

## SYNTHETIC ROOF & WALL UNDERLAY

*For Timber and Steel framed buildings*

**Covertex 403 Plus** is a fire retardant, absorbent and breathable synthetic roof and wall underlay, constructed using a microporous water resistant film sandwiched between two layers of spun-bonded polyolefin. Designed as a means of managing condensation, water vapour transfer and water ingress in roof and wall applications.

### ADVANTAGES

#### Roof

- » Suitable with masonry tile roof cladding.
- » Suitable with metal tile and profiled metal roof cladding.
- » Can be used as a roof underlay on roofs of 10° pitch or greater. Requires support.
- » Will provide temporary weather protection during construction (roofs 7 days) same day coverage recommended.
- » May be installed in adverse conditions.
- » May be run to any length, including under dark coloured roofs.
- » Has a 150mm lap line printed on each edge.

#### Wall

- » Can be used as a wall underlay on timber and steel framed buildings with absorbent wall and non-absorbent wall cladding direct fixed to framing.
- » Can be used as a wall underlay on timber and steel 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. (Walls 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.\*

#### General

- » Is fire retardant\*
- » Unaffected by LOSP treated timber.
- » Recyclable with no VOC's.
- » Tear resistant, light weight and strong.
- » Suitable as an air barrier in unlined walls.

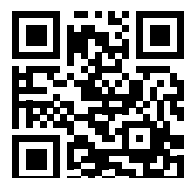
\* Refer technical specifications



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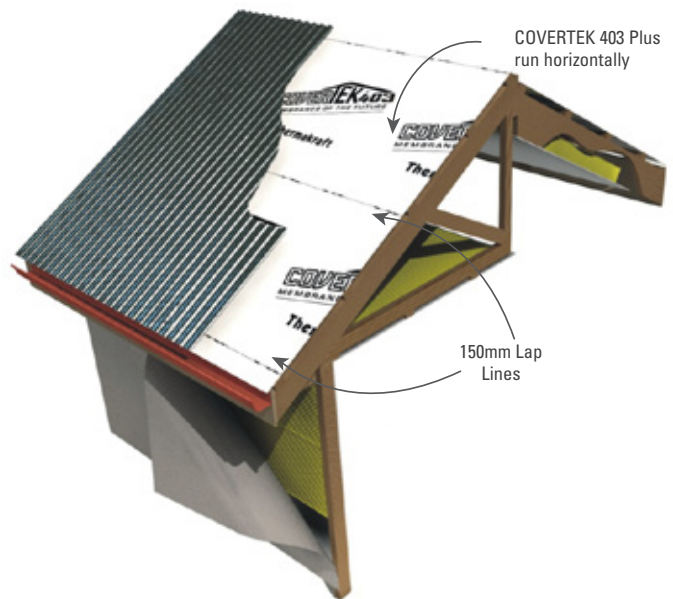
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# Thermakraft Roof Underlay

## INSTALLATION PROCEDURES

### DOMESTIC: LONG-RUN METAL ROOFING / VERTICAL OR HORIZONTAL INSTALLATION METHOD

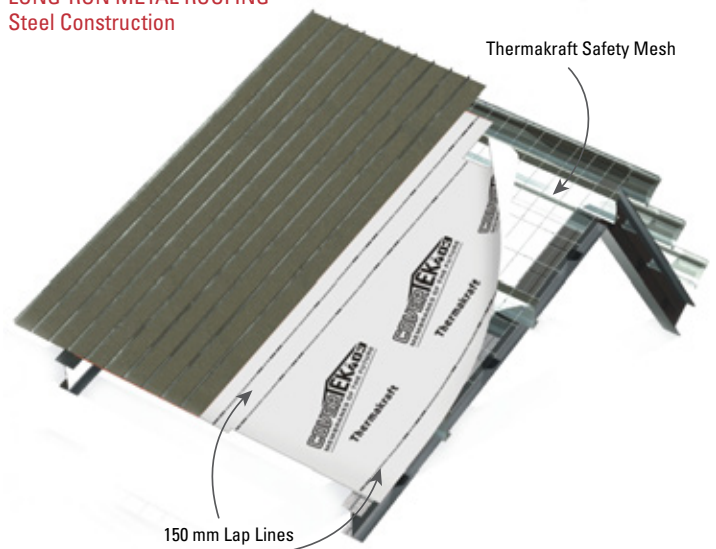
1. Covertek 403 Plus can be direct fix or cavity fix and must be installed in a manner that prevents ponding of water.
2. Covertek 403 Plus must be fully supported by Thermakraft Safety Mesh 300mm x 150mm, hexagonal netting 50mm or 75mm. Or suitable strapping, Thermastrap recommended under aluminum roofing.
3. For roof pitches below 10°, Covertek 405 or 407 recommended.
4. Must be laid firmly (tight) without creases. All laps either vertical or horizontal must be a minimum of 150mm lap.
5. Fix using stainless steel 8-12mm staples or 20mm flat head clouts, or appropriate proprietary fastenings.



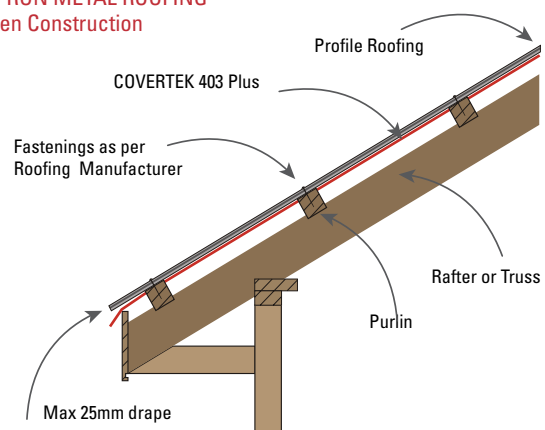
### COMMERCIAL: LONG-RUN METAL ROOFING >10°

1. Covertek 403 Plus shall be installed in a manner that prevents ponding of water by full support using Thermakraft Safety Mesh 300mm x 150mm, or hexagonal netting 50mm or 75mm. Or suitable strapping, Thermastrap recommended under aluminium roofing.
2. May be installed either vertically (same direction as cladding) or horizontally shiplapped.
3. All laps either horizontally or vertically must be at a minimum of 150mm.
4. To be lapped into gutter 25mm and extended up to and over ridge.
5. May be unwound to the full length from the gutter to the ridge. However, when ridge ventilation is required must be terminated at the ridge purlin to allow a free passage of air.
6. Flue penetrations must have a minimum distance of 50mm from the underlay (refer to NZ Metal Roof and Wall Cladding Code of Practice 4.3.8).
7. Must be free of tears and punctures, fit tightly and be lap taped around all penetrations (except flue penetrations), to provide drainage for any condensation, or surface water from leaks.  
NOTE: Penetrations where polybutylene water pipes have been installed. Refer Pipe Manufacturers for instructions on sealing penetrations.
8. Can be installed above the battens or purlins for profiled metal roof claddings and otherwise in accordance with NZBC E2/AS1.

### LONG-RUN METAL ROOFING Steel Construction



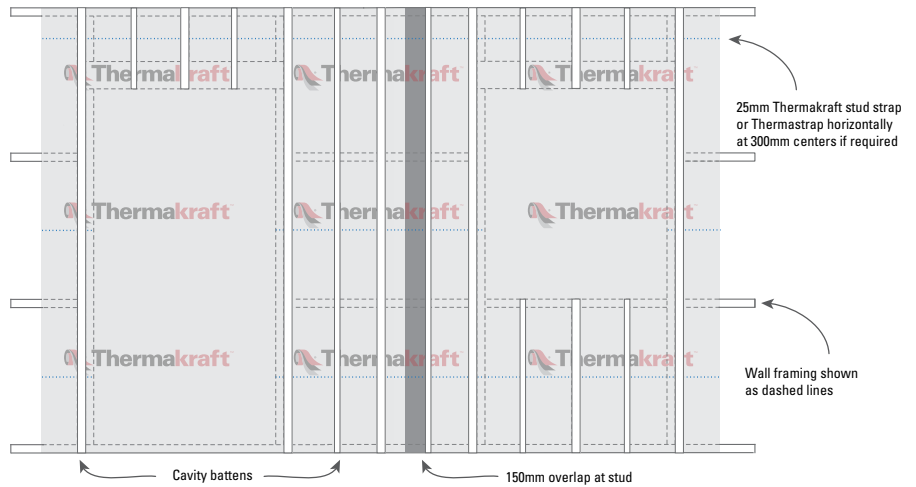
### LONG-RUN METAL ROOFING Wooden Construction



# 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° and folded into the opening and securely fastened. Thermakraft Aluband Window Sealing System is recommended as the window flashing system.
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 .

# Covertex 403 Plus - Technical Specification

Fire Retardant | Breathable | Absorbent | Non Woven | Underlay

**Wall:** Thermakraft Covertex 403 Plus can be used as a wall underlay on timber and steel framed buildings within the following scope:

- » The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area; and,
- » With absorbent and non-absorbent wall claddings directly fixed to timber and steel 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 for timber framed buildings, or to a specific design for steel framed buildings; 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 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 918 (2016) for full details.

**Roof:** Thermakraft Covertex 403 Plus can be used as a roof underlay on timber and steel framed buildings within the following scope:

- » The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area; and,
- » With masonry tile roof cladding; and
- » With metal tile and profiled metal roof cladding; and,
- » Situated in NZS3604 Wind Zones up to, and including Extra High (ROOF ONLY).
- » Can be used as a Roof underlay on roofs of 10° pitch or greater. Requires support.
- » Refer BRANZ Appraisal No 917 (2016) for full details.

## Flammability Index

Thermakraft Covertex 403 Plus Wall Underlay has an AS 1530 Part 2 Flammability Index of not greater than 5 and therefore meet 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

- » Is suitable as an air barrier in unlined wall spaces.

## NZBC

Contributes to meeting the Performance Requirements of NZBC Clauses B2, Durability (B2.3.1 (a) 50 years, B2.3.1 (b) 15 years and B2.3.2), C3 Fire affecting areas beyond the fire source C3.4 (c) E2 External Moisture E2.3.2), and F2 Hazardous Building Materials F2.3.1, providing:

- » It is not damaged.
- » Is installed in accordance with instructions.
- » Is not left exposed for more than 42 days (wall), 7 days (roof), same day coverage recommended.
- » Is installed by or under guidance of Licensed Building Practitioners.
- » Is compatible with cladding system used.

**Table 1: NZBC E2/AS1 (NZS2295) wall and roof underlay requirements**

NZBC E2/AS1 TABLE 23 (NZS2295) WALL UNDERLAY PROPERTIES	PROPERTY PERFORMANCE REQUIREMENTS	PROPERTY PERFORMANCE
Absorbency	≥ 150gsm	Pass
Vapour Resistance	≤ 7 MN.s/g	Pass
pH of Extract	≥ 5.5 and ≤ 8	Pass
Shrinkage	≤ 0.5%	Pass
Water Resistance	≥ 100mm	Pass
Air Resistance	≥ 0.1 MN.s/m <sup>3</sup>	403 Plus can be used as an air barrier

## Roll Dimensions

WIDTH (MM)	LENGTH (M)	M <sup>2</sup>
1350	18.6	25
1350	37.0	50
1350	55	75

Made to length also available.

M<sup>2</sup> is the roll size for actual coverage, allow for laps and joins.

## Control of Condensation

In climatic regions where condensation risks are high, such as cold or high humidity areas, care needs to be taken in specifying the correct design and installation to prevent moisture build-up in the roof cavities.

Factors which adversely affect the condensation risk in roofing systems include;

- » Humid, and/or cold climatic regions.
- » Warm/Skillion roof construction.
- » Low roof cavity air volume and restricted air movement.
- » Omitting Vapour Control Layers.
- » Ceiling penetrations and entry of warm air into roof cavities.
- » Occupancy activities which have high moisture loading on conditioned spaces.
- » Low pitched roof.
- » Bulk insulation.
- » Building structures ability to naturally dry construction moisture.

Skillion and Warm Roof Construction are particularly sensitive to moisture accumulation and the design and installation of roof construction needs to take into account the higher condensation risks. Refer MRM Code of Practice for details.



For additional details and latest specifications [www.thermakraft.co.nz](http://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.