



BRANZ Appraised
Appraisal No. 849 [2014]

TRADE-COURSE DPC AND FLASHING



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BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 TRADE-COURSE DPC is a general damp-proof course (DPC) and flashing manufactured from 100% recycled polyethylene.

Scope

- 2.1 TRADE-COURSE DPC has been appraised for use as a damp-proof course within the following scope:
- for separating timber, wood-based products and metal from concrete, masonry or clay brick in accordance with NZS 3604.
- 2.2 TRADE-COURSE DPC has also been appraised for use as a damp-proof course 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, TRADE-COURSE Damp-Proof Course, 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. TRADE-COURSE DPC 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, TRADE-COURSE DPC will contribute to meeting the requirements of E2.3.2. When used as a DPC, TRADE-COURSE DPC will meet the requirements of E2.3.3. See Paragraphs 11.1 and 11.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. TRADE-COURSE DPC meets this requirement and will not present a health hazard to people.

- 3.2 This is an Appraisal of an **Alternative Solution** DPC in terms of the New Zealand Building Code compliance. This is also an Appraisal of an **Acceptable Solution** flashing when used behind masonry veneer in accordance with NZBC Acceptable Solution E2/AS1.

Technical Specification

- 4.1 TRADE-COURSE DPC is a 100% recycled polyethylene damp proof course with an embossed pattern on both sides. TRADE-COURSE DPC is supplied in rolls 30 m long and is available in widths of 50, 75, 90, 100, 150, 200, 250 and 300 mm and is 500 µm (0.5 mm) thick.
- 4.2 Each roll is labelled with the product name, dimensions and manufacturer's information.

Handling and Storage

- 5.1 Handling and storage of the product, whether on 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 Refer to the Appraisals listings on the BRANZ website for details of the current Technical Literature for TRADE-COURSE DPC. The Technical Literature must be read in conjunction with this Appraisal. 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 TRADE-COURSE DPC exceeds the vapour resistance requirements of NZBC Acceptable Solution E2/AS1, Table 23 for DPC's and is a suitable moisture impermeable alternative to bituminous DPC's.
- 7.2 TRADE-COURSE DPC 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 TRADE-COURSE DPC 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 TRADE-COURSE DPC 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 TRADE-COURSE DPC 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 TRADE-COURSE DPC.

Exposure Zone Fixing Selection

- 7.5 Where TRADE-COURSE DPC is used as a flashing behind masonry veneer, fixings shall be hot dip galvanised clouts in Exposure Zones B and C and stainless steel clouts in Exposure Zone D.

Durability

Serviceable Life

- 8.1 TRADE-COURSE DPC 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 ultra-violet [UV] light for a total of more than 14 days.

Control of Internal Fire and Smoke Spread

- 9.1 Damp-proof courses and flashings are exempt from the surface finish requirements of NZBC Acceptable Solutions C/AS1 - C/AS6 by NZBC Acceptable Solution C/AS1, Paragraph 4.2.2 e), and NZBC Acceptable Solutions C/AS2 - C/AS6, Paragraph 4.17.6 e).

Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to TRADE-COURSE DPC from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 - C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

- 11.1 TRADE-COURSE DPC, 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 Clause E2.3.2.
- 11.2 TRADE-COURSE DPC when used as a DPC in accordance with 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 Clause E2.3.3.

Installation Information

Installation Skill Level Requirements

- 12.1 Installation must always be carried out in accordance with the Technical Literature and this Appraisal, by competent tradespersons with an understanding of DPC and flashing installation.

TRADE-COURSE DPC Installation

General

- 13.1 Strips of TRADE-COURSE DPC 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, TRADE-COURSE DPC should be temporarily held in place with small hot-dip galvanised clouts. 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 cast in bolts or fixings.

Flashing Installation

- 13.5 TRADE-COURSE DPC must be fixed in place to framing members at maximum 300 mm centres with small clouts. Refer to Paragraph 7.5.
- 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 test has been carried out by BRANZ:
 - Water vapour transmission testing to ASTM E96.
- 14.2 The material properties of TRADE-COURSE DPC has been assessed as meeting the requirements AS/NZS 2904.

Other Investigations

- 15.1 Durability and weathertightness opinions were given by BRANZ technical experts.
- 15.2 The practicability of installation has been assessed by BRANZ and found to be satisfactory.
- 15.3 The Technical Literature, including installation instructions, has been examined by BRANZ and found to be satisfactory.

Quality

- 16.1 The manufacture of TRADE-COURSE DPC has been examined by BRANZ, and details of the methods adopted for quality control and the quality of the materials used, have been obtained.
- 16.2 The quality of supply to the market is the responsibility of Marshall Innovations Ltd.
- 16.3 Building designers are responsible for the design of the building, and for the incorporation of TRADE-COURSE DPC into their design in accordance with the instructions of Marshall Innovations Ltd.
- 16.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Marshall Innovations Ltd.

Sources of Information

- ASTM E96: 1992 Standard Test Methods for Water Vapour Transmission of Materials.
- AS/NZS 2904: 1995 Damp-proof courses and flashings.
- NZS 3604: 2011 Timber Framed Buildings.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 [Amendment 6, 14 February 2014].
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **TRADE-COURSE DPC and 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 **Marshall Innovations 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. **Marshall Innovations 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 **Marshall Innovations 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 **Marshall Innovations Limited** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

13 May 2014