

HALSWELL TIMBER

Your Timber Yard

HTC Vertical Shiplap Weatherboards Technical Guide for Specifiers and Installers

Contents

1.0	About	2
2.0	Building Code Compliance	2
3.0	Oil Coating.....	4
4.0	Handling & Storage	4
5.0	Installation	4
6.0	Maintenance	5
7.0	Disclaimer	5

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1.0 About

1.1 Introduction

HTC Vertical Shiplap Weatherboards are a cavity-based vertical cladding best suited for light commercial and residential buildings.

This cladding is a first and second line of defence against water penetration by separating the cladding from the external wall frame with an 18mm minimum drained cavity.

1.2 Profile

The following profiles are covered by this guide:

- VS1 – VS14

1.3 Accessories

HTC Vertical Shiplap Weatherboards come with these optional accessories:

Mouldings – (With Cladding)

- Cover battens
- Scribes
- Eaves moulding
- “Custom” mouldings for “Custom” cladding orders

Fixings – (Builder Supply)

- Use Silicon Bronze or Grade 316 Stainless Steel Annular Grooved Crown Head or Rose Head nails. Nail shank diameter must be 2.8mm minimum. Length must allow wall penetration of minimum 30mm.
- Aluminium flashings

1.4 Sales Order Confirmation

Ensure Merchant, Builder or Client signs off HTC Sales Order Confirmation. Important to Check: Profile Code, Face Finish, Selected Lengths, Coat Colour

2.0 Building Code Compliance

If installed, used and fitted as instructed in this Guide, HTC Vertical Shiplap Weatherboards will comply with these provisions of the New Zealand Building Code:

- Section B1—Structure: Performance B1.3.1, B1.3.2 and B1.3.4 for loads arising from self-weight, wind, impact and creep. (i.e. B1.3.3 (a), (h), (j) and (q).
- Section B2—Durability: Performance B2.3.1 (b) 15 years and B2.3.2.

- Section E2—External Moisture: Performance E2.3.2.
- Section F2—Hazardous Building Materials: Performance: F2.3.1

The HTC Vertical Shiplap Weatherboards are an Alternative Solution in terms of New Zealand Building Code Compliance.

2.1 Scope

The HTC Vertical Shiplap Weatherboards, are suitable as a vertical external fixed wall cladding, meets the requirements and limitations of the following:

- NZBC Acceptable System—E2/AS1:2011, Paragraph 1.1
- Timber framing compliant with NZS 3604:2011
- Risk score of 0-20 calculated from NZBC Acceptable Solution E2/AS1:2011, Table 2; and,
- NZS 3604:2011, Sec 5.2 Wind Zones, including “Very High”
- All materials and processes contained in the NZS 3604:2011 building code

2.2 Timber Grading

All grades & species may require some docking.

HTC Vertical Shiplap Weatherboards are supplied dry, moisture content at 18% or less (see NZS 3602:2003, Table 2:2A1-Moisture).

HTC Vertical Shiplap Weatherboards are available in 19mm thickness, and in a variety of cover widths. A random length supply of weatherboards ranges from 1.8 – 4.8m (depending on species). Longer lengths may be available on request.

HTC Vertical Shiplap Weatherboards are available in a Band Sawn Face (BSF), recommended for better longevity and Dressed Face (DF) (Check with coating manufacturer for sanding requirements.) Other “custom” options available.

2.4 Timber Species

2.4.1 Siberian Larch

HTC Siberian Larch Weatherboards are manufactured from Siberian Larch (*Larix sibirica*) and comply with NZS 3602:2003; Table 2:2A1-Species. Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003; Table 2:2A1-Grade) which comprises of Heartwood with sound tight knots and other minor defects.

2.4.2 Western Red Cedar

HTC Western Red Cedar Weatherboards are manufactured from Western Red Cedar (*Thuja plicata*) from western Canada and comply with NZS 3602:2003 (Timber and Wood Based Products for use in Building).

2.4.2.1 Western Red Cedar PC1

HTC Western Red Cedar PC1 Weatherboards are supplied in Premium Clears No.1, which comprises of Heartwood with a small number (<5%) of small sound tight knots and other minor natural defects. There is no selection for colour or grain.

2.4.2.2 Western Red Cedar PC2

HTC Western Red Cedar PC2 Weatherboards are supplied in Premium Clears No.2, which comprises of Heartwood with up to 25% sound tight knot and other natural & machined defects. There is no selection for colour or grain. Any defect removal during installation will result in a higher percentage of waste than for PC1.

2.4.3 NZ Larch

HTC NZ Larch Weatherboards are manufactured from central South Island NZ Larch (*Larix decidua*) and comply with NZS 3602:2003, Table 2:2A1-Species. Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003, Table 2:2A1-Grade), which comprises of Heartwood with sound tight knot (STK). Any loose or bark encased knots or natural timber defects should be removed during installation.

2.4.4 NZ Lawson Cypress

HTC Lawson Cypress Weatherboards are manufactured from NZ Lawson Cypress (*Chamaecyparis Lawsonia*) and comply with NZS 3602:2003 (Timber and Wood Based Products for use in Building). Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003; Table 2:2A1-Grade) which comprises of Heartwood with sound tight knots and other minor defects.

2.4.5 NZ Macrocarpa

HTC NZ Macrocarpa Weatherboards are manufactured from New Zealand Macrocarpa (*Hesperocyparis macrocarpa* since October 2013 (previously *Cupressus macrocarpa*)) and comply with NZS 3602:2003; Table 2:2A1-Species. Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003; Table 2:2A1-Grade) which comprises of Heartwood with sound tight knots and other minor defects.

2.4.6 Radiata

HTC Radiata Weatherboards are manufactured from New Zealand Pinus Radiata (of the family Pinaceae) and comply with NZS 3602:2003; Table 2:2A1-Species. Minimum treatment shall be H3.1.

2.4.6.1 Premium

Weatherboards are supplied in Premium Grade is from heartwood and/or sapwood, and is equivalent to Clears Nos. 1 & 2, which is clear all round with a few minor defects to back face.

2.4.6.2 Dressing Grade

Weatherboards are supplied in Dressing Grade is from the sapwood where all knots must be sound and tight. Maximum size of knot is the greater of 75mm dia. or half the width of the board with a small amount of star checking. Small resin and tight bark pockets are permitted. But pith not allowed.

2.4.7 NZ Cedar

HTC NZ Cedar Weatherboards are manufactured from New Zealand Cedar (*Libocedrus bidwillii*) and comply with NZS 3602:2003; Table 2:2A1-Species. Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003; Table 2:2A1-Grade) which comprises of Heartwood with sound tight knots and other minor defects.

2.4.8 NZ Redwood

HTC NZ Redwood Weatherboards are manufactured from New Zealand Redwood (*Sequoia sempervirens*) and comply with NZS 3602:2003; Table 2:2A1-Species. Weatherboards are supplied in Dressing Heart Grade (NZS 3602:2003; Table 2:2A1-Grade) which comprises of Heartwood with sound tight knots and other minor defects.

2.5 Durability

HTC Vertical Shiplap Weatherboards exceed the 15-year minimum durability requirement when fixed above ground, (NZBC Para. B2 - Durability: Performance B2.3.1 (b) 15 years and B2.3.2.).

3.0 Oil Coating

Initial coat is to be applied to all 4 sides, including sealing of all end cuts. Second coat is following installation. Dressed Face boards are to be face sanded prior to oiling.

4.0 Handling & Storage

Ensure HTC Vertical Shiplap Weatherboards are kept dry, by storing indoors with a minimum 100mm ground clearance. Avoid damage to the plastic wrapping, weatherboard edges and surfaces.

5.0 Installation

Before installing HTC Vertical Shiplap Weatherboards, the wall underlay, flexible sill and jamb tape system must have been installed according to manufacturer's instructions.

The underlay must be installed horizontally and flow continuously around corners. It must be lapped 75mm minimum at horizontal joints and 150 mm minimum over studs at vertical joints.

Ensure underlays and tapes around window and door openings achieve a continuous seal and protect all exposed timber wall framing.

5.1 Health & Safety

HTC Vertical Shiplap Weatherboard cutting must be carried out in a well-ventilated area. Protective equipment including dust masks and hearing and eye protection must be worn.

5.2 Installation Checklist

- Weatherboards cannot be wet, moisture content of 18% or less (NZS 3602:2003; Table 2:2A1-Moisture)
- All faces and edges must be sealed prior to installation. Edges, ends and exposed fresh cut timber during installation must be double sealed.
- Installation should start at the corner of the wall section being clad, with the first board installed plumb.
- Weatherboards must overhang the bottom plate by 50mm minimum. And ensure minimum ground clearances are adhered to as per E2/AS1:2011 para. 9.1.3.5(a)
- The lap should face away from prevailing winds.

- Apply a continuous bead of sealant to the face of internal and external flashings along the fixing line immediately before installing weatherboards.
- Boards must overlap by 25mm minimum, with an expansion gap of 2mm at the overlap.
- Pre-drill weatherboards on a slight up-slope with a hole slightly smaller than the nail. Use one nail per board to fix each weatherboard to every nog/dwang. Nail shank diameter must be 2.8mm minimum. Length must allow wall penetration of minimum 30mm.
- The fixing is to be located 35mm from the lap edge, and not less than 35mm from the end of the board. The fixing must finish flush with the surface of the weatherboard.
- Where possible, fix weatherboards in full lengths, but if joints cannot be avoided, scarf the board at 30° over a nog/dwang and fix according to previous two notes.
- Internal and external corners must be finished according to E2/AS1:2011;
 - para. 9.4.5.3(a) External Corners (fig 80) and
 - para. 9.4.5.3(b) Internal Corners (fig 79).

5.3 Timber Framing

Timber wall framing behind the HTC Vertical Shiplap Weatherboards must meet the requirements of NZS 3602:2003 (Timber and Wood-Based Products for Use in Building).

Timber framing must comply with the requirements and limitations of New Zealand Building Code and NZS 3604:2011. Buildings or parts of buildings outside the scope of NZS 3604:2011 must be to a specific design as laid out in NZS 3603 and AS/NZS 1170. In these cases, framing stiffness must be at least equivalent to the provisions of NZS 3604:2011 and meet framing manufacturer's specifications.

All studs must be at maximum 600mm.

Nogs/dwangs for weatherboards fixed with Grade 316 stainless steel angular grooved Jolt Head Nails in NZS 3604:2011 Wind Zones up to and including Medium, must be at maximum 480mm centres. In High and Very High wind zones, the maximum is 400mm centres.

5.3.1 Framing Tolerances

Framing tolerances must comply with NZS 3604:2011:

- para. 2.4.3-Tolerances and

- Table 2.1-Timber framing tolerances

5.4 Cavity Battens

Available cavity battens include:

- 45mm x 20mm horizontal ventilated cavity batten
- 45mm x 20mm vertical cavity batten
- 45mm x 45mm horizontal ventilated cavity batten
- 65mm x 45mm vertical cavity batten

Horizontal battens to be located at every nog/dwang line, and above & below openings. And vertical battens to be located at opening jambs and all corners. Battens to be fixed with cladding fixings (refer E2/AS1:2011, Table 24).

5.5 Aluminium Joinery

Aluminium joinery (to NZS 4211) and relevant flashings must be installed according to the window manufacturer's specifications.

NZBC Acceptable Solution E2/AS1:2011, paragraph 9.1.6, stipulates that a PEF rod and air seal be installed after the joinery has been secured in place. Therefore, a nominal gap of 7.5-10mm must be left between the joinery reveal and the wall framing.

6.0 Maintenance

The building owner must carry out regular maintenance to prolong the life of the cladding and ensure that New Zealand Building Code requirements continue to be met.

Annual inspections must be carried out and any damaged or deteriorating areas repaired straight away, following manufacturer's instructions.

The surface finish should be cleaned at least annually using a mild detergent and water.

The oil finish will need re-coating every two or three years (possibly more often on exposed walls). Ensure all weatherboard surfaces are well-coated, including the bottom edge.

7.0 Disclaimer

Project specifiers must ensure the product detailed in this Guide are suitable for its intended use. Any specific design or areas that fall outside the specifications of this Guide will require additional detailing. These must meet all

requirements of the New Zealand Building Code. HTC will not be liable for any claims, damages or defects arising from, or in any way attributed to:

- Poor workmanship
- Poor design or detailing
- Incorrect design of the structure
- Settlement or structural movement and/or movement of materials to which the products are attached
- Acts of God including, but not limited to: earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions.
- Efflorescence performance of coatings applied to the products.
- Normal wear and tear or: growth of mould, mildew, fungi, bacteria, or any organism on the surface of any products (whether on the exposed or unexposed surfaces).

8.0 Current warnings or bans

This product is not subject to a warning or ban under Section 26 of the Building Act 2004.