



Rusticated, Splaycut & Multi-Splay Weatherboard **Cavity System**

Installation Specifications

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Auckland
110 Foundry Rd, Silverdale.
PO Box 35-209, Browns Bay,
Auckland 0753
p. 09 421 9840 f. 09 426 7638

Wellington
160 Gracefield Rd, Seaview.
PO Box 38-123, Wellington Mail Centre,
Lower Hutt 5045
p. 04 586 9674 f. 04 586 9675

Christchurch
27 Nga Mahi Road, Sockburn.
PO Box 8822, Riccarton,
Christchurch 8440
p. 03 341 2163 f. 03 341 2173

Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System

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1.0 General Information

1.1 Introduction

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System is a cavity-based external wall cladding system for residential and light commercial type buildings where domestic construction techniques are used.

The cladding system consists of horizontally fixed Hermpac Rusticated, Splaycut & Multi-Splay weatherboards installed over cavity battens, flashings and accessories and is finished with a premium penetrating oil stain or paint finish to Herman Pacific Limited specifications.

The system incorporates a primary and secondary means of weather resistance (first and second line of defence) against water penetration by separating the cladding from the external wall frame with an 18-20 mm drained cavity.

1.2 BRANZ Appraisal

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System has been appraised by BRANZ. Refer to Appraisal No. 658 (2014).

1.3 CODEMARK Certification

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System has the Codemark Certificate of Conformity. Refer Certificate No. GM-CM30037.

1.4 Hermpac Rusticated, Splaycut & Multi-Splay Weatherboards

Hermpac Rusticated, Splaycut & Multi-Splay weatherboards are manufactured from Canadian Coastal Western Red Cedar. Selected rusticated weatherboards are manufactured from DuraLarch (oil/stain or paint finish) or Ashin-Dura (paint finish only).

The Rusticated and Splaycut weatherboard lap and rebate profiles are in accordance with NZS 3617 and BRANZ Bulletin 411. The weatherboards are minimum 18.5mm thick and are available in a range of widths and face profiles, supplied as a random length supply. Selected lengths are outside the general specification and are available by special contract.

Note: Multi-Splay weatherboards fall outside the scope of NZS 3617 and BRANZ Bulletin 411.

1.5 Cavity Battens

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System uses either treated timber cavity battens or Cavibat polypropylene cavity battens to separate the weatherboards from the wall frame and form the cavity. Cavibat cavity battens can be installed vertically over the wall framing to provide support for the weatherboards at fixing points, e.g. at window openings. Refer to www.cavibat.co.nz and BRANZ Appraisal No. 524 (2012) for full specifications.

1.6 Accessories

Accessories supplied by Herman Pacific Limited for use with the Hermpac Rusticated, Splaycut & Multi-Splay Cavity System include:

- Hermpac external corner mouldings – HP40 (40 x 40mm) and HP42 (42 x 42mm) and the Hermpac ‘Smart Corner’ series, profiled external corner moulds.
- Hermpac internal corner moulds – HP41 (18.5 x 18.5mm) and the Hermpac ‘Smart Corner’ series.
- Hermpac cover battens – HP201 (69 x 18mm) and HP202 (90 x 18mm).
- Hermpac eaves moulding – HP32 (40 x 27mm), HP33 (26 x 15mm) and HP7 (30 x 18mm) bevelled profile.
- Hermpac cover batten fixings – 50 x 2.8 mm silicon bronze, Grade 316 stainless steel annular grooved Hermpac Crown Head, Rose Head or Flat Head nails for stain finish or Grade 316 stainless steel annular grooved

Jolt Head nails for paint finish.

- Hermpac Rustic plugs – HP44 (40 x 9.25 mm) and HP43 (25 x 9.25mm) profiled to suit the weatherboard profile. The plugs are supplied in 10 m bundles.
- Hermpac scribes – HP11 – HP18, with bevelled or radiused edges (cut to suit as required).
- Hermpac scribe fixings – length to suit scribe size (minimum 50 x 2.8mm) stainless steel annular grooved Hermpac Crown Head, Rose Head or Flat Head nails for stain finish or Jolt Head nails for paint finish.
- Hermpac flat and corner soakers – 90° soakers available in copper, stainless steel or etch primed aluminium.
- Hermpac soaker fixings – 19 x 1.6mm silicon bronze or stainless steel Rose Head or Flat head nails.
- Nail fixings for weatherboards – selection options:
 - For oil/stain finish – silicon bronze or Grade 316 stainless steel annular grooved Hermpac Crown Head, Rose Head or Flat Head nails. Nail shank must be minimum 3.25mm diameter and the length must allow 30mm minimum penetration of the wall frame.
 - For CedarOne or paint finish – grade 316 stainless steel annular grooved Hermpac Jolt Head nails. The nail shank must be minimum 3.25mm diameter and the length must allow 35mm minimum penetration of the wall frame.
- Hermpac clinch nails – Grade 316 stainless steel annular grooved nails with an off-set flat head.
- Hermpac flat and corner soakers – 90° soakers available in copper, stainless steel, powder coated Zinalume or etch primed aluminium.
- Hermpac soaker fixings – 19 x 1.6mm silicon bronze or stainless steel Rose Head or Flat Head nails.
- Hermpac aluminium flashings – widths to suit specified corners – 2.4m or 3.0m lengths.
- Hermpac J Mould Flashing – for window jambs – 20mm or 29.5mm, 2.4m or 3.0m lengths.
- Hermpac aluminium Cavity Closure – 20mm or 40mm, 2.4m or 3.0m lengths.

1.7 Handling and Storage

Hermpac Rusticated and Splaycut weatherboards must be stacked flat and true, clear of the ground by a minimum of 150mm and supported on dry and clean timber bearers at maximum 900 mm centres.

The weatherboards must be kept dry at all times either by storing within an enclosed building or when stored externally an additional secondary cover to the plastic wrapping is required. Care must be taken to avoid damage to edges, ends and the weatherboard surfaces.

2.0 Design Information

2.1 Design Responsibility

The Specifier for the project must ensure that the details in this literature are suitable for the intended application and that additional detailing is provided for specific design or any areas that fall outside the scope and specifications of this literature.

2.2 Scope

This specification covers the use of the Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System as an external horizontally fixed wall cladding system for buildings within the following scope:

Stain finished weatherboards with crown/rose/flat head nails. Paint finished DuraLarch and Ashin-Dura weatherboards fixed with annular grooved jolt/crown/rose/flat head nails. Paint finished Western Red Cedar weatherboards fixed with annular grooved crown/rose/flat

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head nails:

- the scope limitations of NZBC Acceptable System E2/AS1, Paragraph 1.1; and,
- constructed with timber framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Wind Zones up to, and including 'Extra High'.

Any stain or paint finished weatherboards if fixed with annular grooved flat/crown/rose head nails only for weathertightness and structural wind loading for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and,
- constructed with timber framing complying with the NZBC; and,
- situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa.

CedarOne or other paint finished Western Red Cedar weatherboards if fixed with annular grooved jolt head nails:

- the scope limitations of NZBC Acceptable System E2/AS1, Paragraph 1.1; and,
- constructed with timber framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Wind Zones up to, and including Medium when studs are at maximum 600mm centres, and NZS 3604 Wind Zones up to, and including Very High when studs are at maximum 400mm centres.

For applications which are outside the scope of this literature and details which are not in this literature the specifier must ensure that the design meets the relevant performance requirements of the NZBC.

Hermpac recommends that professional design advice is sought in these circumstances.

2.3 Building Regulations

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System if designed, used and installed in accordance with the statements and conditions of this literature and the supporting BRANZ Appraisal, will meet the following provisions of the New Zealand Building Code:

- Clause B1 Structure
- Clause B2 Durability
- Clause E2 External Moisture
- Clause F2 Hazardous Building Materials

2.4 Ground Clearances

The finished floor level must have a minimum clearance to paved or unprotected ground as required by NZS 3604:2011.

Hermpac weatherboards must overhang the bottom plate on a concrete slab by a minimum of 50mm as required by NZBC Acceptable Solution E2/AS1, Table 18.

The bottom edge of the Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System must finish a minimum of 100mm above paved surfaces or 175mm above unprotected ground.

At deck or low pitch roof/wall junctions, the bottom edge of the Hermpac weatherboards must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 35mm.

2.5 Structure & Framing

Timber wall framing behind the Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System must be treated as required by NZBC Acceptable Solution B2/AS1.

Timber framing must comply with NZS 3604 for buildings or parts of buildings within the scope limitations of NZS 3604. Buildings or parts of buildings outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170. Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NZS 3604. Use of timber framing must be in accordance with framing manufacturer's specifications.

In all cases studs must be at maximum 600mm centres, with nogs/dwangs fitted flush between the studs at maximum 800mm centres.

Note: For CedarOne or painted cedar weatherboards fixed with annular grooved Grade 316 stainless steel Jolt Head nails, studs must be at a maximum 600mm centres for NZS 3604 Wind Zones up to, and including Medium, and 400mm centres maximum for NZS 3604 Wind Zones High and Very High.

2.6 Framing Tolerances

In order to achieve an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances must comply with the requirements of NZS 3604:2011.

2.7 Cavity Closure Strip

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System must incorporate a cavity closure strip to close off the bottom of the cavity and provide resistance against the penetration of vermin. The cavity closure strip must be in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3.

The cavity closure strip must be manufactured from PVC, aluminium or stainless steel, and be punched with 3-5mm holes or slots which provide a minimum ventilation opening area of 1000 mm² per lineal metre of wall.

2.8 Wall Underlay

The Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System must be installed over wall underlay complying with NZBC Acceptable Solution E2/AS1, Table 23, or wall underlays covered by a valid BRANZ Appraisal.

All external walls of buildings must have barriers to airflow in the form of interior linings with all joints stopped for wind zones up to and including Very High, and rigid underlays for buildings in the Extra High wind zone and specifically designed buildings up to 2.5 kPa design differential ULS wind pressure.

Unlined gables and walls must incorporate a rigid sheathing or an air barrier which meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23. For attached garages, wall underlays must be selected in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4. Where rigid underlays are used, the weatherboard fixing lengths must be increased by a minimum of the thickness of the underlay.

2.9 Inter-storey Junctions

Inter-storey drained joints must be constructed in accordance with the Technical Literature. Inter-storey drained joints must be provided to limit continuous cavities to the lesser of 2-storeys or 7 metres in height, in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4(b).

2.10 Hermpac Rusticated, Splaycut & Multi-Splay Weatherboards

Hermpac Rusticated, Splaycut & Multi-Splay weatherboards shall be fixed with an approximate 2mm vertical expansion

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gap at the overlap between boards. Hermpac Rusticated and Splaycut profiles are all manufactured in accordance with BRANZ Bulletin 411 (Refer to E2/AS1 page 121, paragraph 9.4.1.1) and have a 27mm rebate for a 25mm lap.

Note: Multi-Splay weatherboards fall outside the scope of NZS 3617 and BRANZ Bulletin 411.

The weatherboards shall be pre-coated with the selected coating (prior to site delivery and installation) by Hermpac associate Machinecoat (NZ) Ltd, by the flood coat inundation method or in-line spray coat system (subject to coating type selected).

Pre-finished Rusticated, Splaycut & Multi-Splay weatherboards shall be over-coated and maintained in accordance with the coating manufacturer's specification. All cut ends and/or uncoated surfaces shall be double coated during installation to protect against the penetration of moisture, post installation.

The weatherboards shall be fixed through the cavity battens to the studs at maximum 600mm centres using Hermpac weatherboard fixings (refer to Section 1.5 of this specification).

External corners shall be weatherproofed by the use of corrosion resistant corner flashings and corner facings, e.g. Hermpac proprietary profiles HP40, HP42, the Hermpac 'Smart Corner' series, or cover battens HP201 and HP202 with Hermpac rustic plugs or scribes.

Internal corners shall be weatherproofed by the use of corrosion resistant internal corner flashings along with internal mouldings, e.g. Hermpac profile HP41 or the Hermpac 'Smart Corner' series.

3.0 Installation Information

3.1 System Installation

This section of the literature should be read in conjunction with the installation details.

The selected wall underlay and flexible sill and jamb tape system must be installed by the building contractor in accordance with the underlay and tape manufacturer's instructions prior to the installation of the cavity battens and the rest of the Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System. Flexible building underlay must be installed horizontally and be continuous around corners. Underlay must be lapped 75mm minimum at horizontal joints and 150mm minimum over studs at vertical joints.

Generic rigid sheathing materials must be installed in accordance with NZBC Acceptable Solution E2/AS1 and be overlaid with a flexible wall underlay. Proprietary systems shall be installed in accordance with the manufacturer's instructions.

Particular attention must be paid to the installation of the building underlay and sill and jamb tapes around window and door openings to ensure a continuous seal is achieved and all exposed wall framing in the opening is protected. All penetrations through the wall underlay must be sealed and joints sealed or lapped 150mm.

The selected cavity closure strip must be installed so a minimum 15mm drip edge to the bottom of the weatherboards is maintained at all times.

Cavity battens must be installed over the wall underlay to the wall framing at a maximum of 600mm centres where the studs are at 600mm centres, or at 400mm centres when studs are at 400mm centres. Cavibat cavity battens must be fixed in place with 40 x 2.8mm hot-dip galvanised flat head nails or galvanised or stainless steel finishing brads at 400mm centres. Refer to www.cavibat.co.nz and BRANZ Appraisal Number 524 (2012) for further information. Timber cavity battens must be fixed in place with 40 x 2.8mm hot-dip galvanised flat-head nails at maximum 800mm centres.

Where the studs are at greater than 450mm centres, a

wall underlay support, e.g. polypropylene strap, 75mm galvanised mesh, galvanised wire, or additional vertical battens must be installed over the wall underlay between the cavity battens at maximum 300mm centres to prevent the wall underlay from bulging into the drainage cavity.

3.1.1 Aluminium Joinery Installation

Aluminium joinery and associated head flashings must be installed in accordance with the window manufacturer's instructions. A 7.5-10mm nominal gap must be left between the joinery reveal and the wall framing so a PEF rod and air seal can be installed in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.6 after the joinery has been secured in place.

3.1.2 Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Installation

Hermpac Rusticated, Splaycut & Multi-Splay weatherboards must not be wet prior to installation. Prior to installation, the back, face and edges of the Hermpac Rusticated, Splaycut & Multi-Splay weatherboards must be sealed with an exterior grade oil-based penetrating oil stain or paint. During installation, cut ends and edges and all fresh cuts or exposed timber must be double sealed with an exterior grade oil-based penetrating oil stain or paint.

Before the weatherboards are installed, the corner detail must be prepared to suit the selected option, e.g. external box corner/corner moulding etc. The necessary flashings must be installed before commencing weatherboard fixing and the cavity closure must be installed continuously around the bottom of the cavity.

Immediately prior to installing the weatherboards over the internal and external corner flashings, a continuous bead of sealant must be applied to the face of the flashing along the fixing line.

The first course of weatherboards must be full length, and commence from an external corner. The first weatherboard must be installed level to assist with the installation of subsequent weatherboards. The weatherboards must overhang the bottom plate by a minimum of 50mm.

Hermpac Rusticated and Splaycut weatherboards must be overlapped a minimum of 25mm with an expansion gap of 2mm at the overlap. Multi-Splay weatherboards must be overlapped a minimum of 30mm with an expansion gap of 2mm at the overlap.

For best practice use the Hermpac clinch nail to restrain the top of the weatherboard lap at every cavity batten. NB: Clinch nails are a proprietary component of all Hermpac cladding systems. For best performance we recommend their use on all installations. The use of clinch nails is mandatory for installations in 'Extra High' wind zones and above.

Hermpac Rusticated, Splaycut & Multi-Splay weatherboards must be pre-drilled on a slight up-slope, with a hole slightly smaller than that of the nail, to reduce the risk of moisture entry. Fix each weatherboard with one nail per board at every cavity batten.

The fixing must be located 30-35mm above the bottom of the weatherboard (for Rusticated and Splaycut - ref: HC-RUST-410 and HC-SPLAY-410) and 35-40mm above the bottom of the weatherboard (for Multi-Splay - ref: HC-SPLAY410A), be located no closer than 32mm (where practical) from the end of the board, and must finish flush onto the surface of the weatherboard, not into or below the surface.

Fix weatherboards in full lengths where possible. Where joints are required, scarf the weatherboard at 30° over a cavity batten and fix as per drawn detail 'HC-RUST-413' or 'HC-SPLAY-413'.

For oil/stain finished weatherboards:

Weatherboard fixing must be carried out using silicon bronze or Grade 316 stainless steel annular grooved Hermpac Crown Head, Rose Head or Flat Head nails.

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The nail shank must be minimum 3.25mm diameter. The length must achieve 30mm minimum penetration of the wall frame.

For CedarOne and paint finished weatherboards:

Weatherboard fixing must be carried out using Grade 316 Stainless Steel annular grooved Jolt Head nails. The nail shank must be minimum 3.25mm diameter. The length must achieve 35mm minimum penetration of the wall frame.

Punch nails 2mm below the weatherboard surface, prime nail holes and fill prior to sanding and finishing.

3.1.3 Boxed Corners, Cover Battens and Mouldings

External and internal corners must be finished in accordance with the installation detailing.

Most Hermpac 'Smart Corners' mouldings can be fixed by applying a continuous bead of sealant to the inside surfaces of the moulding or the faces of the flashing to which the moulding is to be bonded. Excess coating should be wiped off areas of the moulding intended to contact the adhesive.

Wherever possible, the moulding should be bonded to the flashing prior to installation. If this is not possible, the moulding shall be temporarily held in place while the sealant cures.

A continuous bead of sealant should also be applied at the join between the moulding and the end-grain cross section of any butted weatherboard and direct to flashing along the line of weatherboard nail fixing (if the weatherboard fixing will pierce the flashing).

Sealant options for Wood-X, Traditional Oil Stains or Resene Waterborne Oil Stains include Bostik Seal N Flex FC or Sikaflex AT Façade (NB: for other stains please check with the manufacturer to determine the most suitable sealant).

Further or sole mechanical support of the Moulding-Flashing interface can be achieved in some cases with a pre-drilled and suitably placed Hermpac nail. The requirement for a continuous bead of sealant as detailed above still applies.

3.1.4 Finishing

At least two coats of an exterior grade quality oil-based penetrating stain must be used over the front face of the Hermpac Rusticated, Splaycut & Multi-Splay weatherboards to protect the weatherboards and give the desired finish colour to the exterior walls. The stain must be recommended for use as a wall cladding stain by the manufacturer and must be brush or Machinecoat NZ Ltd applied. Hermpac recommends the use of oil based stains manufactured by Wood-X and Resene.

Follow the stain manufacturer's instructions at all times for application of the stain finish.

For paint finish the paint must be recommended for use as a wall cladding paint by the manufacturer and must be brush or Machinecoat NZ Ltd applied.

To ensure a top quality paint finish:

1. Any sharp edges should be removed to provide a radius to aid in uniform paint film coverage.
2. Use a premium alkyd oil or acrylic based primer to envelope prime all cut ends and bare timber surfaces twice.
3. Punch nail holes and prime promptly after punching.
4. Fill holes with a suitable filler and allow to dry.

5. When filler is fully dry and cured, sand area smooth.
6. Apply one coat of an alkyd oil or acrylic based primer to sanded area and allow to fully dry before sanding lightly.
7. Ensure surface is clean and free from any chalking, dirt, dust, mould or other contaminants prior to painting top coats.
8. Apply two coats of premium high quality 100% exterior grade acrylic to surface allowing adequate time for drying between coats.

Timber is a natural product and for best results use a colour with a LRV of 40-45 or above. Please consult with us for a specific recommendation minimum for your chosen timber.

Follow the paint manufacturer's instructions at all times for application of the paint finish.

Refer to Section 4.0 for maintenance requirements.

4.0 Maintenance

Building owners are responsible for the maintenance of the Hermpac Rusticated, Splaycut & Multi-Splay Weatherboard Cavity System.

Annual inspections must be made to ensure that all aspects of the cladding system, including flashings remain in a weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant, coatings, flashings or the weatherboards must be repaired in accordance with the relevant manufacturer's instructions.

Regular cleaning (at least annually) of the surface finish with water and a mild detergent is recommended to remove grime, dirt and organic growth, to maximise the life and appearance of the cladding.

Recoating of the stain finish will be necessary throughout the life of the cladding system. Re-staining must be carried out every 2-3 years in accordance with the stain manufacturer's instructions. Re-staining will be required more frequently on exposed northern and western facing walls. When re-staining, care must be taken to ensure bottom edges and shiplap edges are well covered and penetrated with the stain.

Recoating of the paint finish will be necessary throughout the life of the cladding system. Re-coating must be carried out every 7-10 years in accordance with the paint manufacturer's instructions. When re-coating, care must be taken to ensure bottom edges are well covered and penetrated with the paint.

5.0 Health & Safety

Cutting of Hermpac Rusticated, Splaycut & Multi-Splay weatherboards must be carried out in well ventilated areas and dust masks, eye and hearing protection must be worn.



For further information please contact us
technical@hermpac.co.nz

Auckland
09 421 9840

Wellington
04 586 9674

Christchurch
03 341 2163