FIRE RETARDANT ABSORBENT BREATHTABLE SYNTHETIC
NON-WOVEN ROOF AND WALL UNDERLAY
**FIRE RETARDANT**

**APPLICATION AND INSTALLATION**

**Product Description**

**COVERTEK 403** FIRE RETARDANT ABSORBENT BREATHABLE SYNTHETIC NON-WOVEN ROOF AND WALL UNDERLAY consists of a microporous water resistant film, sandwiched between two layers of mould and shrink resistant spun-bonded polyolefin, and is designed as a condensation control for roofs and walls.

**COVERTEK 403** is a five layer polymer structure that is designed to prevent water penetration without impeding the passage of water vapour.

**COVERTEK 403** is manufactured with an upper layer of tear resistant synthetic spun-bond, and a lower layer of tear resistant synthetic spun-bond facing down. Both layers are designed to protect the inner water resistant microporous membrane.

**Flammability**

**COVERTEK 403** has a flammability index ≤5 and therefore meets the requirements of NZBC Acceptable Solutions C/AS1 Part 6 Table 6.2 for surface finish requirements for suspended flexible fabric, and therefore it may be used without restrictions in all buildings.

**Product Advantages**

**COVERTEK 403** is a unique layer membrane with these important features:

- can be used in direct fix or cavity fix for roof and wall construction
- is more stable and more shrink resistant than kraft based products
- may be installed during adverse conditions (rain) without affecting its durability and performance
- will not increase risk of condensation as compared with comparable kraft underlays
- has an edge tear greater than 140N
- has a 150mm lap line printed on each edge.

**Application**

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

**COVERTEK 403** can be direct fix or cavity fix and must be installed in a manner that prevents ponding of water, and span no more than 300mm without additional support.

For purlin spacings greater than 300mm **COVERTEK 403** must be supported by ThermaKraft Safety Mesh 300mm x 150m, or hexagonal netting 50mm or 75mm.

For roof pitches below 10 degrees, refer to **COVERTEK 407** FIRE RETARDANT SELF SUPPORTING ABSORBENT BREATHABLE SYNTHETIC NON-WOVEN ROOF UNDERLAY.

**COVERTEK 403** must be laid firmly (tight) without creases. All laps either vertical or horizontal must have a minimum of 150mm lap. To achieve a lap seal (refer to NZ Metal Roofing Code of Practice 4.3.8 and 4.3.9), use ThermaKraft Window Sealing Tape ALBAND.

**COVERTEK 403** Fix using stainless steel 8-12mm staples or 20mm flat head clouts, or appropriate proprietary fastenings.
COMMERCIAL: LONG-RUN METAL ROOFING >10°

COVERTEK 403 shall be installed in a manner that prevents ponding of water by full support using Thermakraft Safety Mesh 300mm x 150m, or hexagonal netting 50mm or 75mm.

COVERTEK 403 may be installed either vertically (same direction as the roof) or horizontally using the shiplap method. All laps either horizontally or vertically must be at a minimum of 150mm.

COVERTEK 403 to be lapped into gutter 20mm and extended up to and over ridge.

COVERTEK 403 may be unwound to the full length from the gutter to the ridge. However, when ridge ventilation is required, COVERTEK 403 must be terminated at the ridge purlin to allow a free passage of air.

Flue penetrations must have a minimum distance of 50mm from the COVERTEK 403 (refer to NZ Metal Roof and Wall Cladding Code of Practice 4.3.8).

COVERTEK 403 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: Do not use ALUBAND on penetrations where Polybutene water pipes have been installed. Refer Pipe Manufacturers for instructions on sealing penetrations.

COVERTEK 403 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

Wooden Construction

Fastenings as per Roofing Manufacturer

Profile Roofing

Max 25mm drape

Steel Construction

Rafter or Truss

COVERTEK 403

Purlin

150mm Lap Lines

Thermakraft Safety Mesh

For more information regarding Thermakraft ALUBAND Window Sealing System (BRANZ No.614 (2008) refer to the “APPLICATION and INSTALLATION GUIDELINES” or contact Thermakraft Customer Services on 0800 806 595.
**APPLICATION AND INSTALLATION . . . contd**

**Application**

**WALL**

**COVERTEK 403** can be used as a wall underlay on timber framed buildings with absorbent and non-absorbent wall claddings directly fixed to the framing.

**COVERTEK 403** can be used as a wall underlay on steel framed buildings with absorbent and non-absorbent wall claddings.

**COVERTEK 403** is suitable for use in all Building Wind Zones of NZS 3604 up to, and including "Very High".

**COVERTEK 403** will provide temporary weather protection during construction. Translucency of the underlay will enable work to proceed during inclement weather.

**COVERTEK 403** 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 in accordance with the requirements of NZBC Acceptable Solution E2/AS1 Paragraph 9.3.5.2.

**COVERTEK 403** 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 (b).

**COVERTEK 403** is unaffected by LOSP treated timbers.

**COVERTEK 403** must be fixed with printed side out and the non-printed side to the frame.

1. **COVERTEK 403** is applied to all exterior walls from below bearers to the top plate. Fix securely to the frame with fasteners such as galvanised ‘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.

**NOTE:** Fastenings behind Brick Veneer Cladding must have an equivalent service life to that of Brick Veneer (50 years). Refer to NZBC E2/AS1 Table 20. **NOTE:** All vertical laps must be made over studs. Make good any forced tears with tape.

**IMPORTANT NOTE:** Drained Cavity System; in accordance with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.8.5, where stud spacings are greater than 450mm centres, an intermediate means of restraining the building underlay and insulation from bulging into the drained cavity shall be installed. An acceptable means of achieving this is **Thermakraft Stud Strap** fixed horizontally at 300mm centres.

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2. Whether installing **COVERTEK** **403** horizontally or vertically, a minimum of 150mm lap is required at joins, and all vertical laps must be made over studs. Make good repairs on any forced tears with **Thermakraft ALU BAND** Window Sealing Tape.

3. **COVERTEK** **403** Initially cover all windows and door openings. Use extra fastenings around each window or door opening to be cut out. It is recommended that the wall underlay is not cut and prepared for window installation until the arrival of the windows.

   Fix securely to the frame with fasteners such as galvanized “Little Grippers”.

   On arrival of doors and windows, cut the **Thermakraft** at each opening on a 45° angle away from each corner. Pull the flaps inside and fasten to inside of frame.

   Application of **Thermakraft** **Stud Strap** for cavity construction where studs spaced >450mm.

4. **Thermakraft** **ALU BAND** Window Sealing System is applied prior to fitting windows.

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**Storage**

**COVERTEK** **403** should be stood on end in dry conditions. Protect from the weather and direct sunlight.

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**Roll Dimensions**

**COVERTEK** **403**

<table>
<thead>
<tr>
<th>Width</th>
<th>Length</th>
<th>Area</th>
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<tbody>
<tr>
<td>1350mm</td>
<td>55.6m</td>
<td>75m²</td>
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<tr>
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<td>37.0m</td>
<td>50m²</td>
</tr>
<tr>
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</table>

E. & O. E.
TECHNICAL SPECIFICATIONS

WALL

**Product Specifications**

*FIRE RETARDANT ABSORBENT BREATHABLE SYNTHETIC NON-WOVEN ROOF AND WALL UNDERLAY* 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
- with absorbent and non-absorbent wall claddings directly fixed to the framing; and,
- with absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity; and,
- with masonry veneer in accordance with NZS 3604; and,
- situated in NZS 3604 Building Wind Zones up to, and including “Very High”.

* COVERTEK™ can be used as a wall underlay on steel framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1
- with absorbent and non-absorbent wall claddings
- with masonry veneer in accordance with NZS 3604
- situated in NZS 3604 Building Wind Zones up to, and including “Very High”.

* COVERTEK™ 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, C/AS1 Part 6 Table 6.2 Flammability ≤5, E2 External Moisture, and F2 Hazardous Building Materials F2.3.1.

**Durability Requirements**

* COVERTEK™ 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, C/AS1 Part 6 Table 6.2 Flammability ≤5, E2 External Moisture, and F2 Hazardous Building Materials F2.3.1., providing:

- it is not damaged
- installed in accordance to the Thermakraft “Application and Installation Guidelines”
- it is not left exposed for more than 7 days
- installed by or under guidance of Licensed Building Practitioners
- is compatible with cladding system used.

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TECHNICAL SPECIFICATIONS

ROOF

COVERTEK 403 FIRE RETARDANT ABSORBENT BREATHABLE SYNTHETIC NON-WOVEN ROOF AND WALL UNDERLAY can be used as a roof underlay on 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 roof cladding; and,
• situated in NZS 3604 Building Wind Zones up to, and including “Very High”.

Product Specifications

COVERTEK 403 installation must always be carried out in accordance with:

• Thermakraft “Application and Installation Guidelines”
• Installed by or under the direct supervision of a licensed Building Practitioner or qualified Roofer
• NZBC Acceptable Solution E2/AS1 Paragraph 8.0 - 8.4
• NZ Metal Roofing Manufacturers Roof and Wall Cladding Code of Practice
• Metal Roof / Tile Manufacturers specifications

COVERTEK 403 must not be left exposed to direct sunlight or UV light sources during its serviceable life; must not be left exposed to the elements on the roof for more than 7 days before being covered;

The design application and installation of COVERTEK 403 must follow sound condensation management principles, making use of ventilation and vapour control layers where necessary.

Durability Requirements

COVERTEK 403 will meet the Performance Requirements of NZBC:

• Clauses B2 Durability B2.3.1 (a) not less than 50 years, B2.3.1 (b) 15 years and B2.3.2
• Clause C Part 6 Table 6.2: Flammability Index ≤5
• Clause E2 External Moisture: Performance E2.3.2 when used as part of the Roof Cladding System
• Clause F2 Hazardous Building Materials: Performance F2.3.1 will not present a health hazard to people.

| TABLE 1: NZBC E2/AS1 ALTERNATIVE SOLUTION TO TABLE 23 AS A ROOFING UNDERLAY REQUIREMENT |
|---------------------------------|-----------------|-----------------|
| NZBC E2/AS1 TABLE 23 ROOF UNDERLAY PROPERTIES | PROPERTY PERFORMANCE REQUIREMENT | ACTUAL PROPERTY PERFORMANCE |
| Absorbency | ≥150 g/m² | ≥150 g/m² |
| Vapour Resistance | <7 MN.s/g | Pass |
| pH of Extract | >6 and <9 | Pass |
| Shrinkage | <0.5% | Pass |
| Water Resistance | ≥100mm | Pass |

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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.

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.