DRISPACE

Condensation Management Guide for Education Systems

Vapour control and passive ventilation systems for roof and wall cavities in schools

SEPTEMBER 2024

DRISPACE

DriSpace is a division of TCL Hunt, a New Zealand company whose origin dates back to 1937.

TCL Hunt has been a leader in the supply of high quality technical products and equipment to many different industries including the building sector.

DriSpace is a NZ brand of building systems servicing both residential and commercial sectors. Products are engineered for NZ weather conditions and are sold through building merchants and rollformers. The product range offered includes DriStud wall wrap, window flashing tapes, synthetic roof underlays, Vent passive ventilation system, vented battens for wall and roof and specialised construction membranes including Proctor Wraptite SA (self-adhering membranes).

TCL Hunt has a Quality Management System which includes ISO 9001 certification. That said, there is no finish line in business, so all staff are committed to the process of continuous improvement, relishing the challenge to always provide best practice solutions, with products and services that build trust and maintain customer confidence and loyalty.

Contents

Company: TCL Hunt Ltd **Web:** www.drispace.co.nz
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Benefits

BUILD TIGHT, VENTILATE RIGHT

DriSpace systems consist of DriStud wall and roof underlay and Cool Window Flashing tape, Vent products and Proctor brand specialised construction membranes. The systems aim to achieve 'build tight and ventilate right'.

The systems provide solutions to improve NZ buildings by providing an air barrier envelope but allowing our buildings to breathe again. It is essential that buildings achieve balanced airflow through both the habitable and non-habitable areas before they can start to be considered as a healthy home or a healthy working environment. Using the principle, "If you heat and insulate and don't ventilate, you will condensate". DriSpace systems introduce passive ventilation in the roof space to minimise interstitial condensation.

BENEFITS TO SCHOOL BUILDINGS

- Protection against moisture penetration, whilst restricting air movement
- Creating healthier and more energy-efficient envelopes
- Vapour permeable and air barrier properties
- Cost effective and high performing system components
- Minimise interstitial condensation and mould growth

BENEFITS TO BUILDERS

- Cost effective moisture protection system
- Easy and fast to handle and install
- Complies with NZBC requirements
- High performing, strong and durable products
- Wide range of products covering from roof to wall

BENEFITS TO DESIGNERS

- System specification
- Tested for NZ conditions for water resistance, air barriers and vapour permeability
- CodeMark™ Certified for DriStud product range
- BRANZ appraised for Vent NZ product range
- Complies with AS/NZS 4200 for Proctor product range
- Minimises interstitial condensation and mould growth in the roof cavity

NZBC Compliance

	DRISPACE EDUCATION SYSTEM					
NZBC COMPLIANCE	**Wall Underlay**		**Window Flashing Tape**	**Fire Retardant Roof Underlay**	**Ventilation**	
	DriStud Wall Wrap	Proctor Wraptite SA	DriStud Cool Tape	DriStud FRU38	VB10, VB20, RV10P, RV10DT, G2500N, G1200N, G1275, G502CL	ProctorPassive HC8 EnkaVent
B1 Structure					B1.3.1, B1.3.2, B1.3.4, B.1.3.3 [b], [h] and [j]	
B2 Durability	B2.3.1 [a], B2.3.2 [a]	B2.3.1 [a], B2.3.2 [a]	B2.3.1 [b], B2.3.2 [a]	B2.3.1 [a], B2.3.2 [a]	B.2.3.1 [b], B2.3.2	B.2.3.1 [b], B2.3.2
C3 Fire Affection Areas Beyond the Fire Source	C3.4 [c]	C3.4 [c]		C3.4 [c]		C3.4 [c]
E2 External Moisture	E2.3.2, E2.3.7	E2.3.2	E2.3.2, E2.3.7	E2.3.2, E2.3.7	E2.3.2	E2.3.2
E3 Internal Moisture					E3.2 [c]	E3.2 [c]
F2 Hazardous Building Materials	F2.3.1	F2.3.1	F2.3.1	F2.3.1	F2.3.1	F2.3.1

Design considerations

BEWARE OF SUBSTITUTION

All DriSpace systems have been developed, assessed or appraised specifically for New Zealand. Accurate system design details, components and installation practices will ensure the performance of DriSpace systems is achieved. Substitutions are not permitted to any of the specified systems, components and products listed in this section.

WARRANTY

TCL Hunt warrants that the products will be free from manufacturing defects. Upon receiving of the products, it is recommended that a visual check is made. Where defects are observed, these will be replaced at the discretion of TCL Hunt, provided that they are returned to point of purchase. If installed in accordance with TCL Hunt installation requirements, TCL Hunt warrants that the products will comply with relevant provisions of the NZ Building Code.

TCL Hunt is confident that:

- DriStud products will have a serviceability life of 15 years.
- Vent NZ products will have a serviceability life of 15 years.
- Proctor products will have a serviceability life of 15 years, provided that:
  - The balance of the external wall is installed in accordance with the NZ Building Code; and,
  - Is undertaken or supervised by a Licensed Building Practitioner; and,
  - All necessary maintenance is undertaken in respect of the external wall system.

Warranty shall commence from the date of practical completion of the contract works.

SCOPE OF USE

DriSpace Pre-Cladding Systems consist of DriStud wall and roof underlays and Cool Window Flashing tape, Vent products and Proctor Wraptite SA (Peel and Stick building wrap) and SmartVap, the vapour control layer. The systems provide complete pre-cladding solutions for both wall and roof of NZ school buildings by providing an air tight envelope to increase energy efficiency but allowing passive ventilation in roof space for cold roofs to minimise interstitial condensation and to achieve healthy learning environment.

DriStud Wall Wrap is intended for use in new and existing buildings in conjunction with DriStud Cool Window Flashing tape. DriStud Wall Wrap and Roof Underlay can be used over a rigid air barrier, or timber and steel framing to provide protective weather resistant layers. DriStud Wall and Roof Underlays can be installed with absorbent and non-absorbent cladding including profiled metal cladding.

Roof ventilation products are designed as non-structural roofing components that are designed to prevent the build up of internal moisture in roof cavities, mitigating associated risks such as structural decay and harmful moulds. Roof ventilation product combinations are determined based on the design and the pitch of the roof and can be used on both new build and renovation projects and on commercial, residential and school projects.

DESIGN RESPONSIBILITY

It is the responsibility of the architect, designer or specifier to ensure that the correct DriSpace System is relevant to the intended applications.

Note: Diagrams are for guidance purposes only. The overall design is the responsibility of the designer as there are often other factors to consider. The company maintains a policy of continuous development of its product range and reserves the right to amend the specification without notice.

LIABILITY

TCL Hunt accepts no liability if the DriSpace Systems are not specified and installed in strict accordance with instructions contained in this manual, or any other technical information associated with DriSpace Systems.

DURABILITY

DriStud Wall Wrap, FRU38 and RU24 meet code compliance with NZBC Clause B2.3.1 [a], not less than 50 years for wall and roof underlays used where the cladding durability requirement or expected serviceable life is not less than 50 years, e.g. behind masonry veneer, and code of compliance with NZBC Clause B2.3.1[b], 15 years for wall and roof underlays used where the cladding durability requirement is 15 years.

The roof ventilation products will have a durability equivalent to that of the roof cladding to meet code of compliance with NZBC Clause B2.3.2 provided the cladding system is maintained appropriately and the roof ventilation products are continually protected from UV light.

MAINTENANCE & REPAIR

No special maintenance is required for products specified in DriSpace systems. Regular checks, at least annually, must be made to the roof cladding, flashings, and penetrations to ensure they are maintained weathertight and continue to perform their function, to ensure the water will not penetrate the cladding.

STORAGE

Store building products and accessory materials under conditions that ensure no deterioration or damage. Store rolls in an upright position on a smooth floor, or lay horizontally on pallets, protected from sunlight, UV radiation and moisture.

INSPECTION

Before starting work, check that the building construction phase will allow work of the required standard. Carry out remedial work identified before laying underlay.

HEALTH & SAFETY

There are no harmful components in DriSpace Systems and no specific requirements other than normal safe handling practices associated with roll products.

There are no special requirements for the disposal of waste. Ensure safe working practices are always followed when handling and installing DriSpace Systems.

DriSpace PreCladding Education Systems

ROOF MATERIAL	PRECLADDING TYPE	SYSTEM SPECIFICATION CODE	PAGE
METAL ROOF PRECLADDING SYSTEMS WITH VENTILATION			
System 1	Trussed Roof with Passive Ventilation	DS-FRU3805-TES DS-SMARTVAP-CES	12
System 2	Skillion Roof with Passive Ventilation	DS-FRU3805-SES DS-SMARTVAP-CES	14
System 3	Skillion Roof with Vapour Tight Ceiling and Ventilation Above Underlay	DS-FRU38VCL-SES DS-VENT-SES	16
System 4	Sarked Roof with Passive Ventilation and Drainage Mat	DS-PWSA05-SLDES DS-SMARTVAP-CES	18
WALL PRECLADDING SYSTEMS WITH VENTILATION			
System 5	DriStud Wall Wrap on Rigid Air Barrier	DS-FRWW01-RWUES DS-SMARTPVAP-WES	20
System 6	Peel and Stick External Air Barrier Wraptite SA on Rigid Wall Underlay	DS-PWSA-RWU01ES DS-SMARTPVAP-WES	22

Products – Roof Underlay

DRISTUD FRU38 ROOF UNDERLAY (CODEMARK™ CERTIFIED)

220gsm Fire retardant, self support synthetic non-woven roofing underlay consisting of two spun-bonded polyolefin fabric layers laminated to a microporous water resistant film. CodeMark™ certified and designed for use as a water absorbent, breathable, water resistant roofing underlay under masonry tiles, metal tiles or profiled metal roof claddings, on timber or steel framing. Suitable for wind zones up to and including Extra High, as outlined in NZS 3604. Has a flammability Index of ≤ 5, when tested to AS 1530.2 and meets the requirements of NZBC C/AS2, 4.17.8. (b) for suspended flexible fabrics, NZBC B2 Performance B2, 3.1(a), 3.1(b), 3.2, NZBC E2 Performance E2, 3.2. Supplied in rolls 1.25m x 40m long (50m^2) and 2.50m wide x 40m long (100m^2)..

ROOF UNDERLAY COMPARISON TABLE

PROPERTY	TEST METHOD	REQUIREMENT	FRU38
Construction		Non-Woven / Breathable Film / Non-Woven	Yes
Base Weight			220 gsm
Water Vapour Resistance	ASTM E96 Procedure B	≤ 7MN s/g	Water Vapour Resistance ≤0.5MN s/g
Absorbency	AS/NZS 4201: Part 6	≥ 150 g/m^2	Pass
Direct Fixing with Non Absorbent Cladding			Yes
Air Permeance	BS ISO 5636-5:2003		Air barrier
Water Resistance	AS/NZS 4201.4:1994	≥ 100mm H2O	Pass
Flammability	AS 1530.2:1993	FR Index ≤ 5	Fire Retardant (FR Index 1)
Supported			Self Support
Roof Pitch			>3°
Wind Zone			up to and including 'Extra High'
UV			up to 21 days

Products – Wall Wrap

DRISTUD WALL WRAP (CODEMARK™ CERTIFIED)

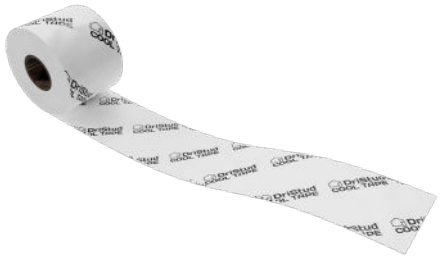
Fire retardant, non-woven, wall wrap and air barrier, water resistant, absorbent and vapour permeable. It is perfectly suited for residential and commercial buildings where high-permeable moisture transfer is required. DriStud Wall Wrap is CodeMark™ certified, suitable for timber or steel framed buildings. Suitable for direct fix and cavity fix with non-absorbent cladding and gable ends. Tested to NZBC E2/AS1, 1.1, suitable for wind zones up to and including "Very High" and "Extra High" when used as a flexible underlay over a rigid wall underlay, as outlined in NZS 3604. Supplied in rolls 2.74m x 36.5m long (100m^2) and 1.37m x 72.3m long (100m^2).

Products – Wall Wrap

WRAPTITE SA - PEEL AND STICK WALL AND ROOF UNDERLAY (CODEMARK™ CERTIFIED)

High vapour permeable peel and stick products used full coverage in pitched roofs and walls allowing excellent drying capacity for assemblies wetting during construction and allows moisture to escape ensuring good indoor air quality by reducing the likelihood of mould, condensation, timber distortion and metal corrosion. Suitable to be installed over rigid air barrier, replacing tape and flexible underlay, offering minimal mechanical fixings. Has a Flammability Index of ≤ 5, when tested to AS 1530.2 and meets the requirements of NZBC C/AS2, 4.17.8. (b) for suspended flexible fabrics, NZBC B2 Performance B2, 3.1(a), 3.1(b), 3.2, NZBC E2 Performance E2, 3.2 and NZBC F2 Performance F2. Supplied in rolls 1.5m x 50m long (75m^2).

Products – Tape



DRISTUD COOL WINDOW FLASHING TAPE (CODEMARK™ CERTIFIED)

Window sealing system to AAMA 711-13, can also be used for general sealing of wall penetrations including around the window frames. DriStud Cool Window Flashing Tape has a polymer adhesive with a service temperature range of -28°C to 80°C. CodeMark™ certified, suitable for residential or commercial, timber or steel framed buildings. Can be used with DriStud Wall Wrap and with rigid air barriers made of plywood, fibre cement and OSB. To NZS 3604 Building Wind Zones up to and including 'Extra High'. 381µm thick, and available in 3 widths, 75mm, 150mm and 200mm.

Products – Drainage Mat

PROCTORPASSIVE HC9 DRAINAGE MAT

Proctorpassive HC9 Drainage Mat is a three dimensional shaped mesh of UV stabilized polypropylene monofilaments (9mm thick), tangled and fused together. Proctorpassive HC9 Drainage Mat is used to provide permanent drainage and ventilation between the roof sheeting and roofing underlay. It also provides significant sound reduction up to 24.8dB from rain impact noise. It is designed for use under all types of long-run steel profiles. When used in conjunction with a DriStud Roof Underlay and DriStud Joining Tape, this offers a complete roofing underlay solution for zinc, copper and other standing seam roof systems. It is deemed fire retardant in accordance with AS 1530.2. It is 9mm thick and supplied in rolls 1.5m x 30m long (45m^2).

Products – Vapour Control Layer

PROCTORPASSIVE SMARTVAP (SMARTVAP) (COMPLIES WITH AS/NZS 4200.1)

A two layer, light duty air barrier and variable vapour diffusion resistance retarder. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. The effective management of air and vapour passage through wall, ceiling and floor assemblies can help protect the building fabric and insulation from condensation and related problems such as mould, timber rot, corrosion and loss of thermal resistance. Supplied in rolls 1.5m x 30m long (45m^2)

Products – Vent

VENTED CAVITY BATTENS VB20 (BRANZ APPRAISED)

VB20 is a 20mm thick x 45mm wide x 1800mm long polypropylene vented cavity batten designed to create a 20mm cavity for ventilation and drainage in both the roof and wall, reducing the risk of moisture build up and condensation. It features convenient peel-off adhesive backing, eliminating the need for nails or glue, to adhere to timber, metal and building wraps. The ventilated polypropylene structure is strong and robust, providing passive airflow of 16,000mm2 per linear metre. VB20 is insect proof with 4mm vents preventing ingress of nesting insects.

VENTIALTION & DRAINAGE BATTEN VB10

VB10 is a 10mm thick x 45mm wide x 1800mm long polypropylene ventilated batten designed to create a 10mm cavity for ventilation and drainage between the metal cladding and the roof underlay, deferring dewpoint condensation from the metal cladding. It features convenient peel-off adhesive backing, eliminating the need for nails or glue, to adhere to roof underlay, timber and metal. It is strong and robust and comes with 4mm vents preventing ingress of nesting insects.

OVER FASCIA VENT G1200N

G1200N is the most practical and cost-efficient method of ventilating the eaves for trussed roof for greater than 15 degree pitch. It is easy to install, discrete and is compatible with either timber or metal fascias. G1200N is designed to discreetly ensure a calculated positive air flow into the roof space between the roof underlay and the fascia board. It is designed with 4mm evenly spaced openings specifically sized to prohibit large insects gaining access but wide enough to prevent capillary action.

OVER FASCIA VENT G2500N

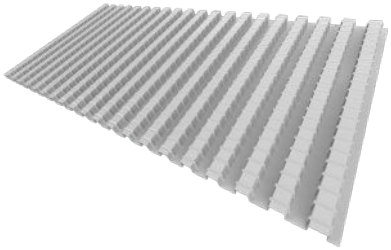
G2500N is the most practical and cost-efficient method of ventilating the eaves for skillion roof and trussed roofs for roof pitches under 15 degrees. It is easy to install, discrete and is compatible with either timber or metal fascias. G2500N is designed to discreetly ensure a calculated positive air flow into the roof space between the roof underlay and the fascia board. It is designed with 4mm evenly spaced openings specifically sized to prohibit large insects gaining access but wide enough to prevent capillary action.

RIDGE VENT RV10P (BRANZ APPRAISED)

RV10P is a ridge vent that has an adhesive and flexible aluminium flashing which is designed to form to roofing profiles and prevent water ingress on any pitch roof. The RV10P forms part of a passive ventilation system that works year round with no moving parts or energy consumption. It is designed to be compatible with roof cladding profiles with a trough depth of less than 34mm.

RIDGE VENT DEEP TROUGH RV10DT (BRANZ APPRAISED)

RV10DT is a ridge vent that has an adhesive and flexible aluminium flashing which is designed to form to roofing profiles and prevent water ingress on any pitch roof. The RV10DT forms part of a passive ventilation system that works year round with no moving parts or energy consumption. It is designed to be compatible with roof cladding profiles with a trough depth of greater than 34mm.



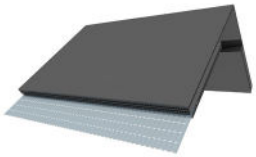
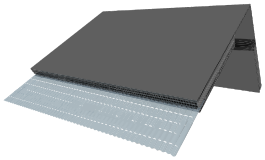
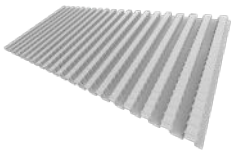
INSULATION GUARD/ROLL PANEL VEBNT G502CL

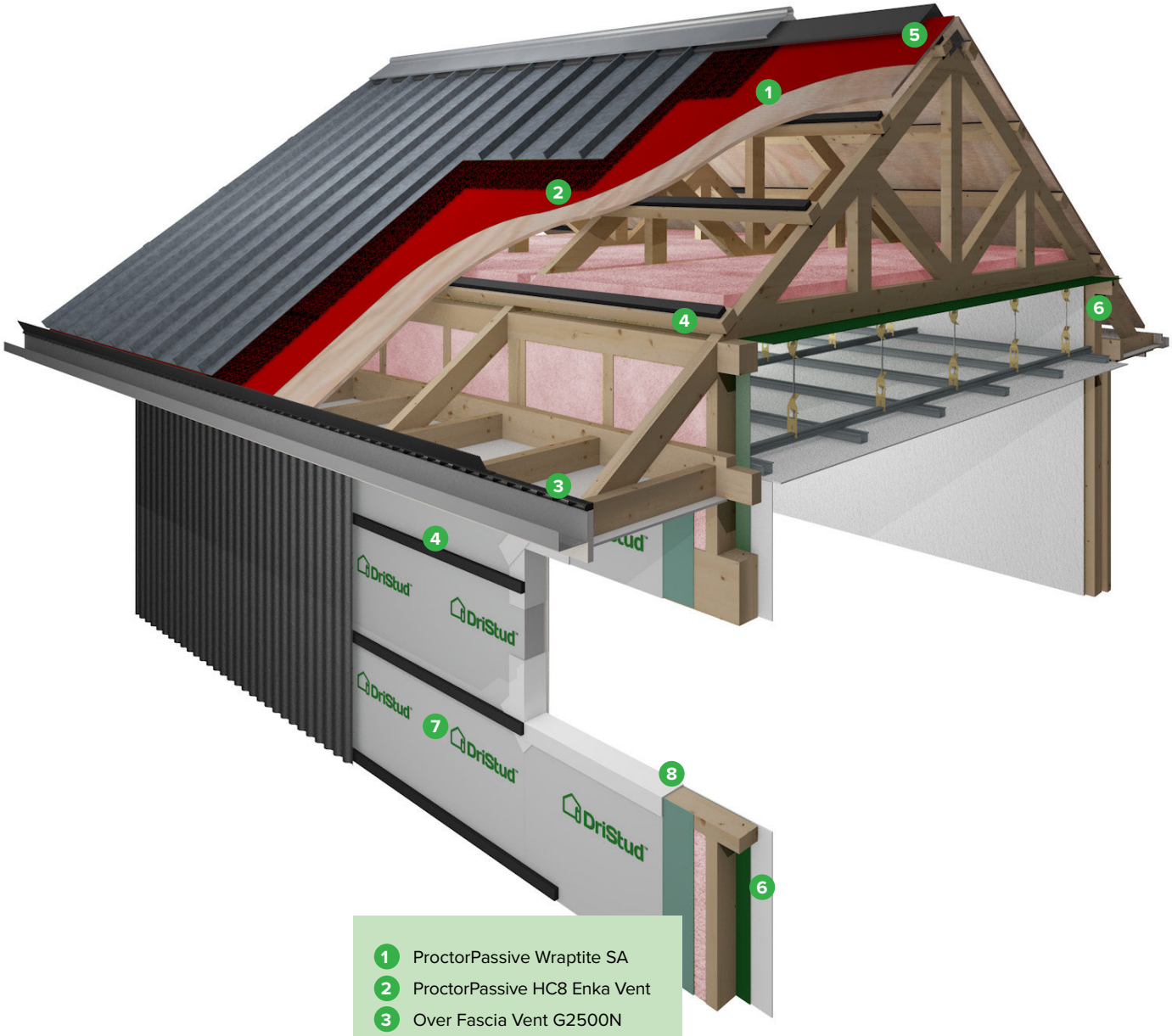
G502CL Insulation Guard/Roll Panel Vent is designed to maintain a continuous 25mm air gap between the underside of the roofing membrane or sarking board and loft insulation at the eaves, providing a consistent flow of air into the roof space. The G502CL Insulation Guard/Roll Panel Vent castellated profile is laid across the top of the roof trusses/rafters parallel with the eaves level and is suitable for both new build and roof renovation projects. The extra width of the panel allows for better coverage when low pitch and deep insulation details are encountered.

EAVES COMB FILLER G1275

G1275 Eaves Comb Filler is designed with flexible fingers that adjust to fill the gaps left when using profiled tiles or steel roof cladding, preventing entry of birds and large insects. The use of the G1275 eliminates the need to make or buy expensive purpose made profiled fillers that can block necessary airflow into the roof spacing between underlay and roof cladding.

Products – Order Quantities

PRODUCT CODE	IMAGE	PRODUCT DESCRIPTION	PACK QUANTITY	LENGTH PER UNIT (mm)	TOTAL LM PER BOX
VB20		Vented Batten (20mm thick)	50	1,800	90.0
VB10		Ventilation and Drainage Batten (10mm thick)	50	1,800	90.0
G1200N		Over Fascia Vent 10mm	20	1,000	20.0
G2500N		Over Fascia Vent 25mm	20	1,000	20.0
RV10P		Ridge Vent	6	1,200	7.2
RV10DT		Ridge Vent Deep Trough	6	1,200	7.2
G502CL		Insulation Guard / Roll Panel Vent / Roll Rafter Tray	2	6,000	12.0
G1275		Eaves Comb Filler	50	1,000	50.0



1. ProctorPassive Wraptite SA
2. ProctorPassive HC8 Enka Vent
3. Over Fascia Vent G2500N
4. Vented Batten VB20 for Roof and Wall
5. Ridge Vent RV10P or RV10DT
6. ProctorPassive SmartVap for airtightness of ceiling and wall
7. DriStud Wall Wrap or ProctorPassive Wraptite SA
8. DriStud Cool Window Flashing Tape or DriFlash Tape

System 1 – Trussed Roof with Passive Ventilation

Roof Pitch 5° to < 15°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-FRU3805-TPV	• Steel Longrun Trussed Roof • Cross ventilation in the roof cavity with the fire retardant underlay	DriStud FRU38	G2500N G502CL G1275 VB10	DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws Self tapper
Optional: *Install ProctorPassive SmartVap to make the ceiling air and vapour tight.*		• *ProctorPasslve AB Tape* • *Tek Screws with a min 20mm diametre* • *Double Sided Tape*		

WIRE NETTING: 75mm galvanized hexagonal wire netting to AS/NZS 4534.
SAFETY MESH: Galvanized or PVC coated safety mesh to AS/NZS 4389.

USE CASE

– The system is for steel longrun trussed roofs with a minimum roof pitch of 5° for trough and trapezoidal section roofing and minimum roof pitch of 12° for corrugated roofing. Preferred max roof pitch is 25° for safer maintenance access.

– The system can be used for both pitched and mono pitch roof.

– A complete ventilated roof system with 25,000mm^2/LM airflow in and release warm air using the natural convection of rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth in the roof space.

– Install *VB10, 10mm vented batten above the underlay to provide ventilation and drainage and to defer dew point condensation from the steel longrun.

– Install G1275 Eaves Comb Filler on the over fascia vent to prevent bird ingress and nesting insects where required.

+AIR AND VAPOUR TIGHT CEILING

It is recommended ProctorPassive SmartVap is installed to make the ceiling air and vapour tight, limiting the passage of conditioned and moisture laden air entering into the roof space and minimise interstitial condensation caused by high moisture load in the classrooms. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. It is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

BENEFITS

The roof system uses fire retardant, tear resistant and self-support DriStud FRU38 roof underlays with high vapour permeability to allow moisture to escape. The system includes vent components that form part of a passive ventilation system that works year around with no moving parts or energy consumption with 4mm vents preventing ingress of nesting insects. The system is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

LINING – VENT AND UNDERLAY

1. Lay G502CL Insulation Guard/Roll Panel Vent across the top of the roof trusses/rafters and roll out the full length of the eaves and adjust to align with the required roof truss centres. Nail or staple to secure in position.
2. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes provided along the full length of the eaves.
3. Mesh must be provided regardless of purlin spacing for school buildings. The netting and underlays must be installed flat and taut to ensure condensation will drain to the gutter. Apply DriStud FRU38 roof underlay from the lowest point to allow laps to shed water. All edge and end laps must be overlapped by a minimum of 150mm.
4. Horizontal installation is preferred however vertical installation is acceptable on roofs greater than 8 degrees. With vertical installation, all laps must be sealed with DriStud Cool Window Tape.
5. Install VB10, 10mm vented battens on the purlins above the underlay.
6. Terminate the underlay at the ridge purlins to create airpath.

7. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
8. Min 20mm gap between the bottom purlin and Over Fascia Vent is required for air flow.

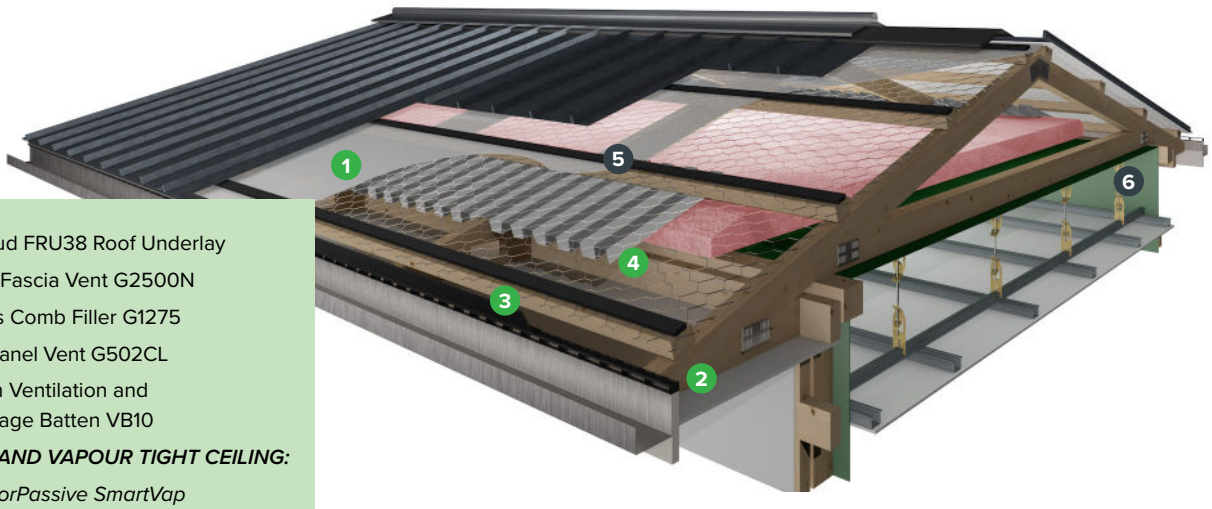
LINING – PROCTORPASSIVE SMARTVAP

SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide. Installation requirements.

1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.
4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to form an overlap as required to allow for continuity of the airtight layer.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used with timber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate. Also use strapping or extra fixings if required to support the weight of insulation.
8. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604.
- For timber structures fixing or fasteners for roof underlays shall be placed no further than 300mm apart.
- Self tapper to fix on metal fascia, nails for timber fascia for G1275, G2500N, and staples for G502.
- Fascia height to drop by 32mm to allow for G2500N Vent Over Fascia Vent.
- Additional fixing screw length is required to accommodate 30mm thickness of RV10P or RV10DT and VB10. The aluminium soft edge should be notched or snipped as required to suit the roofing profile. Notching or snipping is always required on Deep trough or trapezoidal roofing profiles.



1. DriStud FRU38 Roof Underlay
2. Over Fascia Vent G2500N
3. Eaves Comb Filler G1275
4. Roll Panel Vent G502CL
5. 10mm Ventilation and Drainage Batten VB10

FOR AIR AND VAPOUR TIGHT CEILING:

6. *ProctorPassive SmartVap*

System 2 – Trussed Roof with Passive Ventilation

Roof Pitch 5° - < 15°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-FRU3805-TPS	• Steel Longrun Trussed Roof • Roof cavity ventilated with Fire retardant underlay • Cross ventilation in the roof cavity with fire retardant underlay	DriStud FRU38	G1200N G502CL G1275 VB10	DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws Self tapper
Optional: *Install ProctorPassive SmartVap to make the ceiling air and vapour tight.*		• *ProctorPasslve AB Tape* • *Tek Screws with a min 20mm diametre* • *Double Sided Tap*		

WIRE NETTING: 75mm galvanized hexagonal wire netting to AS/NZS 4534.
SAFETY MESH: Galvanized or PVC coated safety mesh to AS/NZS 4389.

USE CASE

– The system is for steel longrun trussed roofs with a minimum roof pitch of 5° for trough and trapezoidal section roofing and minimum roof pitch of 12° for corrugated roofing. Preferred max roof pitch is 25° for safer maintenance access.

– The system can be used for both pitched and mono pitch roof.

– A complete ventilated roof system with 25,000mm^2/LM airflow in and release warm air using the natural convection of rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth in the roof space.

– Install *VB10, 10mm vented batten above the underlay to provide ventilation and drainage and to defer dew point condensation from the steel longrun.

– Install G1275 Eaves Comb Filler on the over fascia vent to prevent bird ingress and nesting insects where required.

+AIR AND VAPOUR TIGHT CEILING

It is recommended ProctorPassive SmartVap is installed to make the ceiling air and vapour tight, limiting the passage of conditioned and moisture laden air entering into the roof space and minimise interstitial condensation caused by high moisture load in the classrooms. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. It is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

BENEFITS

The roof system uses fire retardant, tear resistant and self-support DriStud FRU38 roof underlays with high vapour permeability to allow moisture to escape. The system includes vent components that form part of a passive ventilation system that works year around with no moving parts or energy consumption with 4mm vents preventing ingress of nesting insects. The system is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

LINING – VENT AND UNDERLAY

1. Lay G502CL Insulation Guard/Roll Panel Vent across the top of the roof trusses/rafters and roll out the full length of the eaves and adjust to align with the required roof truss centres. Nail or staple to secure in position.
2. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes provided along the full length of the eaves.
3. Mesh must be provided regardless of purlin spacing for school buildings. The netting and underlays must be installed flat and taut to ensure condensation will drain to the gutter. Apply DriStud FRU38 roof underlay from the lowest point to allow laps to shed water. All edge and end laps must be overlapped by a minimum of 150mm.
4. Horizontal installation is preferred however vertical installation is acceptable on roofs greater than 8 degrees. With vertical installation, all laps must be sealed with DriStud Cool Window Tape.
5. Install VB10, 10mm vented battens on the purlins above the underlay.
6. Terminate the underlay at the ridge purlins to create airpath.

7. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
8. Min 20mm gap between the bottom purlin and Over Fascia Vent is required for air flow.

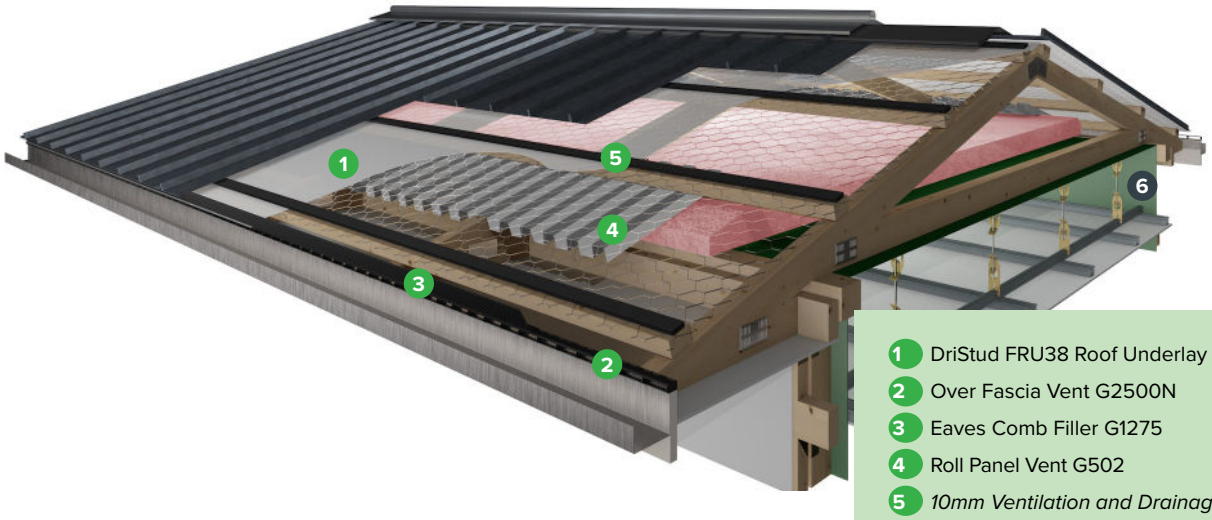
LINING – PROCTORPASSIVE SMARTVAP

SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide. Installation requirements.

1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.
4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used with timber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate. Also use strapping or extra fixings if required to support the weight of insulation.
8. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604.
- For timber structures fixing or fasteners for roof underlays shall be placed no further than 300mm apart.
- Self tapper to fix on metal fascia, nails for timber fascia for G1275, G2500N, and staples for G502.
- Fascia height to drop by 32mm to allow for G2500N Vent Over Fascia Vent.
- Additional fixing screw length is required to accommodate 30mm thickness of RV10P or RV10DT and VB10. The aluminium soft edge should be notched or snipped as required to suit the roofing profile. Notching or snipping is always required on Deep trough or trapezoidal roofing profiles.



1. DriStud FRU38 Roof Underlay
2. Over Fascia Vent G2500N
3. Eaves Comb Filler G1275
4. Roll Panel Vent G502
5. *10mm Ventilation and Drainage Batten VB10*

FOR AIR AND VAPOUR TIGHT CELILING:

6. *ProctorPassive SmartVap*

System 3 – Trussed Roof with Vapour Control Layer and VB10

Roof Pitch 5° - 25°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-FRU3805-TVCL	• Steel Longrun Trussed Roof • Vapour control layer installed at the ceiling with ventilation above roof underlay	DriStud FRU38 ProctorPassive SmartVap	VB10	DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws Self tapper
Optional: *Install Vent products in the roof cavity for cross ventilation through the roof space*		*G2500N* *VB20* *RV10P/DT* *G1275*	• *DriStud Cool Window Flashing Tape* • *Galvanised or s/s staples* • *Clouts or purlin screws* • *Self Tapper*	

WIRE NETTING: 75mm galvanized hexagonal wire netting to AS/NZS 4534.
SAFETY MESH: Galvanized or PVC coated safety mesh to AS/NZS 4389.

USE CASE

– The system is for steel longrun trussed roof with the minimum roof pitch of 5° for trough and trapezoidal section roofing and minimum roof pitch of 12° for corrugated roofing. Preferred max roof pitch is 25° for safer maintenance access.

– The system is for both pitched and mono pitch roof.

– A complete ventilated roof system with 25,000mm^2/LM airflow in from the eaves and release air using the natural convection of rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth in the roof space.

– Install *VB10, 10mm vented batten above the underlay to provide ventilation and drainage and to defer dew point condensation from the steel longrun.

– Install G1275 Eaves Comb Filler on the over fascia vent to prevent bird ingress and nesting insects where required.

†AIR AND VAPOUR TIGHT CEILING

It is recommended ProctorPassive SmartVap is installed to make the ceiling air and vapour tight, limiting the passage of conditioned and moisture laden air entering into the roof space and minimise interstitial condensation caused by high moisture load in the classrooms. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. It is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

BENEFITS

The roof system uses fire retardant, tear resistant and self-support DriStud FRU38 roof underlays with high vapour permeability to allow moisture to escape. The system includes vent components that form part of a passive ventilation system that works year around with no moving parts or energy consumption with 4mm vents preventing ingress of nesting insects. The system is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

LINING – PROCTORPASSIVE SMARTVAP

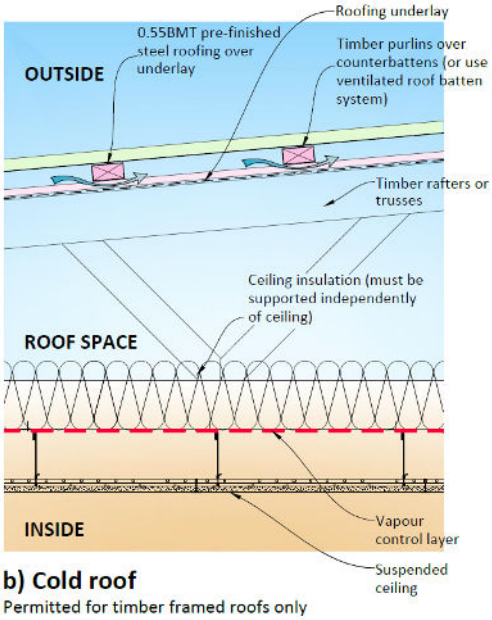
SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide.

1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.
4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to form an overlap as required to allow for continuity of the airtight layer.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used withtimber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate Also use strapping or extra fixings if required to support the weight of insulation.
9. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

LINING – VENT AND UNDERLAY

1. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes provided along the full length of the eaves.
2. Peel-off adhesive backing of VB20 Vented Batten and attach to purlins for temporary fixing. Secure VB20 with exterior cladding fixings.
3. Mesh must be provided regardless of purlin spacing for school buildings. The netting and underlays must be installed flat and taut to ensure condensation will drain to the gutter. Apply DriStud FRU38 roof underlay from the lowest point to allow laps to shed water. All edge and end laps must be overlapped by a minimum of 150mm.
4. Horizontal installation is preferred however vertical installation is acceptable on roofs greater than 8 degrees. With vertical installation, all laps must be sealed with DriStud Cool Window Tape.
5. Terminate the underlays at the ridge purlins to create airpath.
6. Peel off adhesive backing and place VB10, 10mm vented battens on the purlins above the underlay for temporary fixing. Secure VB10 with exterior cladding fixings.
7. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
8. Min 20mm gap between the bottom purlin and Over Fascia Vent is required for air flow.

Weathertightness Design Requirements for New School Buildings Version 3.0, September 2020

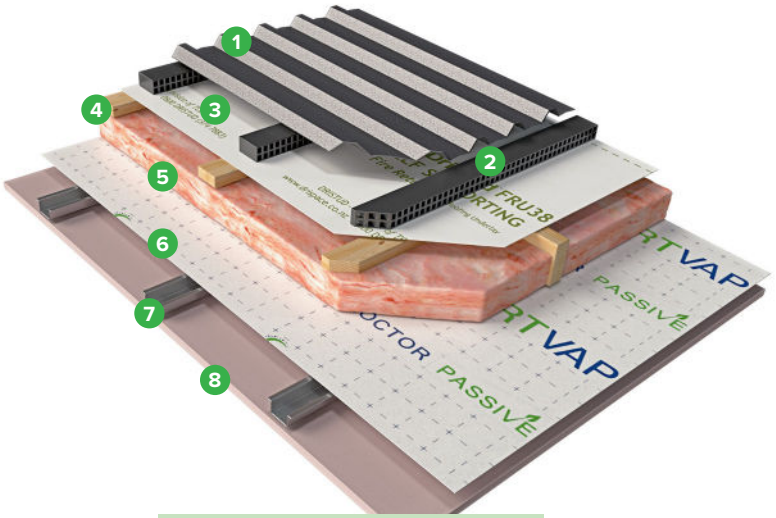


b) Cold roof
Permitted for timber framed roofs only

Page 44., Designing Schools in New Zealand: Weathertightness Design Requirements for New School Buildings. Ministry of Education, 2020.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604.
- For timber structures fixing or fasteners for roof underlays shall be placed no further than 300mm apart.
- Self tapper to fix on metal fascia, nails for timber fascia for G1275, G2500N.
- Fascia height to drop by 32mm to allow for G2500N Vent Over Fascia Vent.
- Additional fixing screw length is required to accommodate 30mm thickness of combined thickness of RV10P or RV10DT and VB10. The aluminium soft edge should be notched or snipped as required to suit the roofing profile. Notching or snipping is always required on Deep trough or trapezoidal roofing profiles.



1. Steel Roof
2. VB10 - 10mm vented batten
3. DriStud FRU38 Roof Underlay
4. Purlins/Rafters
5. Insulation
6. ProctorPassive SmartVap Vapour Control Layer
7. Furring Channels
8. Ceiling Plasterboard

System 4 – Skillion Roof with Passive Ventilation

Roof Pitch 5° - 25°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-FRU3805-SPV	• Steel Longrun Skillion Roof • Roof cavity ventilated with Fire retardant underlay	DriStud FRU38	G2500N VB20 RV10P/RV10DT G1275 VB10	DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws Self tapper
Optional: *Install ProctorPassive SmartVap to make the ceiling air and vapour tight.*		• *ProctorPasslve AB Tape* • *Tek Screws with a min 20mm diametre* • *Double Sided Tap*		

WIRE NETTING: 75mm galvanized hexagonal wire netting to AS/NZS 4534.
SAFETY MESH: Galvanized or PVC coated safety mesh to AS/NZS 4389.

USE CASE

– The system is for steel longrun skillion roof with the minimum roof pitch of 5° for trough and trapezoidal section roofing and minimum roof pitch of 12° for corrugated roofing. Preferred max roof pitch is 25° for safer maintenance access.

– The system is for both pitched and mono pitch roof.

– A complete ventilated roof system with 25,000mm^2/LM airflow in from the eaves and release air using the natural convection of rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth in the roof space.

– Install *VB10, 10mm vented batten above the underlay to provide ventilation and drainage and to defer dew point condensation from the steel longrun.

– Install G1275 Eaves Comb Filler on the over fascia vent to prevent bird ingress and nesting insects where required.

+AIR AND VAPOUR TIGHT CEILING

It is recommended ProctorPassive SmartVap is installed to make the ceiling air and vapour tight, limiting the passage of conditioned and moisture laden air entering into the roof space and minimise interstitial condensation caused by high moisture load in the classrooms. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. It is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

BENEFITS

The roof system uses fire retardant, tear resistant and self-support DriStud FRU38 roof underlays with high vapour permeability to allow moisture to escape. The system includes vent components that form part of a passive ventilation system that works year around with no moving parts or energy consumption with 4mm vents preventing ingress of nesting insects. The system is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

LINING – VENT AND UNDERLAY

1. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes provided along the full length of the eaves.
2. Peel-off adhesive backing of VB20 Vented Batten and attach to purlins for temporary fixing. Secure VB20 with exterior cladding fixings.
3. Mesh must be provided regardless of purlin spacing for school buildings. The netting and underlays must be installed flat and taut to ensure condensation will drain to the gutter. Apply DriStud FRU38 roof underlay from the lowest point to allow laps to shed water. All edge and end laps must be overlapped by a minimum of 150mm.
4. Horizontal installation is preferred however vertical installation is acceptable on roofs greater than 8 degrees. With vertical installation, all laps must be sealed with DriStud Cool Window Tape.
5. Terminate the underlays at the ridge purlins to create airpath.
6. Peel off adhesive backing and place VB10, 10mm vented battens on the purlins above the underlay for temporary fixing. Secure VB10 with exterior cladding fixings.
7. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
8. Min 20mm gap between the bottom purlin and Over Fascia Vent is required for air flow.

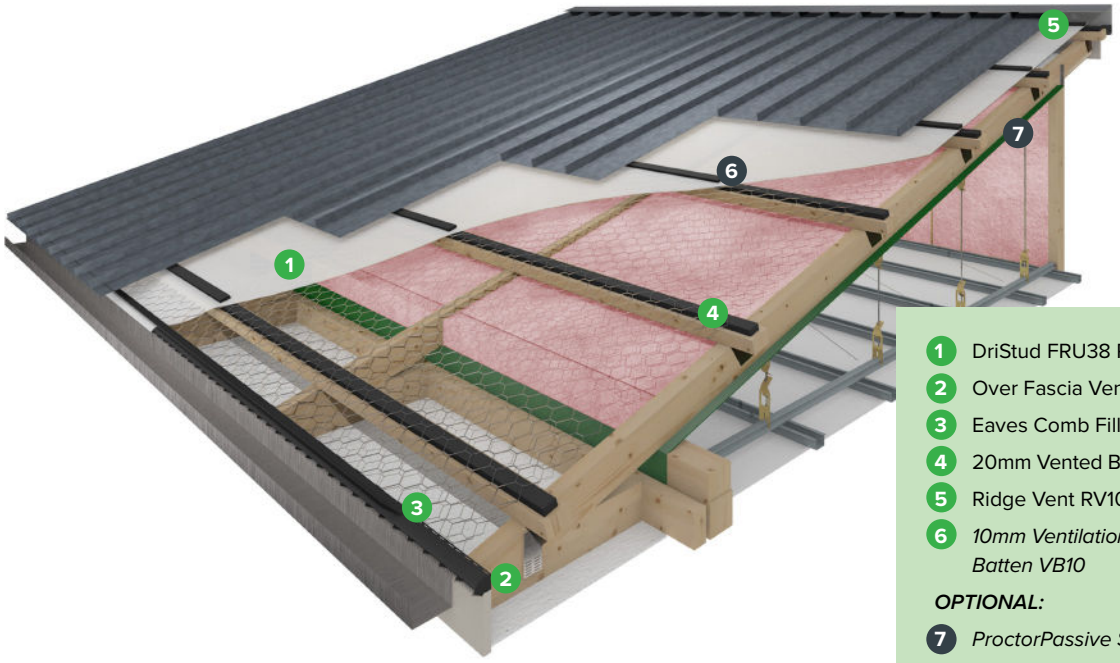
LINING – PROCTORPASSIVE SMARTVAP

SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide.

1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.
4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to form an overlap as required to allow for continuity of the airtight layer.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used with timber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate Also use strapping or extra fixings if required to support the weight of insulation.
9. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604.
- For timber structures fixing or fasteners for roof underlays shall be placed no further than 300mm apart.
- Self tapper to fix on metal fascia, nails for timber fascia for G1275, G2500N.
- Fascia height to drop by 32mm to allow for G2500N Vent Over Fascia Vent.
- Additional fixing screw length is required to accommodate 30mm thickness of combined thickness of RV10P or RV10DT and VB10. The aluminium soft edge should be notched or snipped as required to suit the roofing profile. Notching or snipping is always required on Deep trough or trapezoidal roofing profiles.



1. DriStud FRU38 Roof Underlay
2. Over Fascia Vent G2500N
3. Eaves Comb Filler G1275
4. 20mm Vented Batten VB20
5. Ridge Vent RV10P or RV10DT
6. *10mm Ventilation and Drainage Batten VB10*

OPTIONAL:

7. *ProctorPassive SmartVap*

System 5 – Skillion Roof with Vapour Control Layer and Ventilation Above Underlay

Roof Pitch 5° - 25°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-FRU3805-SVCL	• Steel Longrun Skillion Roof • Roof cavity ventilated with Fire retardant underlay	ProctorPassive SmartVap DriStud FRU38	*VB10	ProctorPassive AB Tape Tek screws with a min 20mm diametre Double sided tape DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws
Optional: *Install Vent to provide cross ventilation in the roof space.*			*G2500N* *VB20* *RV10P/DT* *G1275*	

WIRE NETTING: 75mm galvanized hexagonal wire netting to AS/NZS 4534.
SAFETY MESH: Galvanized or PVC coated safety mesh to AS/NZS 4389.

USE CASE

- This system is recommended for complicated skillion roof designs where passive ventilation may not work effectively.
- A complete ventilated roof system with ProctorPassive SmartVap to make air and vapour tight ceiling preventing warm moist air from the classrooms entering into the roof space and 10mm thick VB10 vented battens for ventilation and drainage above the underlay to defer the dew point condensation.
- If there is vapour permeable underlay (with ventilation and drainage above) and an air and vapour tight ceiling, then ventilation of the roof space is not required. That is why this approach works well for low pitched skillion roofs that can't be effectively ventilated.
- The system is for steel longrun skillion roof with the minimum roof pitch of 5° for trough and trapezoidal section roofing and minimum roof pitch of 12° for corrugated roofing. Preferred max roof pitch is 25° for safer maintenance access.
- The system is for both pitched and mono pitch roof.

PASSIVE VENTILATION +

- It is recommended Vent products, G2500N, VB20 and RV10P/RV10DT are installed for cross ventilation in the roof space to minimise mould growth as a back up for cases where air and vapour tight ceiling continuity is compromised. Airflow of maximum 25,000mm^2/LM is introduced from the eaves and release air using the natural convection of rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth.
- Install G1275 Eaves Comb Filler on the over fascia vent to prevent bird ingress and nesting insects where required.

BENEFITS

The roof system uses fire retardant, high vapour permeable, tear resistant and self-support DriStud FRU38 roof underlay for the moisture to escape and 10mm thick vented batten VB10 for ventilation and drainage above the underlay to defer dew point condensation. The system includes ProctorPassive SmartVap to make the ceiling air and vapour tight, limiting the passage of conditioned and moisture laden air entering into the roof space. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure. It is compatible with timber and metal frames and suitable for up to and including extra high wind zone (NZS 3604).

LINING – PROCTORPASSIVE SMARTVAP

SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide.

1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.

4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to form an overlap as required to allow for continuity of the airtight layer.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used with timber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate. Also use strapping or extra fixings if required to support the weight of insulation.
9. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

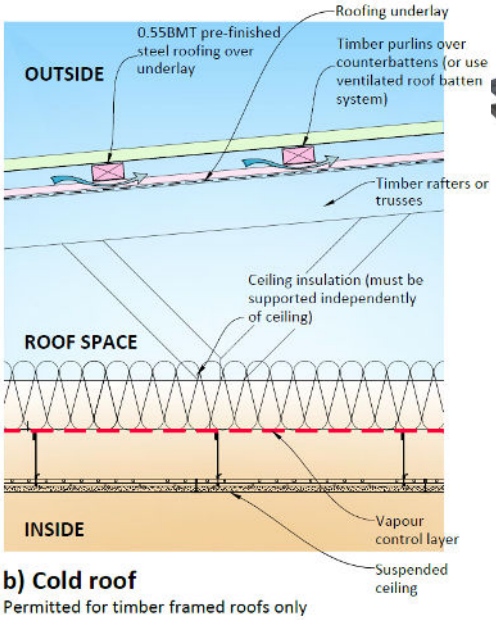
LINING – UNDERLAY AND VENT

1. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes provided along the full length of the eaves.
2. Peel-off adhesive backing of VB20 Vented Batten and attach to purlins for temporary fixing. Secure VB20 with exterior cladding fixings.
3. Mesh must be provided regardless of purlin spacing for school buildings. The netting and underlays must be installed flat and taut to ensure condensation will drain to the gutter. Apply DriStud FRU38 roof underlay from the lowest point to allow laps to shed water. All edge and end laps must be overlapped by a minimum of 150mm.
4. Horizontal installation is preferred however vertical installation is acceptable on roofs greater than 8 degrees. With vertical installation, all laps must be sealed with DriStud Cool Window Tape.
5. Terminate the underlays at the ridge purlins to create airpath.
6. Peel off adhesive backing and place VB10, 10mm vented battens on the purlins above the underlay for temporary fixing. Secure VB10 with exterior cladding fixings.
7. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
8. Min 20mm gap between the bottom purlin and Over Fascia Vent is required for air flow.

FIXINGS / FRAMING

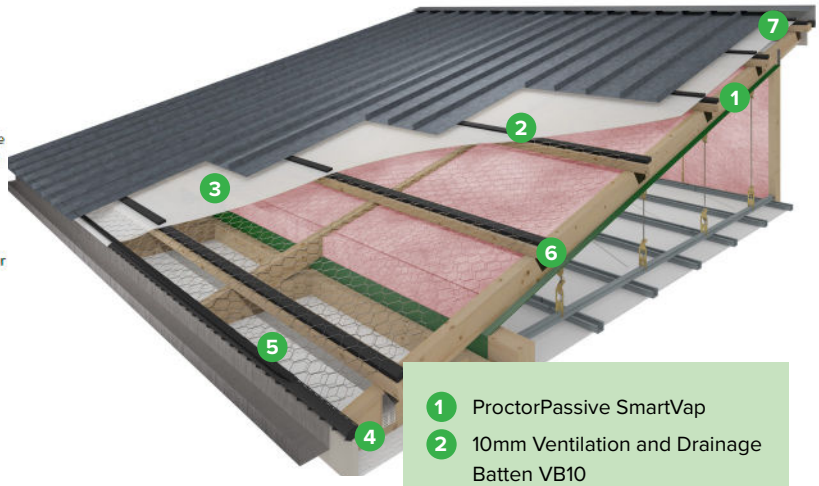
- Framing must be specified and installed in accordance with NZBC 3604.
- For timber structures fixing or fasteners for roof underlays shall be placed no further than 300mm apart.
- Self tapper to fix on metal fascia, nails for timber fascia for G1275, G2500N.
- Fascia height to drop by 32mm to allow for G2500N Vent Over Fascia Vent.
- Additional fixing screw length is required to accommodate 30mm thickness of combined thickness of RV10P or RV10DT and VB10. The aluminium soft edge should be notched or snipped as required to suit the roofing profile. Notching or snipping is always required on Deep trough or trapezoidal roofing profiles.

Weathertightness Design Requirements for New School Buildings Version 3.0, September 2020



b) Cold roof
Permitted for timber framed roofs only

Page 44., Designing Schools in New Zealand: Weathertightness Design Requirements for New School Buildings. Ministry of Education, 2020.



1. ProctorPassive SmartVap
2. 10mm Ventilation and Drainage Batten VB10
3. DriStud FRU38 Roof Underlay

OPTIONAL

4. Over Fascia Vent G2500N
5. Eaves Comb Filler G1275
6. 20mm Vented Batten VB20
7. Ridge Vent RV10P or RV10DT

System 6 – Sarked Roof with Passive Ventilation and Drainage Mat

Roof Pitch 5° - 25°

SPECIFICATION CODE	DRISPACE SPECIFICATION	UNDERLAY	VENT SYSTEM	FIXING AND ACCESSORIES
DS-PWSA05-SPVDM	• Sarked roof system with vents, drainage mat and fire retardant underlay	DriStud FRU38 or ProctorPassive Wraptite SA (Peel and Stick underlay)	G2500N VB20 RV10P/RV10DT *ProctorGeo HC9 Drainage Mat or VB10, 10mm vented battens	DriStud Cool Window Flashing Tape Galvanised or s/s staples Clouts or purlin screws, tek screws Self tapper Scissors or knife
Optional: *Install ProctorPassive SmartVap to make ceiling air and vapour tight.*		• *ProctorPassive AB Tape*		

USE CASE

– A complete roof system for sarked roof with all types of steel longrun where the roof pitch is 5° or above. Minimum roof pitch for trough and trapezoidal profile metal roofing is 5° whereas minimum roof pitch for corrugated metal roofing is 12°. Preferred maximum roof pitch is 25° for safer maintenance access.

– Roof space ventilated with 25,000mm^2/LM airflow from the eaves and release rising warm air of 8,000mm^2/LM through the apex to minimise condensation and mould growth.

– Select DriStud FRU38 roof underlay for mechanical fixing installation or select ProctorPassive Wraptite SA for peel & stick installation to provide greater integrity of system.

– ProctorGeo HC9 provides for drainage and acoustic attenuation of rain noise. ProctorGeo HC9 Drainage Mat to provide a permanent drainage channel for condensate that may get under the roof sheet. Install under zinc, copper, galvanised steel and any other standing seam roof to reduce corrosion risk.

†AIR AND VAPOUR TIGHT CEILING

It is highly recommended ProctorPassive SmartVap is installed to make air & vapour tight ceiling and achieve more robust vented sarked roof system to minimise interstitial condensation especially with high moisture load from many students in the classroom. When installed as a continuous layer, SmartVap will form an air tight layer, improving the efficacy of ventilation systems and thermal efficiency of the building enclosure.

BENEFITS

– Allows some movement of the roof sheet under temperature fluctuation.
– Allows for moisture to escape from the roofing structure above and below the sarking.
– DriStud FRU38, ProctorPassive Wraptite SA and ProctorGeo HC9 Drainage Mat have low flammability with Flammability index of ≤5 and are deemed fire retardant in accordance with AS 1530.2

LINING – UNDERLAY

1. Lining DriStud FRU38
   Apply DriStud FRU38 from the lowest point to allow laps to shed water. Pull taut to prevent ponding of water. All edge and end laps must be overlapped by a minimum of 150mm. Use DriStud Cool Window Flashing Tape to achieve lap seals.
2. Lining ProctorPassive Wraptite SA (Peel and Stick)
   Adhere Wraptite to the supporting sheet sarking horizontally or vertically. Overlaps must be minimum 75mm regardless of roof pitch. Eaves guards should be used to protect the membrane from sunlight.
   - **Horizontal installation (2 person method):** Pre-cut material to required length and roll cut length with release paper outwards. Starting at corner, peel back release paper by approx. 150mm and fold release paper back, and using hand roller or stiff brush, lightly apply the exposed glue surface to the prepared substrate. Starting in the middle, use a hand roller or stiff brush to smooth out any air bubbles, release the air to each side.
   - **Vertical installation (1-person method):** Pre-cut material to required length and roll cut length with release paper outwards. Starting at corner, peel back release paper by approx. 150mm and fold release paper back, and using hand roller or stiff brush, lightly apply the exposed glue surface to the prepared substrate. Allow rest of rolled up material to drop down with release paper still attached. When aligned, use hand roller or stiff brush across the entire adhered section. Drop roll down, pulling off release paper. Smooth out air bubbles, with stiff brush or roller. Proceed with next row, ensuring minimum 75mm overlap, always in shingled fashion.

LINING – VENT

1. Fix G2500N Over Fascia Vent using nails or screws to the top of the fascia board through the fixing holes.
2. Peel-off adhesive backing of VB20 Vented Batten and attach to purlins for temporary fixing. Secure VB20 with exterior cladding fixings.
3. Install RV10P for trough less than 34mm or RV10DT for trough greater than 34mm on the roof centrally at the apex. Cut RV10P or RV10DT in half lengthwise for abutments and barge details.
4. Install ProctorPassive HC9 Drainage Mat between the synthetic roofing underlay and the roof cladding to ventilate above the membrane. Where a space needs to be maintained between a timber sarking and underlay the HC9 can also be used in this application. The HC9 Drainage Mat is flexible and light weight for ease of installation. Use scissors or a knife to cut as required.

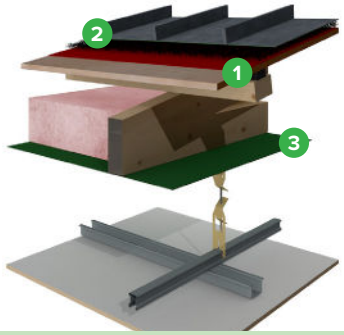
LINING – PROCTORPASSIVE SMARTVAP

SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide.

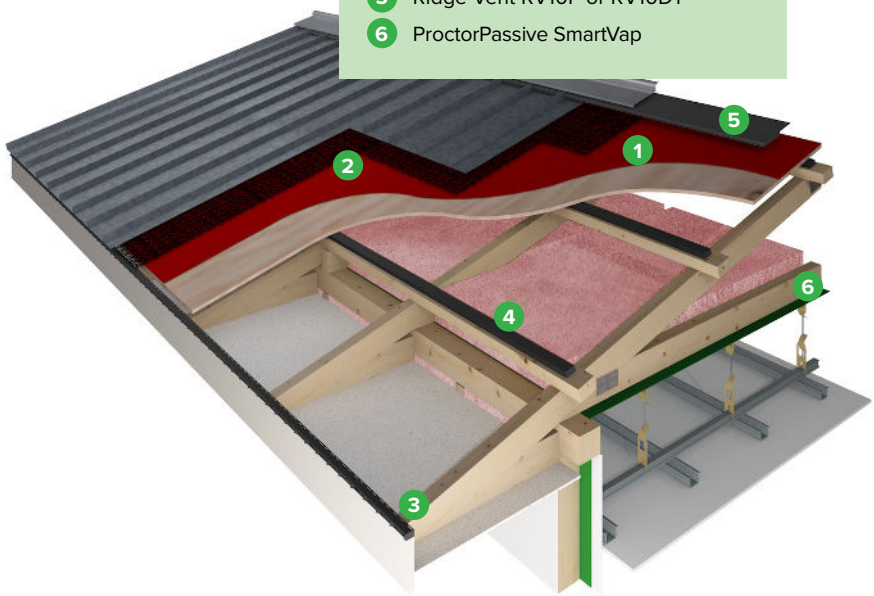
1. Preparation: To minimise penetrations of the SmartVap air and vapour control layer, remove any sharp protrusions from the framing. Prior to installing SmartVap, complete as far as possible the installation of services such as wiring, ducting, and plumbing.
2. To ensure continuity of the air and vapour control layer, prior to the full coverage installation of SmartVap at the ceiling, position and fix the 300mm wide SmartVap strip to the inside of the external framing where internal framing will be constructed at a later date.
3. Fixing to timber: Staple fix to timber frames at each joist within 50mm of the top edge of the SmartVap. It should be permanently fixed with a ceiling batten which will also seal the staples penetrations. Any exposed staples or other penetrations should be taped over to ensure continuity of air tightness.
4. Cut to length the SmartVap, starting at one corner of the ceiling and fix with a minimum 50mm folded down the wall where it provides a free overlap for SmartVap to be applied to the wall. Pull the membrane taut to run perpendicular to the joists, fixing along the full length of the ceiling, avoiding creases. At the centre, pull the membrane taut and fix to the joist.
5. Pull the SmartVap taut horizontally avoiding wrinkles. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 3 to 4. Ensure a minimum 50mm is left loose at the ceiling junction to form an overlap as required to allow for continuity of the airtight layer.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive AB Tape. Press firmly using a roller or squeegee using the 30mm printed lines as a guide for even application. Short end overlaps should be staggered and overlap over a solid element such as stud and taped.
7. When fixing to steel or aluminium the use of staples is not possible. Use double sided tape on the framing to hold the SmartVap in position prior to fixing with the ceiling battens and tek screws with a minimum 20mm diameter washer if required. Stainless steel fixings are recommended in harsh or corrosive environments. This approach using double sided tape can also be used with timber framing.
8. Although SmartVap is usually applied to the ceiling when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding, windows and interior linings, users should determine if fixing details are appropriate Also use strapping or extra fixings if required to support the weight of insulation.
9. Penetrations: It is recommended to use ProctorPassive AB Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604.
- ProctorGeo HC9 is stapled or screw fixed for temporary fixing until the roof is installed.
- Try to place fixings where the membrane is overlapped to reduce leakage risk of the membrane.



1. ProctorPassive Wraptite SA
2. ProctorPassive HC9 Drainage Mat
3. ProctorPassive SmartVap



1. ProctorPassive Wraptite SA
2. ProctorPassive HC9 Drainage Mat
3. Over Fascia Vent G2500N
4. Vented Batten VB20
5. Ridge Vent RV10P or RV10DT
6. ProctorPassive SmartVap

System 7 – DriStud Wall Wrap on Rigid Air Barrier

FIRE RETARDANT VAPOUR PERMEABLE AIR BARRIER FLEXIBLE WALL WRAP ON RIGID WALL UNDERLAY

SPECIFICATION CODE	DRISPACE SPECIFICATION	DRISPACE SYSTEM COMPONENTS
DS-FRWW01-RWUES	Fire retardant flexible wall underlay installed on Rigid Wall Underlays	• DriStud Wall Wrap • DriStud Cool Window Flashing Tape • VB20* Vented Cavity Batten • EPDM flexible seals • Accessorise: Galvanised or s/s staples Tek screws with a min 20mm diametre, Double sided tape
***Optional**: Install ProctorPassive SmartVap to make walls air and vapour tight*		

VB20 should be treated as non-structural timber cavity batten.

USE CASE

– It is a fire retardant flexible wall underlay system installed on rigid walls made from plywood, OSB or fibre cement. Fibre cement rigid air barrier is to be used in areas of high seismicity.
– The system integrates multiple components to offer additional weather and air tightness benefits to rigid air barriers for cavity fixed with absorbent and non-absorbent claddings.
– Situated in NZS 3604 Wind Zones up to and including 'Extra High' and 90 days of UV exposure.

BENEFITS

The wall system integrates flexible wall underlay components to install on rigid wall underlays made of plywood, OSB, exterior grade gypsum and fibre cement. The system offers additional weather and air tightness and allows fast drying of moisture built up within the envelope, creating a healthier and more energy-efficient structure. Vented wall batten, VB20 installed over DriStud Wall Wrap creates a 20mm cavity for ventilation and drainage in the wall cavity, reducing the risk of moisture build up and condensation. The Cool Window Flashing Tape has polymer adhesive and ensures maximum adhesion across a wide range of temperatures without the need of primer nor corner moulds. It provides ultimate protection against water infiltration for windows, doors and thru-wall entry points.

ADDITIONAL COMPONENTS

– The following sealants are tested in accordance with AAMA 711-13 and compatible with DriStud Cool Window Flashing Tape: Dowsil 790, Dowsil 795, Dowsil 758, Gorilla Firestop MS5, Holdfast Fix HG MS, Holdfast Fixall 200 MS, MasterSeal NP 1508, Sika AT, Sika MS

– For buildings with high risks of condensation, it is recommended ProctorPassive SmartVap, a vapour control layer is installed as a continuous layer to the framing on the inside face of the insulation to improve the ventilation systems and thermal efficiency of the building enclosure.

LINING – DRISTUD WALL WRAP

1. DriStud Wall Wrap is recommended to be installed horizontally with the printed side facing out. Horizontal laps should be overlapped no less than 75mm and vertical laps no less than 150mm. Where horizontal laps are required the upper sheet must overlap the bottom one to allow for moisture run off. Tape the vertical joins, cuts and tears with DriStud Cool Window Flashing Tape.
2. Run the underlay over openings and leave covered until windows and doors are ready to be installed. Form openings in the membrane by cutting a 45° diagonal from each corner of the penetration. Fold back the flaps inside the opening and staple to the penetration framing. Cut off excess underlay flush with the internal face of the wall frame. Install DriStud Cool Window Flashing Tape to NZBC E2/AS1, 9.1.5 or DriStud Cool Tape Installation Guide. It requires only one layer on the horizontal sill surface.
3. Use Flexible EPDM seals for wall cladding pipe and service penetration to E2/AS1.

LINING - VB20 VENTED CAVITY BATTEN

For cavity design requirements, refer to Weathertightness Design Requirements for New School Buildings, Version 3.0. September 2020, 9.4.6 Cavity Construction – Timber and Steel Framed Walls.

1. Install VB20 as a drained vented batten by peeling-off adhesive backing for temporary fixing and install over the wall underlay. Cladding fixings must be fixed through the VENT VB20 into the studs and dwangs.
2. Where cladding are fixed vertically and horizontal battens are required, VB20 are installed horizontally to allow free drainage and ventilation.
3. Where cladding is fixed horizontally, VB20 are installed vertically to allow ventilation. VB20 is BRANZ appraised and can be used as an alternative to the timber and polystyrene cavity battens specified within NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.4.
4. When installed horizontally and continuously, VB20 provides vermin proofing to the bottom of the drained cavity. If a durable life of more than 15 years is required, vermin proofing must be installed at the base of the cavity.

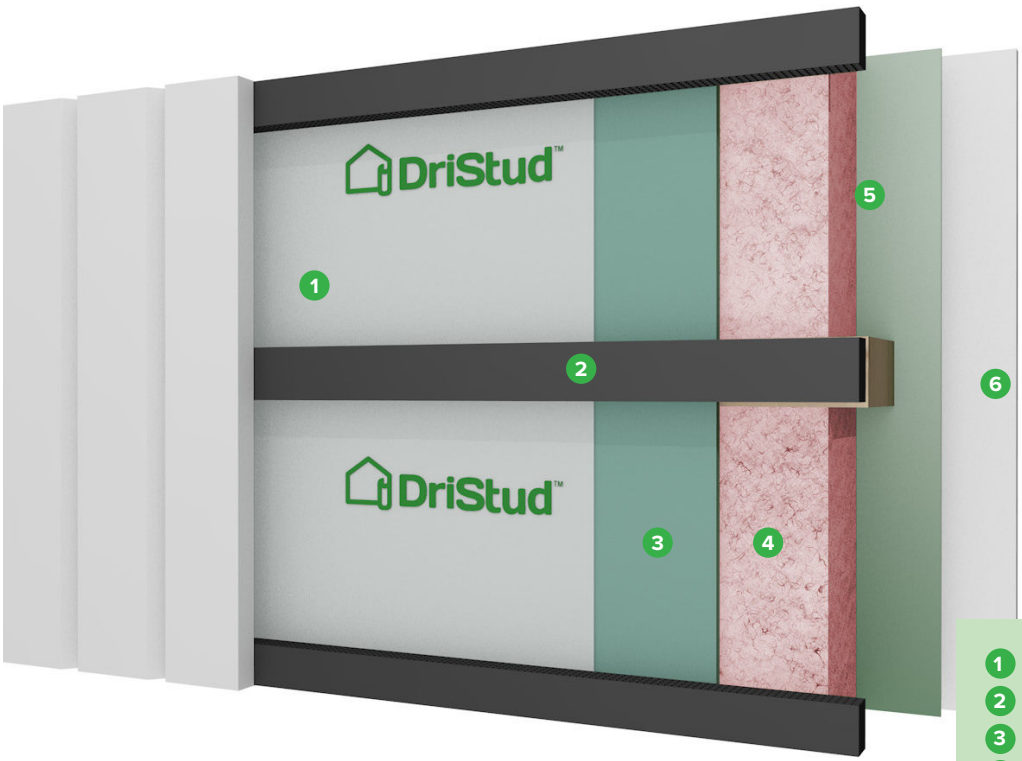
†LINING – PROCTORPASSIVE SMARTVAP VAPOUR CONTROL LAYER

ProctorPassive SmartVap should be installed in accordance with the ProctorPassive SmartVap installation guide.

1. Install horizontally to the interior of stud walls, from bottom wall plate upwards, leaving a minimum 30mm loose at edges and the floor to allow for continuity of the air tight layer. To assist in aligning SmartVap, mark each stud at 1.47m from the floor level. Staple fix to timber frames at each stud within 50mm of the top edge of the SmartVap.
2. Smooth the SmartVap taut down the centre stud avoiding wrinkles. Staple from the floor plate upwards at maximum 150mm intervals.
3. Work outwards from the centre stud, repeating stage 2 on every stud.
4. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 1 to 3. When forming a junction with the ceiling, ensure that a minimum 30mm is left loose to form an overlap as required to allow for continuity of the air tight layer.
5. When fixing to steel or aluminium, use tek screws with a minimum 20mm diameter or through battens. Use double sided tape if temporarily fixing to steel frames. Stainless steel fixings are recommended in harsh or corrosive environments. Although SmartVap is usually applied to the interior of framing when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding and interior linings, users should determine if fixing details are appropriate.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive UV Tape. Press firmly using a roller using the 30mm printed lines as a guide for even application. Overlaps should be staggered and overlap over a solid element such as stud and taped.
7. Penetrations: It is recommended to use ProctorPassive UV Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604 and rigid wall underlays are installed in accordance with the manufacturers' specification.
- Pull flexible underlays taut and fix securely to the rigid wall underlays with galvanized little grippers, 6-8mm staples or 20mm large head galvanized clouts at 300mm centres horizontally and vertically. Additional fasteners should be used around each opening to be cut out.



1. DriStud Wall Wrap
2. Vented Cavity Batten VB20
3. Rigid Wall Underlay
4. Wall Insulation
5. ProctorPassive SmartVap
6. Wall Plasterboard

System 7 – Peel and Stick External Air Barrier Wraptite SA on Rigid Wall Underlay

PROCTORPASSIVE WRAPTITE SA (PEEL AND STICK) VAPOUR PERMEABLE AIR BARRIER ON RIGID WALL UNDERLAY

SPECIFICATION CODE	DRISPACE SPECIFICATION	DRISPACE SYSTEM COMPONENTS
DS-PWSA-RWU01ES	ProctorPassive Wraptite SA: Self adhering membrane (peel and stick) on rigid wall underlay	• ProctorPassive Wraptite SA • Tremco Dymonic 100 • DriStud Cool Window Flashing Tape • *VB20 Cavity Vented Batten
DS-SMARTPVAP-WES +	Vapour control layer to make air and vapour tight walls	ProctorPassive SmartVap

VB20 should be treated as non-structural timber cavity batten.

USE CASE

- ProctorPassive Wraptite SA is an externally applied fully adhered vapour permeable Weather Resistant Barrier/Air Barrier membrane for walls onto the various substrates with cavity wall claddings.
- Wraptite SA is compatible with and can be adhered to Aluminium (painted or mill finish), Anodised Aluminium, Concrete Block, Exterior Grade Gypsum/Fire Board, Galvanised Metal, In-Situ Concrete, OSB, Precast Concrete, Pre-Painted Steel, Rigid Vinyl, Steel, Plywood.
- Wraptite Membrane and the range of Wraptite Accessories are robust materials that are suitable as a roof and wall underlay on SIP and CLT construction. This makes Wraptite a flexible and simple solution for achieving airtightness on both on-site and off-site projects.
- Situated in NZS 3604 Wind Zones up to and including 'Extra High'.

ADDITIONAL COMPONENTS

- Tools: Utility Knife, Rubber Roller, Stiff Brush, Marker Pen, Measuring Tape, Scissors, Barrel Sealant Gun, Putty Knife, Clean Cloth
- The following sealants are tested in accordance with AAMA 711-13 and compatible with DriStud Cool Window Flashing Tape: Dowsil 795, Gorilla Firestop Ms5, Fix HG MS, Fixall 200 MS, MasterSeal, NP 1508, Sika AT, Sika MS

BENEFITS

- Wraptite SA makes the envelope airtight and energy efficient by addressing air leakage that accounts for up to 70% reduction in the effectiveness of insulation.
- Wraptite SA's high vapour permeability allows sheathing to dry quickly and moisture to escape. This ensures good indoor air quality by reducing the likelihood of mould, mildew, condensation, timber distortion and metal corrosion.
- Wraptite SA fully bonds without mechanical attachments to most substrates for ease of installation, requiring minimal use of sealants or tapes.
- Wraptite SA utilizes a patented full coverage air permeable adhesive to provide unsurpassed vapour permeability in a commercial quality, self-adhered, water resistant breather membrane.

LINING PREPARATION – PROCTORPASSIVE WRAPTITE SA

Substrate condition is critical to the adhesive performance of any peel and stick membrane or liquid-applied flashing. Keep Wraptite in the original packaging which also functions as a dispenser.

- Surfaces must be clean, dry and free from all bond-breaking contaminants, sharp protrusions or other matter that may hinder adhesion to the substrate. Clean any loose dust or dirt from the substrate by wiping with a clean dry cloth or brush. Remove and replace any damaged structural wall components
- Wraptite should only be applied in dry weather when air and surface temperatures are above -10°C. Do not install Wraptite in adverse weather conditions. Wraptite must not be applied in areas where it is permanently exposed to UV rays.
- With all membranes the best practice advice is to keep temporary exposure to a minimum. Best practice advice is to cover with the final external protective layer (i.e.: cladding, roofing) as soon as possible.
- All walling and roofing membranes require protection from heavy/ prolonged rainfall and extreme weather events while being installed. Waterproofing materials (e.g. tarpaulins) should be used as necessary to ensure the leading edges of all membranes and interior spaces are protected until the primary cladding and roofing is in place.
- Sealants or Membrane must not be used in locations below ground or that will be continuously in contact with water

LINING – PROCTORPASSIVE WRAPTITE SA

1. Wraptite membrane can be installed horizontally (2 person method) or vertically (1 person method)
2. Pre-cut the membrane to the required length then reroll with the release paper facing outwards and peel back the release paper and lightly apply the adhesive surface to the prepared substrate.
3. Using a hand roller or stiff brush smooth out any air bubbles, releasing the air by starting from the middle and working your way towards the edges. Overlaps must be minimum 75mm.
4. Run Wraptite over openings and leave covered until windows and doors are ready to be installed. Form openings in the membrane by cutting a 45° diagonal from each corner of the penetration. Fold back the flaps inside the opening and adhere to the penetration framing. Cut off excess Wraptite flush with the internal face of the wall frame. Install DriStud Cool Window Flashing Tape to NZBC E2/AS1, 9.1.5 or DriStud Cool Tape Installation Guide. It requires only one layer on the horizontal sill surface.
5. Use Flexible EPDM seals for wall cladding pipe and service penetration to E2/AS1.

LINING - VB20 VENTED CAVITY BATTEN

For cavity design requirements, refer to Weathertightness Design Requirements for New School Buildings, Version 3.0. September 2020, 9.4.6 Cavity Construction – Timber and Steel Framed Walls.

1. Install VB20 as a drained vented batten by peeling-off adhesive backing for temporary fixing and install over the wall underlay. Cladding fixings must be fixed through the VENT VB20 into the studs and dwangs.
2. Where cladding are fixed vertically and horizontal battens are required, VB20 are installed horizontally to allow free drainage and ventilation.
3. Where cladding is fixed horizontally, VB20 are installed vertically to allow ventilation. VB20 is BRANZ appraised and can be used as an alternative to the timber and polystyrene cavity battens specified within NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.4.
4. When installed horizontally and continuously, VB20 provides vermin proofing to the bottom of the drained cavity. If a durable life of more than 15 years is required, vermin proofing must be installed at the base of the cavity.

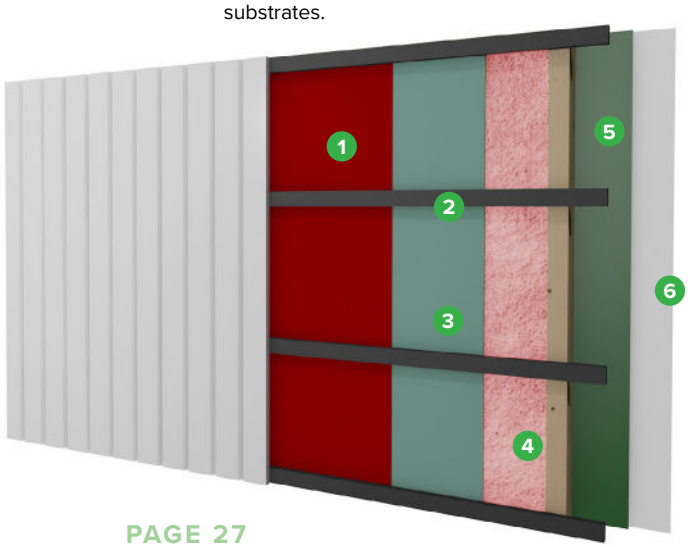
†LINING – PROCTORPASSIVE SMARTVAP VAPOUR CONTROL LAYER

SmartVap should be installed in accordance with AS/ NZS 4200.2 Pliable Building Membranes and Underlays, Part 2 Installation requirements.

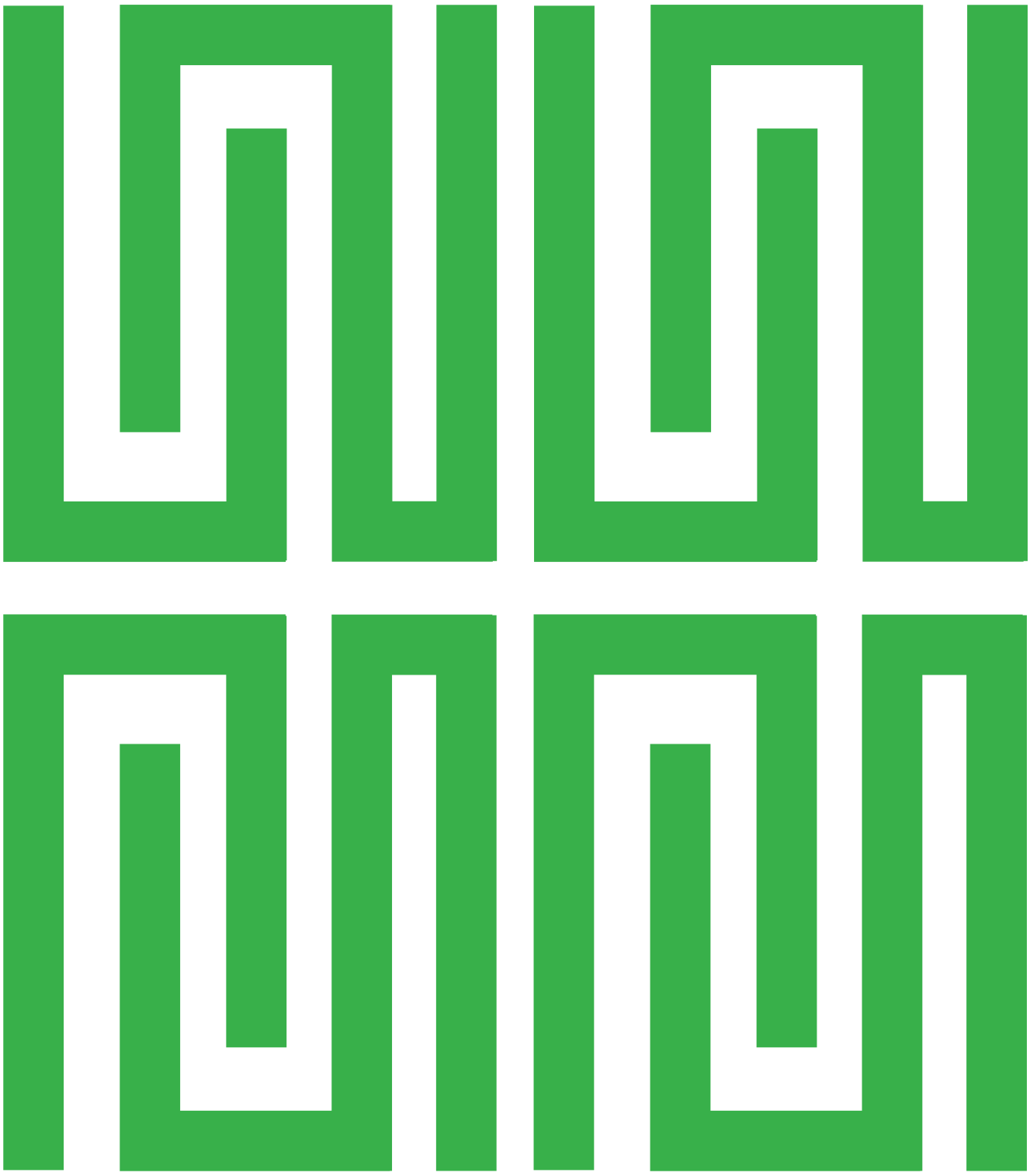
1. Install horizontally to the interior of stud walls, from bottom wall plate upwards, leaving a minimum 30mm loose at edges and the floor to allow for continuity of the air tight layer. To assist in aligning SmartVap, mark each stud at 1.47m from the floor level. Staple fix to timber frames at each stud within 50mm of the top edge of the SmartVap.
2. Smooth the SmartVap taut down the centre stud avoiding wrinkles. Staple from the floor plate upwards at maximum 150mm intervals.
3. Work outwards from the centre stud, repeating stage 2 on every stud.
4. Overlap the next run of SmartVap by 100mm, aligning the printed markings and fix as per stage 1 to 3. When forming a junction with the ceiling, ensure that a minimum 30mm is left loose to form an overlap as required to allow for continuity of the air tight layer.
5. When fixing to steel or aluminium, use tek screws with a minimum 20mm diameter or through battens. Use double sided tape if temporarily fixing to steel frames. Stainless steel fixings are recommended in harsh or corrosive environments. Although SmartVap is usually applied to the interior of framing when construction is well advanced, if likely to be exposed to high winds prior to installation of cladding and interior linings, users should determine if fixing details are appropriate.
6. Overlaps: Once the entire area is lined with SmartVap, seal all the overlaps with ProctorPassive UV Tape or DriStud Cool Window Flashing Tape. Press firmly using a roller using the 30mm printed lines as a guide for even application. Overlaps should be staggered and overlap over a solid element such as stud and taped.
7. Penetrations: It is recommended to use ProctorPassive UV Tape or DriStud Cool Tape with an additional piece of SmartVap fixed around the penetration and taped into position.

FIXINGS / FRAMING

- Framing must be specified and installed in accordance with NZBC 3604 and rigid wall underlays are installed in accordance with the manufacturers' specification.
- Minimal requirement of fixing: Proctor Passive Wraptite SA fully bonds without mechanical attachments to most substrates.



1. ProctorPassive Wraptite SA
2. Vented Cavity Batten VB20
3. Rigid Wall Underlay
4. Wall Insulation
5. ProctorPassive SmartVap
6. Wall Plasterboard



DRISPACE IS A DIVISION OF

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