

FPS® WEATHERTIGHT® SYSTEM

Supplied by Frame Protection System Ltd.

WALL MEMBRANE/UNDERLAY INSTALLATION MANUAL©



Contact Details:

Frame Protection Systems Ltd
P.O Box 10286
Te Rapa
Hamilton 3241

Frame Protection Systems Ltd
273b Sandwich Road
Saint Andrews
Hamilton 3200

Phone: (07) 849 0030

Email: info@frameprotection.co.nz or sales@frameprotection.co.nz

1. Version Table

Version number	Purpose / Change	Author	Date
1.0	Approved final version		
1.1	Final April 2021	Grant & Gwyn	13/4/2021

Contents

Version Table1

Frame Protection System- FPS® Weathertight System.....2

IMPORTANT INFORMATION FOR THE SITE FOREMEN, PROJECT MANAGERS, LICENCED BUILDING PRACTITIONERS and INSTALLERS.....3

FPS® WEATHERTIGHT® SYSTEM WALL MEMBRANE/UNDERLAY INSTALLATION4

 1. MEMBRANE/UNDERLAY INITIAL LAYOUT5

 2. FIXING MEMBRANE/UNDERLAY.....5

 3. FIXING EQUIPMENT, METHODS AND SPACINGS.....6

 4. HORIZONTAL, VERTICAL AND FOUNDATION SEAMS6

 5. CAVITY OR CLADDING BATTENS.....6

 6. WINDOW AND DOOR OPENINGS.....7

 7. PENETRATION SEALS.....7

 8. REPAIRS7

 9. BRICK VENEER CAVITY/FPSR METHOD ©7

 10. CLADDING NOTES/FPSR METHOD ©8

 11. CHECKLIST/MOISTURE TEST DOCUMENT-FPSR©8

WALL INSTALLATION CHECKLIST FPS WEATHERTIGHT SYSTEM9

Frame Protection System- FPS® Weathertight® System

FPS® Weathertight® System is a combination of products, that together form a high performance “frame protection system”.

FPS® Weathertight® System is certified specifically to protect the framing during construction, from rain, wind and sun (UV) for up to 90 days from date of installation completed. Provided FPS® Weathertight® is correctly installed and internal moisture levels meet NZBC Table 4, NZS 3602:2017(see Installation Checklist and Moisture Test document) interior work can continue before final exterior roof and wall claddings are installed.

On completion of the building, FPS® Weathertight® System will maintain a dry construction by preventing moisture from entering the building, and also allowing moisture vapour to diffuse to the exterior cavity space.

IMPORTANT INFORMATION FOR THE SITE FOREMEN, PROJECT MANAGERS, LICENCED BUILDING PRACTITIONERS and INSTALLERS.

For application and ease of use:

1. FPS® Weathertight® System can be applied to both roofs and/or walls as a weathertight system as referred to in the CodeMark Certificate No: CM70030.
2. Providing the System is installed correctly, the FPS® Weathertight® System Wall Installation Checklist and a formal pre-lining moisture test is completed, work may proceed to completion internally before final claddings are fitted.
3. FPS® Weathertight® System membrane/underlay may be exposed to the weather elements for 90 days from installation date. Note: Once installation has commenced, completion must be in a timely manner. Wall Cladding Must be installed prior to the 90 day period expiring.
4. Products and components NOT approved by FPS® may not be used as part of the FPS® Weathertight® System.
5. FPS® Weathertight® System is designed to be installed directly onto timber and steel framing, SIP's, CLT panels in both roof and wall applications.
6. FPS® Weathertight® System membrane/underlay may be installed onto wet frames, but allow product surfaces to dry before applying tapes.
7. All seams, overlaps, penetrations and repairs must be made wind and watertight using FPS® approved products and components.
8. FPS® Weathertight® System may be installed over RAB's, avoiding the need for extra taping etc.
9. If wall installation precedes roof cladding, care must be taken to ensure the wall membrane/underlay is securely fixed to prevent wind forces on the internal leeward side of the membrane/underlay.
10. FPS® Weathertight® System membrane/underlays are laid and fixed to the construction as tight or taut as possible, so that Insulation does not bulge the membrane/underlay into the roof or wall cavity.
11. In both walls and roofs, insulation may be fitted against the membrane/underlay.
12. Direct fixing of roofing and wall claddings onto the FPS® Weathertight® System membrane/underlay is **not permitted**.
13. All penetrations of the membrane/underlays, in both roof and wall situations, shall be flashed or sealed with the appropriate FPS® Weathertight® System products.
14. All window and door joinery units must be properly sealed or "flushed" with FPS® Weathertight® System components, unless specified by the joinery supplier.
15. The Site or Project Manager, Foreman or LBP must take responsibility, from the time of delivery to completion of the installation, for the safe keeping, proper handling and installation of the FPS® Weathertight® System products and components.
16. The site Licensed Building Practitioner or Project Manager is responsible for completing the Installation and FPS® Checklist and ensure a formal Internal Moisture Test is undertaken (usually by a BCO) that complies with either.
 - (a) Table 4, NZS 3602:2017, or (b) Scion Table 1, NZS3602.2003 (for LVL timber)**BEFORE** any internal work can proceed.

FPS® WEATHERTIGHT® SYSTEM FOR WALL MEMBRANE/UNDERLAY INSTALLATION©



Membranes/Underlays

- Eurotop N15 Underlay, 1.5m x 50m (75m²)
- Eurotop N35 Underlay, 1.5m x 50m (75m²)
- Eurotop W35 Underlay, 2.75m x 50m (137.5m²)

Wall Membrane/Underlay Installation

Eurotop N15, N35 – rolls 1.5m wide x 50 m in length (75 m²).

Eurotop W35 - rolls 2.75 wide x 50 m in length (137m²)

Note: Ideally, the 1.5m wide membrane/underlay requires 2 or more people to install, and the 2.75m wide membrane/underlay 3 or more people to install.

Before laying out membrane/underlay, check and remove any protruding nails, wood splinters, sharp elements (metal strapping) from framing that could puncture or tear membrane/underlay.

FPS® Weathertight® System membrane/underlay can be safely installed over materials with a moisture content in excess of 20% - FPS® Method© **Note: Interior Pre-line Testing/Pass still required**

1. Membrane/Underlay Initial Layout

1.1 **For N15 and N35 Membrane/Underlay:** Measure and mark an upper fixing line (chalk line) across the wall at the appropriate height, after allowance for the bottom edge of the membrane/underlay sitting a **minimum 35mm below the bottom plate**. **For W35 Membrane/Underlay**, after allowing the **minimum 35mm below the bottom plate**, measure the wall height, and either cut roll to suit height or fold excess into soffit or over top plate.

1.2 Unroll FPS® Weathertight® System membrane/underlay with the top edge on the fixing line or the top of the top plate. **Pull top edge of membrane/underlay tight/ taut and fix with plain/ bare staples inside top 60mm** at between 250 and 300mm spacings or closer depending on wind exposure during fitting. **ONLY STAPLE TOP EDGE AT THIS STAGE.**

1.3. At internal corners push membrane/underlay well into the corner, applying fixings back from and on either side of corner to hold membrane/underlay in place. N.B. Do not “cut the corner”.

1.4 Lay membrane/underlay across window and door openings and leave “uncut” until joinery units are about to be installed. Garage doorways should be covered with either well supported membrane/underlay or plywood.

2. Fixing Membrane/underlay

2.1 After upper edge has been fixed, start from the middle of each wall section;

- Person 1 holds the bottom edge of the membrane/underlay, pulling down to create a flat taut surface,
- Person 2 secures the membrane/underlay to the studs with plain/ bare staples that will be covered by cavity battens or caps and staples where cavity battens are not fitted.
- Caps and staples are used on the dwangs/nogs.
- For brick or stone claddings use appropriate FPS® fixings dependant on wind zones and wind effect. Refer to Section 4 below.
- For light-weight steel framing, cap and self-taping screw fixings are required and available from Frame Protection System Ltd.

2.2 On every stud, secure the membrane/underlay as in 2.1 above, working across and down each stud, working toward the end of each wall section, making sure the membrane/underlay is kept taut and flat.

2.3 If the membrane/underlay is **fitted taut and flat** and is unable to be depressed approximately 20mm into the cavity, **no insulation support or strapping is required.**

3. FIXING EQUIPMENT, METHODS AND SPACINGS

Fixing Equipment and Methods			
Timber	Stinger CH38	Manual Feed Gun	Stinger 9.5mm Staple
	Stinger CH38A	Auto Feed Gun	Stinger 9.5mm Staple
	Stinger CH58	Pneumatic Staple Gun	Stinger 16mm Staple
	Nail or Screwed Cavity Battens		
Steel	Caps and Self Taping Screws		
	Screwed Cavity Battens		

NB. Cavity battens installed at the earliest opportunity to secure the membrane/underlay and cover plain/ bare stapling. No watertight tape is required behind tightly fixed cavity battens.

Fixing Spacings for Walls

Wind Zone	Cavity Batten	Wooden Frame no Battens	Steel Frame no Battens	SIPs or Other Panels no Battens
Low	Nail or Screw	Cap & 9.5mm Staple 300mm	Cap & Screw 300mm	Cap & 9.5mm Staple 400mm Random
Medium	Nail or Screw	Cap & 9.5mm Staple 250mm	Cap & Screw 300mm	Cap & 9.5mm Staple 350mm Random
High	Nail or Screw	Cap & 9.5mm Staple 200mm	Cap & Screw 300mm	Cap & 9.5mm Staple 300mm Random
Very High	Nail or Screw	Cap & 9.5mm Staple 150mm	Cap & Screw 250mm	Cap & 9.5mm Staple 250mm Random
Extra High*	Nail or Screw	Cap & 9.5mm Staple 100mm 16mm Staple 250mm	Cap & Screw 250mm	Cap & 9.5mm Staple 200mm Random 16mm Staple 400mm Random
Specific Design*	Nail or Screw	Cap & Staple 16mm Staple 150mm	Cap & Screw 200mm	Cap & Staple 16mm Staple 300mm Random

* FPS® Weathertight® System membrane/underlays are tested for wind durability and airtightness and able to be installed on walls without a rigid air barrier in Extra High and SED wind zones provided the specifications for membrane/underlay selection.

4. Horizontal, Vertical and Foundation Seams

4.1 All Horizontal, Vertical and Foundation seams must be sealed by FPS® approved tapes.

5. Cavity or Cladding Battens

5.1 Cavity battens may consist of any approved/specified material and are outside the scope of FPS.

5.2 Vertical Cavity battens must be at least 45mm wide and provide a minimum 18mm space/ gap between the membrane/underlay and exterior cladding.

5.3 Horizontal cavity battens must ensure there is sufficient space behind to allow drainage and ventilation for the entire face of the wall. Perforated plastic, castellated or solid timber battens with “spacers” fitted at every fixing point are acceptable.

5.4 All cavity battens must be fixed tight against the membrane/underlay and into framing to prevent leakages into construction.

Note: Cladding batten types and spacings specified by Cladding Companies, are beyond the scope of the FPS® Weathertight® CodeMark. It is essential that cladding battens do not interfere with whole wall drainage and ventilation or allow cladding fixings to penetrate unprotected membrane/underlay.

6. Window and Door Openings

6.1 DO NOT CUT WINDOW AND DOOR OPENINGS UNTIL JOINERY IS READY TO BE INSTALLED.

6.2 For window openings, cut membrane/underlay at 45° from each corner towards the opening mid-point.

6.3 Trim and fold each flap on all sides to the inside of the construction and plain staple in place on the inner face of the frame only.

6.4 If the exposed timber in the corners is very wet, cut a 200mm strip of membrane/underlay the width of the frame timber with sufficient length to cover the wet timber. Insert the strip into the corner covering the exposed timber behind the flaps of membrane/underlay. This cover strip may be stapled in place.

7. Penetration Seals

7.1 All penetrations (pipes, cables, ducting and heat pump fittings) that pass through the membrane/underlay must be sealed using **FPS® Seals**.

7.2 To fit FPS® seals, refer to instructions that come with the seals.

8. Repairs

8.1 It is essential to prevent water, moisture and wind/ air entering through the membrane/underlay at all times.

8.2 Any exposed bare staples, scaffold fixing holes, rips, tears, punctures or unsealed connections should be repaired as soon as practicable.

9. Brick Veneer Cavity – FPS® Method©

9.1 As FPS® Weathertight® Membrane/underlays are watertight, the cavity can be as narrow as 40mm (30mm in special circumstances – contact FPS).

9.2 Brick Ties must be tightly screw fixed to framing.

9.3 The mortar drainage fillet can be placed against the FPS® membrane/underlay and will not absorb or transfer moisture by wicking or capillary action into the construction during construction, debris wash-outs and during normal service life.

10. Cladding Notes – FPS® Method©

10.1 As with Brick and Stone veneer cladding systems it is essential to ventilate the whole cavity behind all cladding types. This requires “openings” at the top and bottom of the façade claddings to prevent moisture vapour condensing and accumulating behind the cladding or on the underlay. Design details for upper “openings” are available from FPS. However, if cladding specifications do not permit an upper opening, the FPS® Weathertight® System will perform adequately.

11. Checklist/ Moisture Test Document – FPS® © – see sample below.

11.1 BEFORE COMMENCING ANY FINISHING WORK INSIDE THE CONSTRUCTION (Insulation, linings etc) a Pre-line Inspection and frame moisture test must be completed. To ensure that the FPS® Weathertight® System is installed correctly, an FPS® Checklist Form© is made available to Building Companies. The Internal moisture testing of the framing must comply with, (a) Table 4, NZS3602.2003 (for typical timber), or (b) Scion Table 1, (for LVL timber). Contact Frame Protection System Ltd for further information.

Wall Installation Manual for FPS WEATHERTIGHT SYSTEM Version 1.1 April 2021



Building Company: Click or tap here to enter text.

Consent Number: Click or tap here to enter text.

Site Address: Click or tap here to enter text.

Date Installation started: Click or tap to enter a date. Date Installation Completed: Click or tap to enter a date.

Name of Authorised Building Company Personnel: Click or tap here to enter text.

Date Install BOC Inspected: Click or tap to enter a date. LPB Licence No: Click or tap here to enter text.

Wall Membrane/Underlay Installation: [Is the current version at hand for the FPS

Weathertight System Wall Installation Manual] Yes No

- 1. Membrane/Underlay: N15 N35 W35
- 2. Tape applied to foundation and adhered to bottom of membrane/underlay
- 3. Membrane top edge fixed to top plate
- 4. Horizontal overlap, joins or seams adhered with tape
- 5. Vertical joins with a minimum 60mm overlap and taped
 - 5.1 Membrane/underlay installed taut Yes No
- 6. Window & Door installed or openings covered
- 7. Flexible Corner Flashing Tape installed for window & door joinery
- 8. **Fixing Type** - Cap staple or nail for fixing type and spacings as per wind zones * Refer to FPS Wall Installation Manual
 - 8.1 Timber/Steel/SIP/Panels (fixing between cavity battens)
 - 8.2 Brick, stone veneer cladding (Cap and Fixing only)
 - 8.3 All fixings fitted tight and flush
 - 8.4 Bare/plain staples covered with: cavity battens tape
- 9. FPS seals correctly applied to all penetrations Yes No
 - 9.1 Including Pipes cables Heat-pump
- 10. Are all holes, tears, and scaffold fixing points repaired
- 11. No loose or unsecured membrane/underlay edges
- 12. All tapes pressed flat – no wrinkles or lifted edges
- 13. All other Wall Installation requirements * Refer to FPS Wall Installation Manual

BUILDING MOISTURE TEST-TIMBER MEETS TABLE 4: NZS 3602:2017, OR LVL MEETS SCION TABLE 1

Passed Declined Notes: Click or tap here to enter text.

Territorial Authority: Click or tap here to enter text.

Name of Building Inspector: Click or tap here to enter text. Date: Click or tap to enter a date.

Additional Information/Comments: Click or tap here to enter text.

On Completion of this checklist you MUST provide FPS a copy/photo. Email: info@frameprotection.co.nz