



SYNTHETIC WALL UNDERLAY

Ideal for timber framed buildings

Thermakraft 220 is a fire retardant, absorbent, breathable wall underlay. It is a white non-woven polypropylene underlay, for use on timber framing behind exterior wall cladding. Thermakraft 220 offers a high degree of water vapour permeability.

ADVANTAGES

- » Can be used as a wall underlay on timber framed buildings with absorbent wall claddings and non-absorbent P.V.C wall cladding direct fixed to framing.
- » Can be used as a wall underlay on timber framed buildings with absorbent and non-absorbent wall cladding installed over an 18mm minimum drained cavity.
- » Is suitable for use in all Wind Zones of NZS 3604 up to, and including, "Very High", when used as standalone flexible underlay, and Extra High when used as a flexible underlay over a rigid wall underlay.
- » Will provide temporary weather protection during construction. (Max 42 Days)
- » Can be used as a non-rigid backing material for Stucco Plaster*.
- » May be used as a slip layer over rigid backing for Stucco Plaster*.
- » Is fire retardant*.
- » Unaffected by LOSP treated timber.
- » Not suitable as an air barrier in unlined walls.
- » For use on steel framing, Steelwrap 290 is recommended.

* Refer technical specifications



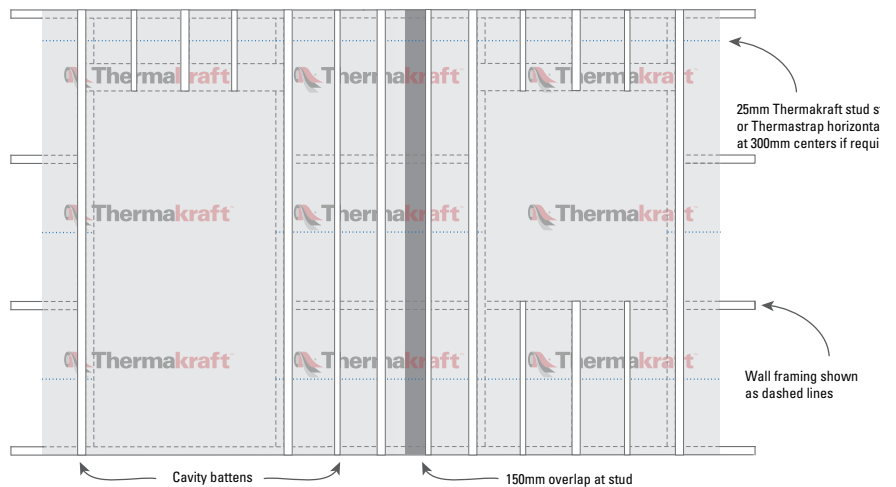
For additional details and latest specifications www.thermakraft.co.nz or scan QR code.



Thermakraft Wall Underlay

INSTALLATION PROCEDURES

1. Fix Underlay with printed side facing the exterior.
2. Fix to all exterior walls from below bearers to the top plate. Pull the underlay tight and fix securely to the frame with fasteners such as galvanized Little Grippers, 6mm-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.
3. Thermakraft underlays are available in two widths 2740mm and 1370mm. The 2740mm is generally wide enough to come from below the bottom plate to the top plate.
4. When fixing underlay to Steel framing the same procedures applies, use adhesive spray or tape or flat head screws to fasten to the framing or thermal break, the exterior cladding fastenings will act as the permanent fixings.
5. Cover all windows and door openings with underlay.
6. It is recommended that the wall underlay is not cut and prepared for window installation until the arrival of the windows.
7. A minimum of 150mm lap is required at joins, all vertical laps must be made over studs. Horizontal laps to be laid ship lap style allowing water to be shed to the outer face of the membrane.
8. When windows and doors are ready for installation, the underlay covering the openings should cut at 45 degree and folded into the opening and securely fastened.
9. NB. In accordance with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.8.5, wall wrap must be prevented from bulging into the drained cavity. Where stud spacing is greater than 450mm Thermakraft stud strap run horizontal at 300 centres is an acceptable means of prevention.
10. Once installed Thermakraft underlays may be left exposed to the weather (refer table below for Maximum time) Thermakraft underlays will provide temporary weather protection during construction allowing work to continue. Internal linings and insulation must not be installed until the exterior cladding is completed.
11. Fastenings behind Brick Veneer Cladding must have an equivalent service life to that of Brick Veneer (50 years). Refer to NZBC 3604 Table 4.1, and 4.3.
12. Make good any forced tears with Thermakraft White GP tape. Any large areas which require repair may be covered with a second layer of underlay, a lap of 150mm is required.



EXPOSURE TIME

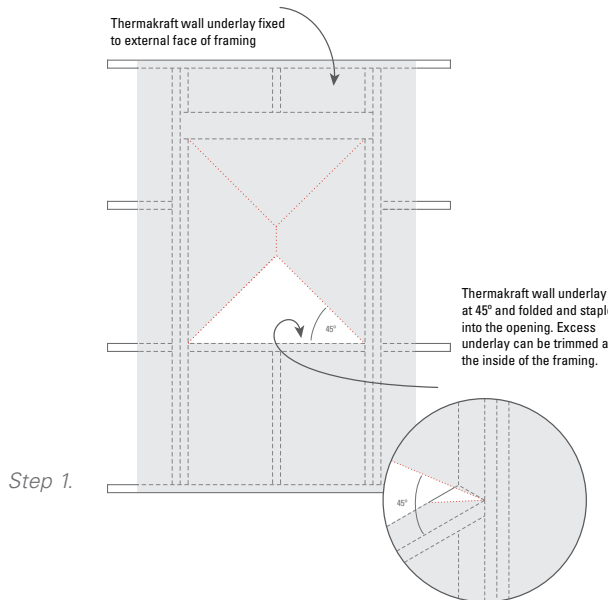
Product	Watergate Plus 295	SteelWrap 290	Thermakraft 220	Thermakraft 213/215	Covertex 403 Plus	Covertex 407/405
Max Days exposure	60	42	42	Wall application 28 Roof application 7	Wall Application: 42 Roof application: 7	Wall Application: 14 Roof application: 7

HANDLING AND STORAGE

- » Due to the width of the sheets care should be taken when installing in windy conditions due to the large sail effect.
- » Store in clean dry conditions, not in direct sunlight.
- » Ensure rolls are not damaged.
- » There are no environmental issues associated with the use of Thermakraft underlays.

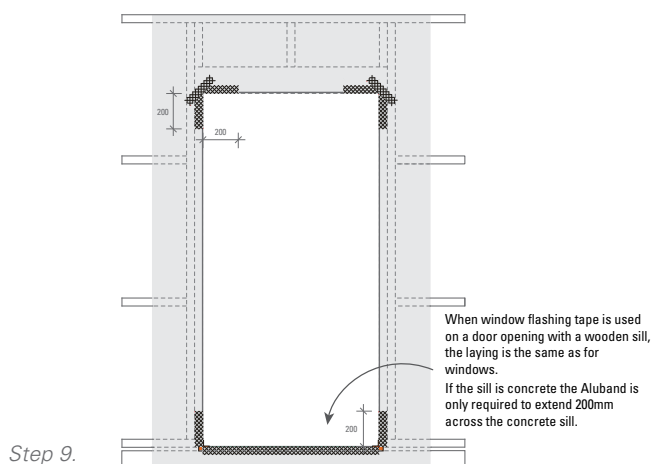
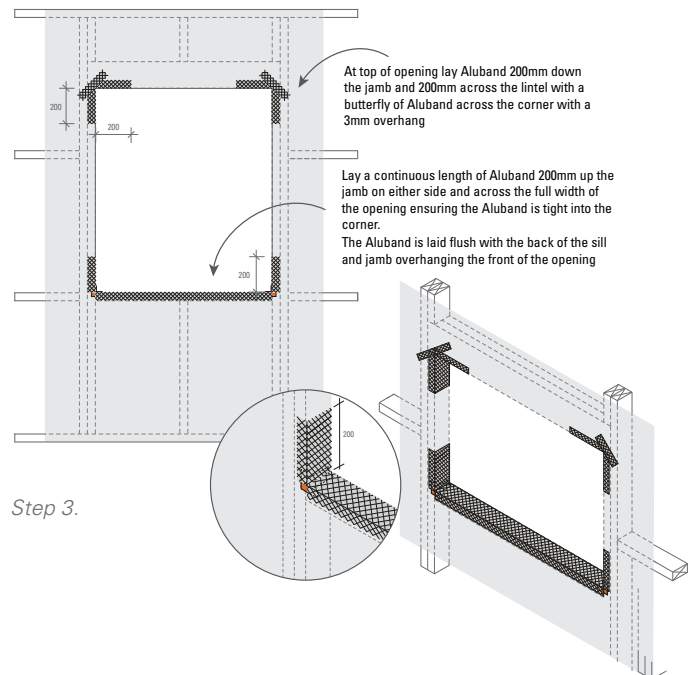
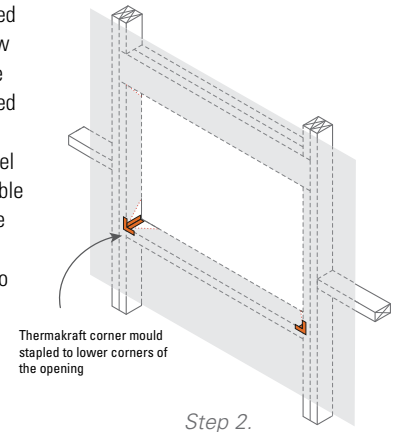
INSTALLATION DETAILS WINDOW FLASHING TAPE

1. Cut the wall underlay/air barrier at a 45° angle away from each corner. Fold flaps tightly into the window or door opening and fix with staples on the back faces of the framing.



3. Cut a length of Thermakraft window flashing tape the length of the sill plus 400mm.
4. The tape is installed flush with the interior face of the opening and applied to the full length of the opening and 200mm up the jamb.
5. Using the Thermakraft Tool, firmly press the tape onto the wall underlay to ensure good adhesion and ensure the tape is fitted tightly into the jamb to sill corners.
6. At the sill/jamb corners cut the tape from the external edge of the frame (200mm across lintel x 200mm down jamb) and press tape firmly for good adhesion.
7. Proceed to fit the Window Flashing Tape to the top corners of the frame (200mm across lintel x 200mm down jamb).
8. For window or door lintel to jamb junction, apply a butterfly using the 75mm wide x 100mm long Aluband/Bulldog. Fix at a 45° angle to the jamb with an overlap at the corner of 3mm.

2. Fix the Thermakraft Corner Moulded Piece to the bottom corners by way of staples or clouts to the two jambs. Always ensure that Aluband/Bulldog is applied to surfaces that are clean and free of dust, contaminants, solvents, oils or waxes. Note the following: 150mm wide tape is used for 100mm wide window or door framing, and the 200mm wide tape is used for 140mm to 150mm wide framing. (With steel framed houses use Double Sided Tape to attach the Thermakraft Aluband Corner Moulded Piece to metal framing).



9. Door frames are to be treated similarly to window openings. The sill may be either a timber or a concrete floor.
Window and door frames
 - a) Staple orange corner piece to the bottom corner sill. Place tape 200mm up the jambs and across the full width of the sill opening. Align tape with the back of the frame opening.
 - b) At the top corner place tape 200mm down the jamb and 200mm across the lintel. Place a strip of 75mm tape across the top corner.
10. Meter boxes with built-in flanges to be taped with Window Flashing Tape along each flange to the building underlay.
11. Window Flashing Tape is used to seal the up stand of the window head flashing to the building underlay. (Refer to the cladding manufacturer's details).

Thermakraft 220 - Technical Specification

Fire Retardant | Breathable | Absorbent | Non Woven | Wall Underlay

Thermakraft 220 can be used as a wall underlay on timber framed buildings within the following scope:

- » The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- » With absorbent wall claddings directly fixed to timber framing; and,
- » With non-metallic, non-absorbent wall claddings directly fixed to timber framing; and,
- » With absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity;
- » With masonry veneer in accordance NZBC Acceptable Solution E2/AS1; and,
- » Situated in NZS3604 Wind Zones up to, and including 'Very High' when used as standalone flexible underlay, and Extra High when used as a flexible underlay over a rigid wall underlay.
- » Can be used as a non-rigid backing material for Stucco Plaster in accordance with the requirements of NZBC Acceptable Solution E2/AS1 Paragraph 9.3.5.1. The underlay must be supported with 75mm galvanized mesh, or Thermakraft Stud Strap Hand Held or wire at 150mm centres run across cavity battens to limit deflection to a maximum of 5mm.
- » May also be used as a slip layer over rigid backing for Stucco Plaster in accordance with the requirements of NZBC E2/AS1 Paragraph 9.3.3.1(b).
- » Refer BRANZ Appraisal No 912 (2016) for full details.

Flammability Index

Thermakraft 220 Wall Underlay has an AS 1530 Part 2 Flammability Index of not greater than 5 and therefore meets the requirements of NZBC Acceptable Solutions C/AS2 to C/AS6, Paragraph 4.17.8 b), for the surface finish requirements of suspended flexible fabric used as an underlay to exterior cladding that is exposed to view in occupied spaces. It may therefore be used with no restrictions in all buildings.

Limitations

- » Must not be used as a roof underlay.
- » Is not suitable as an air barrier in unlined wall spaces.
- » Is not suitable for use behind direct fixed metal cladding.

Durability

Meets the Performance Requirements of NZBC Clauses B2, Durability (B2.3.1 (a) 50 years, B2.3.1 (b) 15 years and B2.3.2), E2 External Moisture, and F2 Hazardous Building Materials F2.3.1/C, providing;

- » It is not damaged
- » Is installed in accordance with instructions
- » Is not left exposed for more than 42 days
- » Is installed by or under guidance of Licensed Building Practitioners
- » Is compatible with cladding system used.

Table 1: NZBC E2/AS1 wall underlay requirements

NZBC E2/AS1 TABLE 23 (NZS2295) WALL UNDERLAY PROPERTIES	PROPERTY PERFORMANCE REQUIREMENTS	PROPERTY PERFORMANCE
Absorbency	≥ 100gsm	Pass
Vapour Resistance	≤ 7 MN.s/g	Pass
pH of Extract	≥5.5 and ≤ 8	Pass
Shrinkage	≤ 0.5%	Pass
Water Resistance	≥ 20mm	Pass
Air Resistance	≥ 0.1 MN.s/m ³	220 can NOT be used as an air barrier

Roll Dimensions

WIDTH (MM)	LENGTH (M)	M ²
1370	55	75
2740	36.5	100

*M² is the roll size for actual coverage, allow for laps and joins.



For additional details and latest specifications www.thermakraft.co.nz



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INTELLIGENT MEMBRANES FOR THE BUILDING INDUSTRY

The recommendations contained in Thermakraft's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to any conditions contained in the Warranty. All product dimensions and performance claims are subject to any variation caused by normal manufacturing process and tolerances. Furthermore, as the successful performance of the relevant system depends on numerous factors outside the control of Thermakraft (for example quality of workmanship and design), Thermakraft shall not be liable for the recommendations in that literature and the performance of the Product, including its suitability for any purpose or ability to satisfy the relevant provisions of the Building Code, regulations and standards. Literature subject to change without notification. Latest documentation can be found on the website.