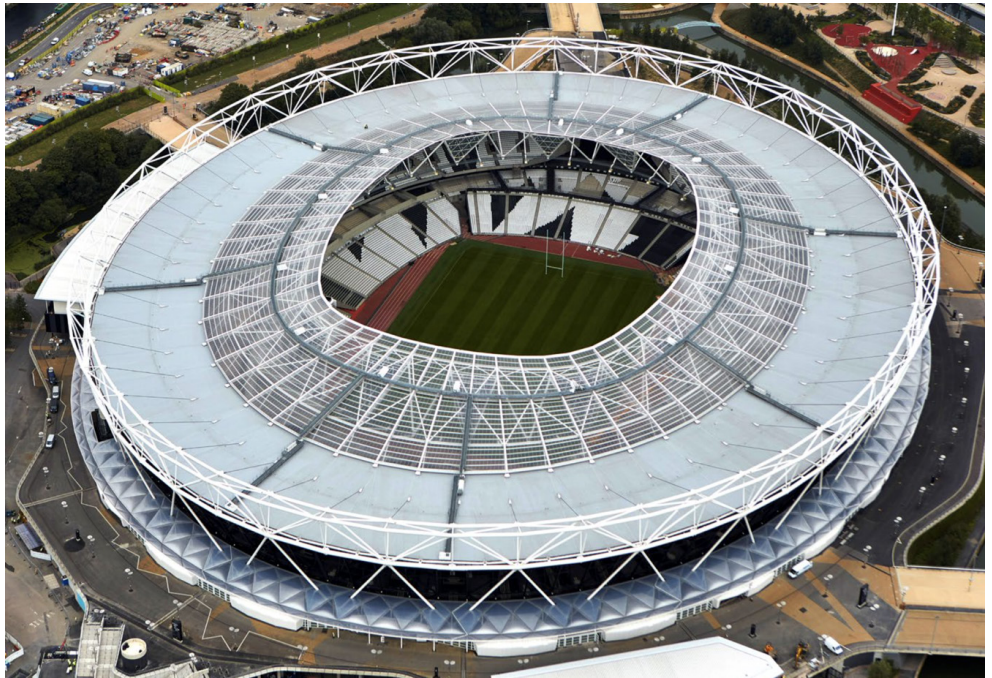




BRANZ Appraised
Appraisal No. 1197 [2021]

FATRAFOL 807/V, 810 AND 810/V PVC-P WATERPROOFING SHEET MEMBRANES

Appraisal No. 1197 [2021]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



Fatra Australia Pty Ltd

1 Verrell Street
Wetherill Park
New South Wales
Australia

Tel: +61 2972 32048

Email: info@fatraaustralia.com.au

Web: fatraaustralia.com.au



BRANZ

BRANZ

1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz



Product

- 1.1 Fatratfol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes are roof waterproofing membranes with polyester reinforcement backing.

Scope

- 2.1 Fatratfol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes have been appraised as roof waterproofing membranes on buildings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; or,
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area when subject to specific structural design; and,
 - with substrates of plywood or suspended concrete slab; and,
 - with minimum falls for roofs of 1:30; and,
 - situated in NZS 3604 Wind Zones up to, and including, Extra High.
- 2.2 Fatratfol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes have also been appraised as roof waterproofing membranes on buildings within the following scope:
 - subject to specific structural and weathertightness design; and,
 - with substrates of plywood, suspended concrete slab or structural steel decking sheets; and,
 - situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 6 kPa; and,
 - with the weathertightness design of junctions for each specific structure being the responsibility of the building designer.
- 2.3 Roofs waterproofed with Fatratfol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes must be designed and constructed in accordance with the following limitations:
 - nominally flat or pitched roofs constructed to drain water to gutters and drainage outlets complying with the NZBC; and,
 - no integral roof gardens and no downpipes directly discharging to the roof.
- 2.4 The design and construction of the substrate and movement and control joints is specific to each building, and therefore is the responsibility of the building designer and building contractor and is outside the scope of this Appraisal.
- 2.5 The membranes must be installed by Fatrat Australia Pty Ltd approved applicators.



Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will be assessed against the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years. Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes meet this requirement. See Paragraph 8.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2. Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes meet these requirements. See Paragraphs 11.1-11.8.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes meet this requirement.

Technical Specification

4.1 Materials supplied by Fatra Australia Pty Ltd are as follows;

- **Fatrafol** are PVC-P based waterproof roofing membrane polyester reinforcement. It is resistant to ultraviolet (UV) radiation and can be exposed to the direct weathering influences.
- **Fatrafol 807/V** - 1.6 mm thick and comes in rolls 1.6 m wide x 15 m or 19 m long, 1.9 mm thick comes in rolls 1.65 m wide x 12 m or 16 m long and 2.4 mm thick comes in rolls 2.05 m wide x 13 m long.
- **Fatrafol 810** - 1.2 mm thick comes in rolls 1.2 m wide x 25 m long, 1.5 mm thick comes in rolls 1.3 m wide x 20 m long.
- **Fatrafol 810/V** - 1.2 mm thick comes in rolls 2 m wide x 25 m long, 1.5 mm thick comes in rolls 2.05 x 20 m long.
- **Fatrafol 804** is a PVP-P based unreinforced waterproof roofing membrane used for detailing. Comes in rolls, 1.5 mm thick, 1,300 mm wide x 20 m long; 1.8 mm thick, 1,300 mm wide x 15 m long; 2 mm thick, 1,200 mm wide x 15 m long or 1,200 mm wide by 35 m long.

Variable dimensions can be manufactured on request with regards to length and a maximum of 2.05 m width.

Technical Literature

5.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes. The Technical Literature must be read in conjunction with this Appraisal. All aspect of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

- 6.1 Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes are for use on roofs, gutters and parapets where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas.
- 6.2 The effective control of internal moisture must be considered at the design stage due to the impermeability of the membrane. Refer to the BRANZ Good Practice Guide to Membrane Roofing.
- 6.3 Timber framing systems must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of AS/NZS 1170. In all cases, framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and that all sheet edges are fully supported.



- 6.4 The fully adhered membrane is suitable for use on roofs of buildings within all of NZS 3604 Wind Zones up to, and including, Extra High.
- 6.5 The membrane is designed for use on roofs; however, contact with sharp objects that may damage the membrane surface must be avoided.

Substrates

Plywood

- 7.1 Plywood must be treated to H3 [CCA treated]. LOSP treated plywood must not be used. Plywood must comply with NZBC Acceptable Solution E2/AS1, Paragraphs 8.5.3 and 8.5.5. Where specific design is used [i.e. outside the scope of NZBC Acceptable Solution E2/AS1] the plywood thickness and fixing size may increase and centres may decrease to meet specific wind loadings.

[Note: Movement of the plywood substrate, caused by various factors, can produce a membrane wrinkle at the movement points. This is known as 'tenting'. The Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes specification has been written to prevent substrate movement, however, on rare occasions tenting has still occurred due to certain seasonal conditions. The performance and long term durability of the Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes will not be adversely affected if tenting occurs.]

Concrete

- 7.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101 or NZS 3109.

Steel

- 7.3 The steel substrate must be G550 aluminium-zinc AZ150 to AS 1397.

Durability

Serviceable Life

- 8.1 Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes, when subjected to normal conditions of environment and use, is expected to have a serviceable life of at least 15 years.

Maintenance

- 9.1 No maintenance of the membrane is normally required provided significant substrate movement does not occur.
- 9.2 In the event of damage to the membrane, the membrane must be repaired by removing the damaged portion and applying a patch as for new work.
- 9.3 Drainage outlets must be maintained to operate effectively.

Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to the Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.



External Moisture

- 11.1 Roofs must be designed and constructed to shed precipitated moisture. They must also take account of snowfalls in snow prone areas. A means of meeting the performance requirements of NZBC Clause E2.3.1 is given by the Technical Literature which is aligned with details in NZBC Acceptable Solution E2/AS1.
- 11.2 When installed in accordance with this Appraisal and the Technical Literature, Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes will prevent the penetration of water and will therefore meet the performance requirements of NZBC Clause E2.3.2. The membrane is impervious to water and will give a weathertight deck or balcony.
- 11.3 Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes are impermeable, therefore a means of dissipating construction moisture must be provided in the building design and construction to meet the performance requirements of NZBC Clause E2.3.6.
- 11.4 The minimum fall to roofs must be 1 in 30 over a plywood substrate, or 1 in 60 for concrete substrate and gutters is 1 in 60. All falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane.
- 11.5 Allowance for deflection and settlement of the substrate must be made in the design of the roof to ensure falls are maintained and no ponding of water can occur.
- 11.6 Drainage flanges must be used for any outlet and must be fitted with a grate or cage to reduce potential sources of blockages. An overflow must be provided where the roof does not drain to an external gutter or spouting.
- 11.7 Penetrations and upstands of the membranes must be raised above the level of any possible flooding caused by blockage of roof drainage.
- 11.8 The design of details not covered by the Technical Literature is subject to specific weathertightness design and is outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

- 12.1 Installation of the membranes must be completed by approved applicators approved by Fatra Australia Pty Ltd.
- 12.2 Installation of substrates must always be carried out in accordance with the Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.

Preparation of Substrates

- 13.1 Substrates must be dry, clean and stable before installation commences. Surfaces must be smooth and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve an even and uniform surface.
- 13.2 The relative humidity of the concrete must be 75% or less before membrane application. Concrete substrates can be checked for dryness by using a hygrometer, as set out in BRANZ Bulletin No. 585.
- 13.3 The moisture content of the timber substructure must be a maximum of 20% and plywood and compressed fibre cement sheet must be dry at time of membrane application. This will generally require plywood and compressed fibre cement sheets to be covered until just before the membrane is laid to prevent rain wetting.

Membrane Installation

- 14.1 The membrane must be installed in accordance with the Fatra Australia Pty Ltd Technical Literature.



Inspections

- 15.1 Critical areas of inspection for waterproofing systems are:
- Construction of substrates, including crack control and installation of bond breakers and movement control joints.
 - Moisture content of the substrate prior to the application of the membrane.
 - Acceptance of the substrate by the membrane installer prior to application of the membrane.
 - Installation of the membrane to the manufacturer's instructions.

Health and Safety

- 16.1 Safe use and handling procedures for the membrane system is provided in the Technical Literature. The products must be used in conjunction with the relevant Materials Safety Data Sheet.

Basis of Appraisal

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

Tests

- 17.1 The following is a summary of the testing and test reports on Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes:
- Physical properties included tensile strength, elongation, tear strength, dimensional stability.
 - Service performance testing included low temperature flexibility, heat resistance, static and dynamic indentation, fatigue cycling and peel resistance.
 - British Board of Agrément No. 02/3921 and 04/4079.

The above test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

- 18.1 A durability opinion has been provided by BRANZ technical experts.
- 18.2 Installation of the membranes has been assessed by BRANZ for practicability of installation and found to be satisfactory.
- 18.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

- 19.1 The manufacture of the membrane has not been examined by BRANZ, but the membrane manufacturer, Fatra Australia Pty Ltd Limited is the subject of BBA Certifications.
- 19.2 The quality of supply of the product to the market is the responsibility of Fatra Australia Pty Ltd.
- 19.3 Quality on-site is the responsibility of the Fatra Australia Pty Ltd approved applicator.
- 19.4 Designers are responsible for the substrate design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of the substrate manufacturer, Fatra Australia Pty Ltd and this Appraisal.

Sources of Information

- AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.
- AS/NZS 1170:2002 Structural design actions.
- AS/NZS 2269:2012 Plywood - Structural.
- BRANZ Bulletin No. 585 Measuring moisture in timber and concrete, June 2015.
- BRANZ Good Practice Guide: Membrane roofing (second edition), October 2015.
- NZS 3101:2006 Concrete structures standard.
- NZS 3109:1997 Concrete construction.
- NZS 3604:2011 Timber-framed buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



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22 October 2021

FATRAFOL 807/V, 810 AND
810/V - PVC-P WATERPROOFING
SHEET MEMBRANES



In the opinion of BRANZ, **Fatrafol 807/V, 810 and 810/V - PVC-P Waterproofing Sheet Membranes** are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Fatra Australia Pty 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. **Fatra Australia Pty 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 **Fatra Australia Pty 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 **Fatra Australia Pty Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

22 October 2021