant manufacturer's instructions and best trade practice.

(b) Claymark Ltd will not be liable under this warranty unless a written claim is notified to Claymark Ltd within 30 days of the defect becoming reasonably apparent.

(c) This warranty is for the benefit of the original owner of the building where the A-lign cladding has been installed. This warranty is not transferable to subsequent owners of the building.

(d) The Products must be maintained strictly in accordance with the A-lign Technical Manual. Further, all other products, including coating and jointing systems, applied to or used in conjunction with The Products must be maintained strictly in accordance with the relevant manufacturer's instructions and best trade practice.

(e) The building works in which The Product has been incorporated must be designed and constructed in strict compliance with all relevant provisions of the current New Zealand Building Code ('NZBC'), regulations and standards, and the Building Consent relating to the building works.

(f) The customer's sole remedy under this warranty is (at Claymark Ltd's option) that Claymark Ltd will either supply replacement Products, rectify the affected Products or pay for the cost of the replacement or rectification of the affected Products.

(g) Claymark Ltd will not be liable for any losses or damages (whether direct or indirect) including property damage, personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing Claymark Ltd will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which The Products are attached, incorrect design off the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to The Products, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on the surface of any Products (whether on the exposed or unexposed surfaces).

(h) All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent permitted by law. This warranty does not exclude or modify any legal rights a customer may have under the Consumer Guarantees Act 1993. Unless otherwise specified in writing at the time of sale, Claymark Ltd assumes no liability for The Products being fit for any particular purpose under the Building Act 2004, other legislation or at common law.

(i) If any remedial work undertaken under this warranty involves re-coating of The Products, the customer acknowledges and agrees that there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

Drawings Directory

Set out guides	17
Preparing a trimmed opening	20
Direct and cavity fixed – fixing guide	20

Direct fixed rusticated drawings 3-D CAD

Figure 3.01	base of wall – concrete floor	21	30
Figure 3.02	base of wall – timber floor	21	30
Figure 3.03	eaves – angled soffit		31
Figure 3.04	eaves – flat soffit	21	31
Figure 3.05	eaves – no soffit	21	32
Figure 3.07	external corner – prefabricated box	21	32
Figure 3.08	external corner – mitred	21	33
Figure 3.09	internal corner – pre-cut scriber	22	33
Figure 3.10	internal corner – scribed	22	34
Figure 3.11	aluminium window – head	22	34
Figure 3.11a	aluminium window – head	22	35
Figure 3.11b	aluminium window – head		36
Figure 3.12	aluminium window – jamb	22	37
Figure 3.12a	aluminium window – jamb		37
Figure 3.13	aluminium window – sill	22	38
Figure 3.13a	aluminium window – sill	23	38
Figure 3.14	timber window – head	23	39
Figure 3.15	timber window – jamb	23	39
Figure 3.16	timber window – sill	23	40
Figure 3.17	meter box – head	23	40
Figure 3.17a	meter box – jamb	23	
Figure 3.17b	meter box – sill	24	
Figure 3.18	external corner –		
-	prefabricated box – stucco		41

		3-D	CAD
Figure 3.19	internal corner –		
	pre-cut scriber – stucco		41
Figure 3.20	above stucco		42
Figure 3.21	external corner –		
	prefabricated box – profiled metal		42
Figure 3.22	internal corner –		
	pre-cut scriber – profiled metal		43
Figure 3.23	above profiled metal		43
Figure 3.24	below profiled metal		44
Figure 3.25	abutting profiled metal		44
Figure 3.26	external corner – masonry veneer		45
Figure 3.27	internal corner – masonry veneer		45
Figure 3.28	above masonry veneer		46
Figure 3.29	abutting masonry veneer		46
Figure 3.30	pipe penetration	24	47
Figure 3.31	above waterproof deck	24	47
Figure 3.32	reverse raked soffit		48
Figure 3.33	apron flashing		48
Figure 3.34	apron flashing – stop end	24	49
Figure 3.38	internal corner - 135 degrees - scribed		50
Figure 3.39	internal corner - 135 degrees - flashed		50
Figure 3.40	external corner - 135 degrees - mitred		51
Figure 3.41	nailing		51

Please note: All drawings are available as downloadable files from our website:

claymark.co.nz

			CAD
Figure 4.01	base of wall – concrete floor	24	53
Figure 4.02	base of wall – timber floor		53
Figure 4.03	eaves – angled soffit		54
Figure 4.04	eaves – flat soffit	25	54
Figure 4.05	eaves – no soffit	25	55
Figure 4.06	parapet – cap	25	55
Figure 4.07	external corner – prefabricated box	25	56
Figure 4.08	external corner – mitred	25	56
Figure 4.09	internal corner – pre-cut scriber	25	57
Figure 4.10	internal corner – scribed	26	57
Figure 4.11	aluminium window – head	26	58
Figure 4.11a	aluminium window – head	26	59
Figure 4.11b	aluminium window – head		60
Figure 4.12	aluminium window – jamb	26	61
Figure 4.12a	aluminium window – jamb		61
Figure 4.13	aluminium window – sill	26	62
Figure 4.13a	aluminium window – sill	26	62
Figure 4.14	timber window – head	27	63
Figure 4.15	timber window – jamb	27	63
Figure 4.16	timber window – sill	27	64
Figure 4.17	meter box – head	27	64
Figure 4.17a	meter box – jamb	27	
Figure 4.17b	meter box – sill	27	
Figure 4.18	external corner –		
	prefabricated box – stucco		65

3-D CAD

Figure 4.19	internal corner –		
	pre-cut scriber – stucco		65
Figure 4.20	above stucco		66
Figure 4.21	external corner –		
	prefabricated box – profiled metal		66
Figure 4.22	internal corner –		
	pre-cut scriber – profiled metal		67
Figure 4.23	above profiled metal		67
Figure 4.24	below profiled metal		68
Figure 4.25	abutting profiled metal		68
Figure 4.26	external corner – masonry veneer		69
Figure 4.27	internal corner – masonry veneer		69
Figure 4.28	above masonry veneer		70
Figure 4.29	abutting masonry veneer		70
Figure 4.30	pipe penetration	28	71
Figure 4.31	above waterproof deck	28	71
Figure 4.32	reverse raked soffit		72
Figure 4.33	apron flashing		72
Figure 4.34	apron flashing – stop end	28	73
Figure 4.35	parapet – balustrade – wall junction		73
Figure 4.36	parapet - balustrade - saddle flashing	28	74
Figure 4.37	parapet – balustrade – saddle install		74
Figure 4.38	horizontal cavity joint	28	75
Figure 4.39	internal corner - 135 degrees - scribe	d	75
Figure 4.40	internal corner - 135 degrees - flashe	d	76
Figure 4.41	external corner - 135 degrees - mitre	d	76
Figure 4.42	nailing		77



Set out Guide







A-lign 142 Rusticated weatherboard

A-lign 187 Rusticated weatherboard

Dimensions within brackets are rounded to millimetres. A-lign base weatherboard to finish min 50 mm below floor level (and 175 mm above finished ground level or 100 mm above paving)







Note: The 3-Dimensional diagrams and CAD drawings in this manual are current at the date of this manual (Sept 2018). For any amendments or updates to these diagrams or drawings, please

refer to our website: www.claymark.com/triptech/a-lign-nail-fix-cad-details



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Figure 3.01 Direct fixed – base of wall – concrete floor



Figure 3.04 Direct fixed – eaves – flat soffit

Roof framing A-lign* rusticated scalloped filler mould as required Soffit lining A-lign* 42 x 18mm eaves mould A-lign* rusticated weatherboard Wall underlay

Figure 3.07 Direct fixed – external corner – prefabricated box



Wall underlay carried around corner

A-lign[®] rusticated weatherboards taken into framing corner

A-lign[®] pre-cut 27 x 18mm scriber

A-lign[®] prefabricated box corner

A-lign[®] rusticated base board

Cladding to finish 50mm min below top of foundation (and 175mm above finished ground level or 100mm above paving)



Figure 3.02 Direct fixed -

base of wall - timber floor

Wall underlay to finish 10mm below bottom plate A-lign[®] rusticated weatherboard

Flooring

Floor joist

Blocking

A-lign[®] rusticated base board to finish 50mm below floor slab

DPC under bottom plate

Cladding to finish 50mm min below top of foundation (and 175mm above finished ground level or 100mm above paving)

Figure 3.05 Direct fixed – eaves – no soffit



Figure 3.08 Direct fixed – external corner – mitred



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Figure 3.09 Direct fixed internal corner - pre-cut scriber

Figure 3.10 Direct fixed internal corner - scribed



22

Figure 3.13a Direct fixed aluminium window - sill

Figure 3.15 Direct fixed timber window - jamb



Figure 3.14 Direct fixed timber window - head



Figure 3.16 Direct fixed timber window - sill



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Figure 3.17b Direct fixed – meter box – sill

Figure 3.30 Direct fixed – pipe penetration



Packing to 5° cross fall

A-lign[®] rusticated base board to finish 50mm below floor slab

DPC under bottom plate

paving)

24

Figure 4.04 Cavity fixed eaves - flat soffit



Figure 4.06 Cavity fixed parapet - cap



Figure 4.05 Cavity fixed eaves - no soffit



Figure 4.07 Cavity fixed external corner - prefabricated box



Wall underlay carried around corner A-lign[®] cavity batten

A-lign[®] rusticated

- weatherboards taken into framing corner
- A-lign[®] pre-cut 27 x 18mm scriber
- A-lign[®] prefabricated box corner
- A-lign[®] rusticated base board

Cladding to finish 50mm min below top of foundation (and 175mm above finished ground level or 100mm above paving)

Figure 4.08 Cavity fixed external corner - mitred



Wall underlay carried around corner A-lign[®] cavity batten

Quickflash back flashing

A-lign[®] rusticated weatherboard tight mitred at corner

Mitred corner

A-lign[®] rusticated base board tight mitred at

Quickflash cavity closure Cladding to finish 50mm min below top of foundation (and 175mm above finished ground level or 100mm above paving)

Figure 4.09 Cavity fixed internal corner - pre-cut scriber



- Wall underlay carried around corner
- A-lign[®] cavity batten

Quickflash back flashing with seamed edges

- A-lign[®] pre-cut 27 x 27mm internal scriber
- A-lign[®] rusticated weatherboard
- DPC under bottom plate

Cladding to finish 50mm min below top of foundation (and 175mm above finished ground level or 100mm above paving)

A-lign[®] rusticated base board

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Figure 4.10 Cavity fixed – internal corner – scribed



Figure 4.11a Cavity fixed – aluminium window – head – jamb



Figure 4.11 Cavity fixed – aluminium window – head



Figure 4.12 Cavity fixed – aluminium window – jamb



Figure 4.13 Cavity fixed – aluminium window – sill







A-lign[®] cavity batten A-lign[®] rusticated weatherboard

- Meter box



Figure 4.30 Cavity fixed – pipe penetration





Figure 4.34 Cavity fixed – apron flashing – stop end



Figure 4.36 Cavity fixed – parapet – balustrade – saddle flashing



Figure 4.38 Cavity fixed – horizontal cavity joint



28

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Note: The 3-Dimensional diagrams and CAD drawings in this manual are current at the date of this manual (Sept 2018). For any amendments or updates to these diagrams or drawings, please refer to our website: www.claymark.com/triptech/a-lign-nail-fix-cad-details



Figure 3.02 Direct fixed – base of wall – timber floor





Figure 3.04 Direct fixed - eaves - flat soffit





Figure 3.07 Direct fixed – external corner – prefabricated box



Quickflash Code 14 50 x 50mm flashing with 10mm returns to both edges Wall underlay continuous around

corner

Figure 3.09 Direct fixed – internal corner – pre-cut scriber





Figure 3.11 Direct fixed – aluminium window – head



Note: In wind zones Very High wind & above, sealant must be installed between the underside of the head flashing and top edge of window head flange – see E2/AS1 Fig 71(c).


Elevation





Elevation









and/or scribers by 20mm



Figure 3.13a Direct fixed – aluminium window – sill









Air seal over backing rod – Wall underlay turned into framing reveal, flexible flashing tape to trimmer and turn up 100mm at ends

Note: Jamb detail similar to sill with angle to give cover to weatherboard with a A-lign® pre-cut 27 x 18mm scriber.

40

scallop area as required

Seal and rivet 30 x 30mm angle to

A-lign[®] rusticated weatherboard

Packing cut to suit

meter box all round



Note: Run wall underlay continuously around internal and external corners - do not joint material at corner







Figure 3.21 Direct fixed – external corner – prefabricated box – profiled metal





Figure 3.23 Direct fixed – above profiled metal





Figure 3.25 Direct fixed – abutting profiled metal











Figure 3.29 Direct fixed – abutting masonry veneer















Note: Refer to NZBC Acceptable Solution E2/AS1 Table 7 for apron flashing cover over roofing



Note: Refer to NZBC Acceptable Solution E2/AS1 Table 7 for apron flashing cover over roofing



Figure 3.39 Direct fixed – internal corner – 135 degrees – flashed











Note: The 3-Dimensional diagrams and CAD drawings in this manual are current at the date of this manual (Sept 2018). For any amendments or updates to these diagrams or drawings, please refer to our website: www.claymark.com/triptech/a-lign-nail-fix-cad-details



Figure 4.02 Cavity fixed – base of wall – timber floor











Note: Install flexible flashing tape and saddle flashing at junction with full height wall



Figure 4.08 Cavity fixed – external corner – mitred





Figure 4.10 Cavity fixed - internal corner - scribed







Elevation





Elevation

















Figure 4.15 Cavity fixed - timber window - jamb









Note: Jamb detail similar to sill with angle to give cover to weatherboard with a A-lign[®] pre-cut 27 x18mm scriber.



Note: Run wall underlay continuously around internal and external corners - do not joint material at corners







Figure 4.21 Cavity fixed - external corner - prefabricated box - profiled metal





Figure 4.23 Cavity fixed – above profiled metal





Figure 4.25 Cavity fixed – abutting profiled metal











Figure 4.29 Cavity fixed – abutting masonry veneer















Note: Refer to NZBC Acceptable Solution E2/AS1 Table 7 for apron flashing cover over roofing







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73



Figure 4.37 Cavity fixed - parapet - balustrade - saddle install





Note: Horizontal drained joints must be provided for walls over 2-storeys in height in accordance with NZBC Acceptable Solution E2/AS1 paragraph 9.1.9.4(b)







Figure 4.41 Cavity fixed – external corner - 135 degrees - mitred





Claymark Limited – Quality

Claymark quality assurance standards

To constantly deliver products that perform at the highest level demands excellent standards of quality in every area of business: from the training of our people, to product improvement, to concern for the environment.

We at Claymark Ltd are proud of our reputation for quality and integrity. A reputation that has been proven for generations. Our investment in quality is core to our company philosophy. Out of that dedication, innovation flows – and excellence continues year after year.

Our most recent certifications and standards are shown here. We will update these regularly. We strive to not just follow the strictest standards of our profession but to keep ahead of them. That way you, our customer, know that whenever you choose a product or service, you are choosing real quality.

Forest Stewardship Council[®] – chain of custody

Claymark Ltd has been independently certified by Scientific Certification Systems (SCS) in accordance with the rules of the Forest Stewardship Council® A.C. (FSC®).

SCS Certification Registration Number SCS-COC-000679

Timber Preservation Quality Manual. License Number 080

New Zealand Forest Industries Council

Claymark Ltd was awarded the champion training company for solid wood processing in 2001. The certificate was awarded by Forest Industries Training and Education Council.

Refer to **www.claymark.co.nz** for information on quality control methods.

For more information about our independent third party quality audit process contact us at:

0800 25 44 61

Monday to Friday 8am–5pm







any errors and o which are not v

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