FPS® WEATHERTIGHT® SYSTEM

Supplied by Frame Protection System Ltd.

ROOF INSTALLATION MANUAL

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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.

1. Version Table

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

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 Roof Checklist and an internal pre-lining moisture test is completed, work may proceed to completion internally before final claddings are fitted.
3. The 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. Roof Cladding Must be installed prior to the 90 day period expiring.
4. Only products and components approved by FPS® are to be used within the 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.
7. All seams, overlaps, penetrations and repairs must be made, so that wind and watertight is achieved using only FPS® approved products and components.
8. FPS® Weathertight® System may be installed over RAB's, avoiding the need for extra taping etc.
9. 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.
10. In both walls and roofs, insulation may be fitted against the membrane/underlay.
11. Direct fixing of roof and wall claddings onto the FPS® Weathertight® System membrane/underlay **is not permitted.**
12. All penetrations of the underlays, in both roof and wall situations, shall be flashed or sealed with the appropriate FPS® Weathertight® System products.
13. The Site or Project Manager, Foreman or LBP must take responsibility, from the time of delivery to completion of the membrane/underlay installation, for the safe keeping, proper handling and installation of the FPS® Weathertight® System components.
14. The site Licensed Building Practitioner or Project Manager is responsible for completing the Installation and FPS® Roof 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 - ROOF MEMBRANE/UNDERLAY INSTALLATION

Membrane/Underlay

- Eurotop N15 Underlay, 1.5m x 50m (75m²)
- Eurotop N35 Underlay, 1.5m x 50m (75m²)
- Eurotop W35 Underlay, 2.75m x 50m (137.5 m²)
- Eurotop S65 Underlay, 1.5m x 50m (75m²)

Roof Membrane/Underlay Installation

1. Truss and Framed Roofing

1.1 Measure and cut a length of membrane/underlay that allows sufficient material to either overhang into gutter or be fixed behind barge board, also allow 150-200mm overhang on each side of roof.

1.2 Commence laying FPS® Weathertight® System membrane/underlay horizontally from bottom edge (gutter) of roof.

1.3 Pull membrane/underlay tight across roof and staple to roof structure at top edge.

1.4 Fix cavity battens and purlins on first membrane/underlay layer. Length of cavity battens should be cut to match width of membrane/underlay.

1.5 Measure and cut second layer, allow an overlap of the first layer by a minimum of 60mm to allow for seam sealing.

1.8 Lay successive layers overlapping previous layer by 60mm –ensure membrane/underlay is taut and initially secured with staples and then covered with securely fixed cavity battens.

1.9 At the ridge of the roof – run at least 300mm of FPS® Weathertight® System membrane/underlay over to other side of ridge line. Alternatively, fix a 500-600mm strip over the apex (ridge line) of roof and overlap on to membrane/underlay on either side of roof.

1.10 Roof Valley's - either have a 500mm strip of FPS® Weathertight® System laid down valley floor, running horizontal membrane/underlay on to valley strip or run horizontal layers from one side of roof through the valley to the opposite side of roof.

1.11 Eaves, Soffits and all outer edges of the membrane/underlay must be secure against wind & water entry.

2. SIP, CLT and Solid Panel Roofing Sections

2.1 On all roof slopes – apply FPS® Weathertight® System membrane/underlay as soon as practicable. The membrane/underlay can be applied to a damp structure/material.

2.2 Fix FPS® Weathertight® System membrane/underlay in place with plain staples only where they will be covered by laps, joins or counter-battens. Ensure FPS® Weathertight® System membrane/underlay is laid flat and firm along the length and width.

2.3 Install counter-battens as each layer of FPS® Weathertight® System membrane/underlay is laid to avoid walking on membrane/underlay. FPS recommends installing roof purlins on counter-battens progressively up the roof-line.

2.4 To ensure a tight fit between counter-batten and solid substrate, screws are recommended. Test holding capacity of screws. If in doubt pre-drill counter-battens.

2.5 FPS® Weathertight® System membrane/underlay must cover (protect) the whole panel – including ends and underside of overhanging panels.

3. Fixings

3.1 Plain staples – Secure FPS® Weathertight® System directly on to roof trusses along the top edge of membrane/underlay, keeping membrane/underlay taut across roof line. Only use plain staples where they will be covered by laps, joins or counter-battens.

3.2 Beginning at the bottom edge of each membrane/underlay layer pull down to smooth out and keep membrane/underlay taut while stapling up each roof truss or rafter.

3.3 Cap and Staples – these may be used on panel type roofs and must not be applied where cavity battens are to be fitted.

4. Vertical Cavity Battens (Counter Battens)

4.1 Cavity battens are required to provide airflow over the membrane/underlay.

4.2 Cut batten length to less than the width of membrane/underlay being applied, to allow for the next layer to be laid.

4.3 Tightly screw fix battens over staples as each layer of membrane/underlay is applied. It may be good practice to pre-drill cavity battens for screw fixings.

4.4 Water-proof materials do not need to be applied under tightly screw fixed cavity battens. On roofs with a slope less than 5° contact Frame Protection System Ltd for technical advice.

5. Horizontal Solid or Castellated Purlins

5.1 Solid and castellated purlins must be thick enough that fixings do not penetrate the FPS® Weathertight® membrane/underlay in the exposed air gaps.

5.2 An alternative is for short "spacers" to be fixed beneath each purlin. Contact Frame Protection System Ltd for further advice.

5.3 Purlins may be used as a "ladder" to move up and across roof line – it is not advisable to walk on the membrane/underlay.

5.4 Contact Frame Protection System Ltd for information about products which can be used to separate the roof cladding from treated timbers.

5.5 If Tray roof cladding requiring a solid backing is specified – contact Frame Protection System Ltd for further information.

6. Air (Ventilation) Gap and Drainage Design Details.

6.1 An unrestricted airflow and drainage path must be provided over the upper surface of the membrane/underlay.

6.2 On all roofs the membrane/underlay must be protected from weather elements at the bottom or gutter edge with either; (a) a purpose made folded metal flashing fixed on to the counter-batten with the membrane/underlay overlaid and adhered 300mm back from roof edge, or (b) the membrane/underlay is fixed behind the barge board supported on cavity battens that allows drainage and airflow. Contact Frame Protections System Limited for design details.

6.3 On apex roofs – airflow must be provided at the ridge capping.

6.4 On mono-pitch or skillion roofs the upper section of the membrane/underlay can be fitted as in 6.2(b). The upper air gap must be at least 50% smaller than the opening at the bottom or gutter edge.

6.5 A second folded metal flashing is fixed to the top of the purlin and folded down toward the gutter to direct water off the roof and close the space between the flashings. This allows drainage and airflow off and over the membrane/underlay, but also prevents birds and vermin entering space.

7. Seals.

7.1 FPS® Seals must be fitted to seal all pipe, ducting and flue penetrations that pass through the membrane/underlay.

Roof Installation Checklist: See Appendix A

Appendix A

Roof Installation CHECKLIST for FPS WEATHERTIGHT SYSTEM Version 2.2 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.

Roof Membrane/Underlay Installation: [Is the current version at hand for the FPS Weathertight System Roof Installation Manual] Yes ☐ No ☐

1. Membrane/Underlay: N15 ☐ N35 ☐ S65 ☐ W35 ☐
2. Roof Structure: Truss: Timber ☐ Steel ☐ SIP ☐ CLT ☐
3. Membrane/Underlay is installed tight/taut: Yes ☐ No ☐
4. Roof Slope: Less than 5° ☐ Greater than 10° ☐
5. Roof Type: Pitched with interior roof space ☐ Skillion (zero roof space) ☐
6. Cavity Batten: Timber ☐ Castellated ☐ Plastic ☐
7. Cavity Batten Fixings: Nails ☐ Screw ☐
8. Purlins Installed: Yes ☐ No ☐
9. Wind Zone: High ☐ Very High ☐ Extra High ☐ SED ☐
10. Horizontal Seams sealed with FPS Approved Tape Yes ☐ No ☐
11. Vertical Joins sealed with FPS Approved Tape Yes ☐ No ☐
12. Penetrations (pipe and flue) sealed with FPS Seals Yes ☐ No ☐
13. Holes and Tears repaired with FPS Approved Tapes Yes ☐ No ☐
14. All bare staples covered Yes ☐ No ☐
15. Roof valleys and apexes properly laid and sealed Yes ☐ No ☐
16. Eave or gutter edge flashings installed Yes ☐ No ☐
17. Air-ventilation gap behind the barge boards Yes ☐ No ☐
18. Roof cladding installed within 90 days Yes ☐ No ☐
19. Are all outer edges of the membrane/underlay secure against wind & water entry Yes ☐ No ☐

Additional Information/Comments:

Click or tap here to enter text.

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