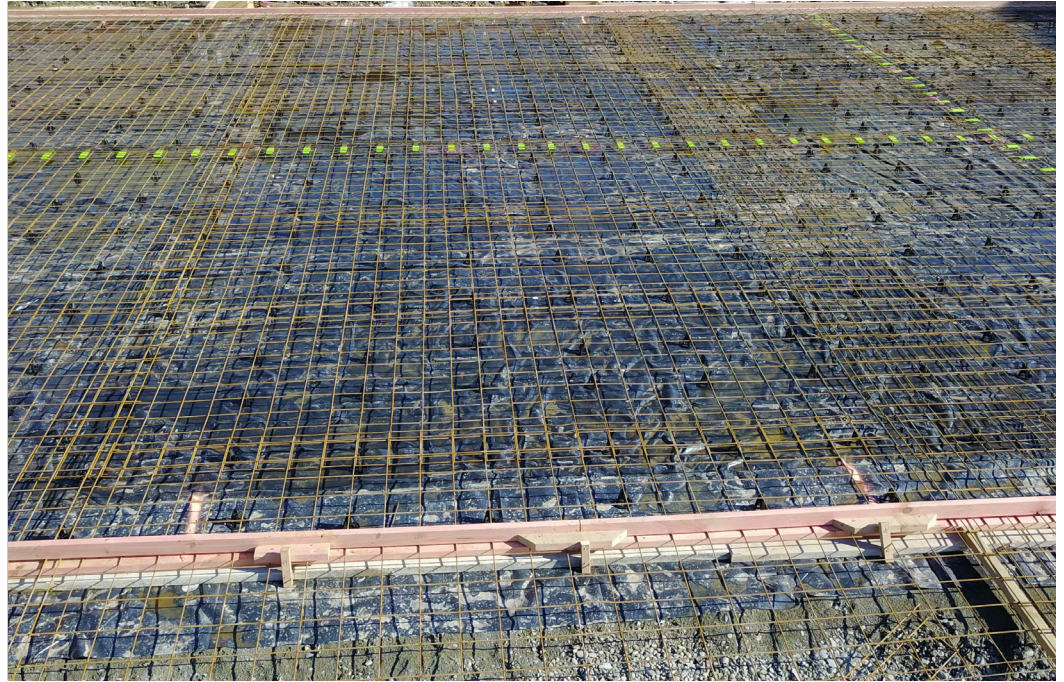




BRANZ Appraised
Appraisal No. 1030 [2018]

RHINO BUILDING POLYTHENE

Appraisal No. 1030 [2018]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 Rhino Building Polythene is a black polythene sheet for use as a damp-proof membrane (DPM) under floor slabs.

Scope

- 2.1 Rhino Building Polythene has been appraised for use as a DPM under concrete slab-on-ground complying with NZS 3604 or NZS 4229.
- 2.2 Rhino Building Polythene has also been appraised for use as a DPM on buildings subject to specific design within the following scope:
 - where the DPM is laid on a granular base prepared to not damage the DPM; and,
 - where the DPM is adequately protected against damage in service.
- 2.3 Installation of Rhino Building Polythene must be completed by a Licensed Building Practitioner in accordance with the Agpac Ltd Technical Literature.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Rhino Building Polythene if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (a) not less than 50 years. Rhino Building Polythene meet this requirement. See Paragraph 8.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.3. Rhino Building Polythene meet this requirement. See Paragraphs 10.1 - 10.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Rhino Building Polythene meet this requirement.

Technical Specification

- 4.1 Materials supplied by Agpac Ltd are as follows:
- **Rhino Building Polythene** – is a 250-micron thick, black polythene sheet used as a DPM membrane. It is supplied in rolls 2 m wide x 50 m long and 4 m wide x 25 or 50 m long.
 - **Agtape** – is a black tape used for sealing joints between sheets and small areas damaged during installation of the reinforcing.

Handling and Storage

- 5.1 Handling and storage of all materials whether on or off site is under the control of the installer. Dry storage must be provided for all products and must be protected from sunlight and UV radiation.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Rhino Building Polythene. 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

Concrete Substrate

Concrete Slab-on-ground

- 7.1 The DPM must be laid on a minimum of 75 mm thickness of suitable clean and compacted fill [granular base] for slab-on-ground applications. The structural concrete slab placed over the membrane must be a minimum of 100 mm thick.

Durability

Serviceable Life

- 8.1 Rhino Building Polythene is a suitable DPM material [Polyethylene sheet], and is expected to have a serviceable life of at least 50 years provided it is installed and maintained in accordance with this Appraisal and is continually protected from sunlight and ultra-violet [UV] radiation.

Maintenance

- 9.1 Annual inspections must be made of the membrane's top edge seal and protection.

External Moisture

- 10.1 Rhino Building Polythene, when installed in accordance with this Appraisal and the Technical Literature, will prevent water vapour from penetrating to the interior face floors in spaces where moisture may cause damage. The DPM has a vapour flow resistance of not less than 90 MNs/g.
- 10.2 Rhino Building Polythene also meets the requirements of NZBC 3604, clause 7.5.4.2 and NZBC Acceptable Solutions E2/AS1, Table 23 and NZS 4229:2013, clause 7.4.2
- 10.3 The DPM is loose laid with taped joints and can be used to form sealed joints and to seal penetrations.
- 10.4 Building designers must ensure junctions with other membranes, such as at the floor/wall junction, form a waterproof joint. These junctions have not been assessed and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

11.1 Installation of the DPM must be completed by Licensed Building Practitioner.

System Installation

Substrate Preparation

12.1 All surfaces must be checked to ensure they are clean, smooth and free from sharp edges, loose or foreign materials or other material that may damage the DPM.

Membrane Installation - Floors

12.2 The DPM must be installed in accordance with the Technical Literature. Sheet edges and ends must be overlapped and taped. The DPM must be inspected for damage and any damage must be repaired. The DPM must not be exposed to UV radiation for any longer than 30 days before the structural concrete slab is placed.

Inspections

12.3 The Technical Literature and the installation company's Quality Control sheets must be referred to during the inspection of the DPM installation.

Basis of Appraisal

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

Tests

13.1 The Rhino Building Polythene has been tested for tensile strength and elongation, tear propagation, puncture resistance before and after accelerated weathering and water vapour permeability.

Other Investigations

14.1 A durability opinion has been given by BRANZ technical experts.

14.2 Practicability of installation has been assessed by BRANZ and found to be satisfactory.

14.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

15.1 The manufacture has been examined by BRANZ, details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

15.2 The quality of materials supplied to the market is the responsibility of Agpac Ltd.

15.3 Quality of installation on site is the responsibility of the Licensed Building Practitioner.

15.4 Designers are responsible for the building design, and Licensed Building Practitioners are responsible for the quality of construction of substrate systems in accordance with the instructions of Agpac Ltd.

15.5 Building owners are responsible for maintenance in accordance with the instructions of Agpac Ltd

Sources of Information

- NZS 3101: 2006 Concrete structures standard.
- NZS 3604: 2011 Timber-framed buildings.
- NZS4229:2013 Concrete Masonry Buildings not requiring specific engineering design
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 (Amendment 7, 01 January 2017).
- Ministry of Business, Innovation and Employment Record of Amendments, Acceptable Solutions, Verification Methods and Handbooks.
- The Building Regulations 1992.



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In the opinion of BRANZ, **Rhino Building Polythene** 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 **Agpac Ltd**, 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. **Agpac Ltd**:
 - 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 **Agpac Ltd**.
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 **Agpac Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

10 September 2018