



BRANZ Appraised

Appraisal No. 329 [2022]

THERMAKRAFT™ SUPERCOURSE 500 DAMP-PROOF COURSE AND CONCEALED FLASHING

Appraisal No. 329 [2022]

This Appraisal replaces BRANZ
Appraisal No. 329 [2016]

Amended 29 August 2023



BRANZ Appraisals

Technical Assessments of products
for building and construction.



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Product

- 1.1 Thermakraft™ Supercourse 500 is a single layer black polyethylene film, embossed on both faces to produce a small diamond pattern. It is for use as a general damp-proof course (DPC), and also as a concealed flashing for masonry veneer cladding.

Scope

- 2.1 Thermakraft™ Supercourse 500 has been appraised for use as a DPC for separating timber, wood-based products and metal from concrete, masonry or clay brick in accordance with NZS 3604.
- 2.2 Thermakraft™ Supercourse 500 has also been appraised for use as a DPC and flashing in masonry veneer walls in accordance with NZBC Acceptable Solution E2/AS1.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Thermakraft™ Supercourse 500 Damp-Proof Course and Concealed Flashing, if used, designed, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet, or contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (a) not less than 50 years and B2.3.2. Thermakraft™ Supercourse 500 meets these requirements. See Paragraph 8.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2 and E2.3.3. When used as a flashing as part of a masonry veneer cladding system, Thermakraft™ Supercourse 500 contributes to meeting the requirements of E2.3.2. When used as a DPC, Thermakraft™ Supercourse 500 meets the requirements of E2.3.3. See Paragraphs 11.1 and 11.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Thermakraft™ Supercourse 500 meets this requirement.



Technical Specification

- 4.1 Thermakraft™ Supercourse 500 is a 0.5 mm thick, extruded polyethylene film. It consists of a single layer of black polyethylene, embossed on both faces to produce a small diamond pattern. The total thickness of the product after embossing is 0.75 mm. Thermakraft™ Supercourse 500 is supplied in rolls 30 m long and is available in widths of 50, 75, 90, 100, 150, 200, 250, 300, and 500 mm. Other widths are available upon request.
- 4.2 Each roll is labelled with the product name, dimensions, standards reference and manufacturer's information.

Handling and Storage

- 5.1 Handling and storage of the product, whether on-site or off-site, is under the control of the installer. The rolls must be protected from damage and weather and must be stored under cover, in clean, dry conditions.

Technical Literature

- 6.1 This Appraisal must be read in conjunction with:
 - Installation Guide, Thermakraft™ Supercourse 500, Issue 4.0, dated September 2022.
 - Product Data Sheet, Thermakraft™ Supercourse 500, Issue 7.0, dated August 2023.
- 6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

- 7.1 Thermakraft™ Supercourse 500 exceeds the vapour resistance requirements of NZBC Acceptable Solution E2/AS1, Table 23 for DPCs and is a suitable moisture impermeable alternative to bituminous DPCs.
- 7.2 Thermakraft™ Supercourse 500 is intended for use as a DPC separating timber, wood-based products and metal from concrete or masonry elements, or where required, timber jack studs or bearers from concrete or timber piles, e.g. where required by NZS 3604, Paragraph 2.3.3 and Figure 6.3. When used as a DPC, the roll width selected must enable the Thermakraft™ Supercourse 500 to extend at least 6 mm beyond each face of the timber in accordance with the requirements of NZS 3604, Paragraph 2.3.3 b].
- 7.3 Thermakraft™ Supercourse 500 is also intended for use as a flashing material with masonry veneer in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.2.4 and also as a DPC in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.2.5.

Timber Treatment

- 7.4 Thermakraft™ Supercourse 500, when used as a DPC or flashing, is suitable for use in contact with timber treated with light organic solvent preservative (LOSP) or water-based timber preservatives. The solvent from the timber treatment must be allowed to evaporate (generally at least one week) prior to the installation of Thermakraft™ Supercourse 500.

Exposure Zone Fixing Selection

- 7.5 Where Thermakraft™ Supercourse 500 is used as a flashing behind masonry veneer, fixings shall be hot-dip galvanised clouts in NZS 3604 Exposure Zones B and C, and stainless steel clouts in Exposure Zone D.



Durability

Serviceable Life

- 8.1 Thermakraft™ Supercourse 500 is expected to have a serviceable life in excess of 50 years when it is installed in accordance with the requirements of this Appraisal and the Technical Literature, provided it is not exposed to the weather or ultraviolet (UV) light for a total of more than 30 days, and is never exposed to chemicals or solvents that will degrade polyethylene.

Control of Internal Fire and Smoke Spread

- 9.1 DPCs and flashings are exempt from the surface finish requirements of NZBC Acceptable Solutions C/AS1 and C/AS2 by NZBC Acceptable Solution C/AS1, Paragraph 4.3 e), and NZBC Acceptable Solution C/AS2, Paragraph 4.17.6 e).

Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to Thermakraft™ Supercourse 500 from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

- 11.1 Thermakraft™ Supercourse 500, when installed as a flashing in accordance with the Technical Literature and this Appraisal, will assist in the masonry veneer cladding system meeting the performance requirements of NZBC Clause E2.3.2.
- 11.2 Thermakraft™ Supercourse 500, when used as a DPC in accordance with the Technical Literature and this Appraisal, prevents walls, floors and structural elements in contact with the ground from absorbing or transmitting moisture in quantities that could cause undue dampness or damage to building elements to meet the performance requirements of NZBC Clause E2.3.3.

Installation Information

Installation Skill Level Requirement

- 12.1 All design and building work must be carried out in accordance with the Thermakraft™ Supercourse 500 Technical Literature and this Appraisal by competent and experienced tradespersons conversant with DPC and flashing installation. Where the work involves Restricted Building Work (RBW) this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

Installation

General

- 13.1 Rolls of Thermakraft™ Supercourse 500 may be cut to length with a sharp knife.

DPC Installation

- 13.2 The surfaces to be separated must be smooth and flat, free from projections such as small stones or sharp ridges that may puncture the membrane when pressure is applied.
- 13.3 When used to separate timber and wood-based products from concrete or masonry, Thermakraft™ Supercourse 500 should be temporarily held in place with small hot-dip galvanised clouts or zinc plated staples. The strip of DPC must be wide enough to fully protect the width of the material in contact with the concrete or masonry. Refer also to Paragraph 7.2.
- 13.4 When used under timber plates fixed over concrete floor slabs and foundation walls, a small slit should be made in the material before pushing down over the bolts or fixings. Alternatively, a small hole can be formed by gently tapping the product resting on top of the bolt until a puncture is formed.



Flashing Installation

- 13.5 Thermakraft™ Supercourse 500 must be fixed in place to framing members at maximum 300 mm centres with small hot-dip galvanised clouts.
- 13.6 Horizontal and vertical joints must be no less than 75 mm wide, with the direction of the lap ensuring that water is shed to the outer face of the flashing.
- 13.7 At the sill/jamb junction, the jamb flashing must overlap the sill flashing.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

- 14.1 The following tests have been carried out on Thermakraft™ Supercourse 500: water permeability, thickness, mass per unit area, pigment, impact resistance, and labelling, all in accordance with AS/NZS 2904 and AS/NZS 4347. The test results have been reviewed by BRANZ experts and found to be satisfactory.

Other Investigations

- 15.1 Durability and weathertightness opinions were given by BRANZ technical experts.
- 15.2 Site inspections have been carried out by BRANZ to assess the practicability of installation.
- 15.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

- 16.1 The manufacture of Thermakraft™ Supercourse 500 has not been examined by BRANZ, but details of the quality and composition of the materials used were obtained and found to be satisfactory. BRANZ undertakes an ongoing review of product quality on an inwards goods basis.
- 16.2 The quality of supply to the market is the responsibility of Kingspan Insulation NZ Limited.
- 16.3 Building designers are responsible for the design of the building, and for the incorporation of Thermakraft™ Supercourse 500 into their design in accordance with the instructions of Kingspan Insulation NZ Limited.
- 16.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Kingspan Insulation NZ Limited.

Sources of Information

- AS/NZS 2904:1995 Damp-proof courses and flashings.
- AS/NZS 4347:1995 Damp-proof courses and flashings - Methods of test.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4229:2013 Concrete masonry buildings not requiring specific engineering design.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No.1, dated 29 August 2023

This Appraisal has been amended to update the Appraisal Holder, to omit roll widths of 140, 400 and 1,000 mm, and to update the technical literature.



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09 February 2022

THERMAKRAFT™ SUPERCOURSE 500
DAMP-PROOF COURSE AND
CONCEALED FLASHING



In the opinion of BRANZ, **Thermakraft™ Supercourse 500 Damp-Proof Course and Concealed Flashing** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Kingspan Insulation NZ Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the Technical Literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Kingspan Insulation NZ Limited:**
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by **Kingspan Insulation NZ Limited**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Kingspan Insulation NZ Limited** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

09 February 2022