BRANZ Appraised
Appraisal No. 885 [2020]

FIBERTITE ROOFING SYSTEMS

Appraisal No. 885 (2020)

This Appraisal replaces BRANZ Appraisal No. 885 (2015)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 FiberTite Roofing Systems are fully bonded, ketone ethylene ester (KEE) based waterproofing membranes for roofs.

Scope

2.1 FiberTite Roofing Systems have been appraised as roof waterproofing membranes on buildings within the following scope:

- with building structures designed and constructed to meet the requirements of the Building Code of Australia (BCA); and,
- with roof supporting structures of timber framing with substrates of plywood; and,
- with substrates of suspended concrete slabs; and,
- subjected to maximum wind pressures (refer Paragraph 8.1); and,
- with the weathertightness design of all junctions being the subject of specific design by the designer.

Note: The design of these junctions has not been appraised by BRANZ and is outside the scope of this Appraisal. Refer to the Appraisal Holder.

2.2 Roofs waterproofed with FiberTite Roofing Systems must be designed and constructed in accordance with the following limitations:

- nominally flat, curved or pitched roofs constructed to drain water to gutters and drainage outlets complying with the BCA; and,
- constructed to suitable falls (Refer Paragraphs 14.4 - 14.6).

2.3 The design and construction of the substrate and movement and control joints are specific to each building, and therefore are the responsibility of the building designer and building contractor and are outside the scope of this Appraisal.

2.4 The membranes must be installed by Rooflogic approved applicators.

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Building Regulations

National Construction Code (NCC 2019) Building Code of Australia (BCA)

3.1 **In the opinion of BRANZ, FiberTite Roofing Systems, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NCC:**

NCC Volume One

Part F1 Damp and weatherproofing: Performance Requirement FP 1.4. FiberTite Roofing Systems meet this requirement. See Paragraphs 14.1 - 14.3.

NCC Volume Two

Part 2.2 Damp and weatherproofing: Performance P2.2.2 Weatherproofing. FiberTite Roofing Systems meet this requirement. See Paragraphs 14.1 - 14.3.

Technical Specification

4.1 Materials supplied by Seaman Corporation are as follows:

- **36 mil FiberTite** - is a ketone ethylene ester based membrane, reinforced with 840 x 1,000 denier weft reinforced polyester knit fabric. It is supplied as a 0.91 mm thick, light grey sheet membrane in rolls either 1.88 m or 2.54 m wide and 30.48 m long.
- **36 mil FiberTite-FB** - is a ketone ethylene ester based membrane, reinforced with 840 x 1,000 denier weft reinforced polyester knit fabric and has a non-woven polyester felt heat bonded to the underside. It is supplied as a 0.91 mm thick, light grey sheet membrane in rolls either 1.88 m or 2.54 m wide and 30.48 m long.
- **45 mil FiberTite** - is a ketone ethylene ester based membrane, reinforced with 840 x 1,000 denier weft reinforced polyester knit fabric. It is supplied as a 1.14 mm thick, light grey sheet membrane in rolls either 1.88 m or 2.54 m wide and 30.48 m long.
- **45 mil FiberTite-SM** - is a ketone ethylene ester based membrane, reinforced with 840 x 1,000 denier weft reinforced polyester knit fabric. The underside of the membrane has a slightly modified version of the KEE compound. It is supplied as a 1.14 mm thick, light grey sheet membrane in rolls either 1.88 m or 2.54 m wide and 30.48 m long.
- **45 mil FiberTite-SM-FB** - is a ketone ethylene ester based membrane, reinforced with 840 x 1,000 denier weft reinforced polyester knit fabric. The underside has a slightly modified version of the KEE compound and a heat bonded non-woven polyester felt. It is supplied as a 1.14 mm thick, light grey sheet membrane in rolls either 1.88 m or 2.54 m wide and 30.48 m long.
- **FTR 101** - is a general purpose, single component, moisture curing polyether sealant. It is coloured white and supplied in 330 ml cartridges.
- **FTR 190e** - is a low VOC solvent borne contact adhesive for bonding the non-fleece back FiberTite membranes. It is an amber colour and supplied in 5US Gallon pails (18.9 lt).
- **FTR 490** - is a high performance, polymeric water borne adhesive for bonding the FiberTite fleece back membranes. It is coloured white and supplied in 5US Gallon pails (18.9 lt).
- **FiberTite CR-20 Polyurethane Foam Adhesive** - is a 3M™ polyurethane foam insulation and fleece back membrane adhesive. It is a two component adhesive.
- **FiberClad Coated Metal** - is a heat weldable, polymeric coated sheet metal flashing used with all FiberTite Roofing Systems. It is supplied as 1.2 m x 3.0 m sheet, 0.50 mm thick.
- **Flashing Accessories** - are pre-moulded and sheet form non-reinforced accessories to be used with the FiberTite Roofing Systems.
- **Fixing Accessories** - a range of washers and fasteners for the various application of FiberTite Roofing Systems.

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Handling and Storage

5.1 Handling and storage of all materials whether on or off site is under the control of the Rooflogic approved applicators. Dry storage must be provided for all products and the rolls of membrane must be stored in an upright position.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the FiberTite Roofing Systems. 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 FiberTite Roofing Systems are fully bonded, single layer systems for use on roofs, gutters and parapets. There are five membranes available, refer to Paragraph 4.1 for options. They are used where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas. The products can be used on new or existing buildings. Rooflogic should be consulted as to the suitability of any existing substrates prior to using FiberTite Roofing Systems.

7.2 The effective control of internal moisture must be considered at the design stage due to the impermeability of the membrane. Refer to BRANZ publication "Good Practice Guide to Membrane Roofing".

Structure

8.1 FiberTite Roofing Systems fully bonded is suitable for use in areas subject to maximum wind pressure of 3 kPa Ultimate Limit State subject to the limitations of the substrate.

Substrates

Plywood

9.1 Structural plywood must be a minimum of 17 mm thick complying with AS/NZS 2269. The structural plywood must be supported with joists at maximum spacing as detailed in AS 1684.3, Table 5.3. Fixing shall be as the "Technical Note on the Use of EWPAA Branded Structural Plywood as Exterior Decking".*Note: LOSP treated plywood must not be used.*

Concrete

9.2 Concrete substrates must be designed in accordance with the NCC 2019.

Durability

Serviceable Life

10.1 FiberTite Roofing Systems, when subjected to normal environmental conditions and properly maintained, can be expected to have a minimum durability of at least 15 years, with an expected serviceable life of 25 years.

Maintenance

11.1 Maintenance requirements of the membrane are provided by the membrane supplier.

11.2 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.

11.3 Drainage outlets must be maintained to operate effectively.

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Outbreak of Fire

12.1 FiberTite Roofing Systems must be protected or separated from fireplaces, heating appliances, chimneys and flues in accordance with the requirements of NCC Volume One, Part GP 2.1 and Part G2 and NCC Volume Two, Part P2.7.3 and Part 3.10.7.

Fire Hazard Properties

13.1 FiberTite Roofing Systems have not been assessed for fire hazard properties and is therefore outside the scope of this Appraisal.

External Moisture

14.1 Roofs must be designed and constructed to meet code compliance with Part F1- Damp and weatherproofing, Performance FP1.4 and Part 2.2 - Damp and weatherproofing, Performance P2.2.2. They must also take account of snowfalls in snow prone areas.

14.2 When installed in accordance with this Appraisal and the Technical Literature, FiberTite Roofing Systems will prevent the penetration of water and will therefore meet code compliance with Part F1- Damp and waterproofing, Performance FP1.4 and Part 2.2 - Damp and weatherproofing, Performance P2.2.2. The membranes are impervious to water and will give a weathertight roof capable of accepting minor structural movements.

14.3 FiberTite Roofing Systems are impermeable, therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with Part F1- Damp and waterproofing, Performance FP1.4 and Part 2.2 - Damp and weatherproofing, Performance P2.2.2.

14.4 Roof falls must be built into the substrate and not created with mortar screeds applied over the membranes.

14.5 BRANZ recommends a minimum fall to roofs of 1 in 30 and all falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane.

14.6 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.

14.7 Drainage flanges must be used for either clamped or normal outlets 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.

14.8 Penetrations and upstands of the membrane must be raised above the level of any possible flooding caused by the blockage of roof drainage.

14.9 Details not covered by the Technical Literature are subject to specific weathertightness design and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

15.1 Installation of the membranes must be completed by approved applicators, approved by Rooflogic.

15.2 Installation of substrates must be completed by tradespersons with an understanding of roof construction, in accordance with instructions given within the Rooflogic Technical Literature and this Appraisal.

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Preparation of Substrates

16.1 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.

16.2 Concrete substrates can be checked for dryness by methods outlined in AS 1884: 2012. The relative humidity of the concrete must be 75% or less before membrane application.

16.3 The moisture content of a timber substructure must be a maximum of 20% and plywood sheet must be dry at the time of membrane application. This will generally require plywood sheets to be covered until just before the membrane is laid, to prevent rain wetting.

Membrane Installation

17.1 The installation of FiberTite Roofing Systems is very complex and limited to trained applicators only. The Rooflogic Applicator's Manual should be referred to in all instances for the correct procedures.

Inspections

18.1 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 membranes to the Technical Literature instructions.

Health and Safety

19.1 Safe use and handling procedures for the membrane systems are provided in the Technical Literature.

19.2 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

20.1 Testing of FiberTite Roofing Systems has been undertaken by the following organizations:

- British Board of Agrément - tensile strength, elongation, resistance to tear, dimensional stability, water vapour transmission, water absorption, resistance to water pressure, resistance to folding at low temperature, static indentation over concrete, dynamic indentation over perlite, fatigue cycling (500 cycles at -10°C), peel resistance of welded joint, shear strength of welded joint
- International Code Council Evaluation Service, ICC-ES, has issued an ESR Report. The report states that the materials have been assessed based upon satisfactory independent test results to the requirements of AC75-2010.

20.2 BRANZ has reviewed the information and has found it to be satisfactory.

Other Investigations

21.1 A durability opinion has been given on FiberTite Roofing Systems by BRANZ technical experts.

21.2 Site inspections have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

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

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Quality

22.1 The manufacture of the FiberTite Roofing Systems has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

22.2 The quality of supply of the product to the market is the responsibility of Rooflogic.

22.3 Quality on site is the responsibility of the Rooflogic approved applicators.

22.4 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 supplier, Rooflogic and this Appraisal.

Sources of Information

- AS 1884: 2012 Floor coverings - Resilient sheet and tiles - Installation practices.
- AS/NZS 2269: 2012 Plywood - Structural.
- BRANZ Good Practice Guide - Membrane Roofing, 2nd Edition, 2015.
- ICC-ES - AC75-Membrane roof covering systems, July 2010
- National Construction Code Series, Building Code of Australia 2019 - Australian Building Codes Board.
- Technical note on the Use of EWPAA Branded Structural Plywood As Exterior Decking - PAA Engineered Wood Products Association of Australasia.

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BRANZ

In the opinion of BRANZ, FiberTite Roofing Systems 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 Seaman Corporation, 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. Seaman Corporation:
   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 Seaman Corporation.
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 Seaman Corporation or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
27 May 2020

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