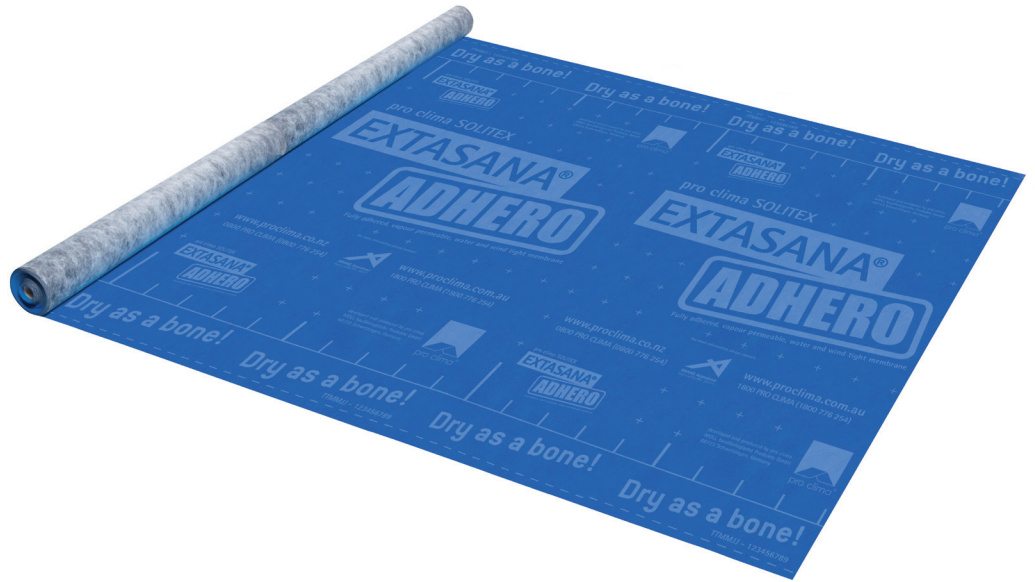




BRANZ Appraised
Appraisal No. 989 [2017]

**SOLITEX EXTASANA
ADHERO®
SELF-ADHESIVE
UNDERLAY**



Appraisal No. 989 [2017]

Amended 24 April 2019

BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 SOLITEX EXTASANA ADHERO® is a self-adhesive, synthetic underlay for use over rigid wall underlays under cavity or direct fixed wall claddings or over rigid roof sarking of pitched roofs. SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is also suitable for use as a roof and wall underlay on Structural Insulation Panel [SIP] construction or Cross Laminated Timber [CLT] construction.

Scope

Use over Rigid Wall Underlays

- 2.1 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay has been appraised for use as a wall underlay over fibre cement, oriented strand board [OSB] and plywood rigid wall underlays on timber and steel framed buildings within the following scope:
- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and
 - with direct fixed absorbent and non-absorbent wall claddings; or
 - with absorbent and non-absorbent wall claddings installed over an 18 mm minimum drained cavity; or,
 - with masonry veneer in accordance with NZBC Acceptable Solution E2/AS1 for timber framed buildings or to a specific design for steel framed buildings; and
 - situated in NZS 3604 Wind Zones up to and including Extra High.

Use over Rigid Roof Sarking

- 2.2 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay has also been appraised for use as a roof underlay over plywood and OSB roof sarking on timber and steel framed buildings within the following scope:
- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and
 - with roof claddings in accordance with NZBC Acceptable Solution E2/AS1, Paragraphs 8.1 – 8.4; and
 - situated in NZS 3604 Wind Zones up to and including Extra High.



Use over Roofs and Walls of SIP and CLT Construction

- 2.3 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay has also been appraised for use as a wall and roof underlay when used on buildings within the following scope:
- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and
 - used on buildings constructed from Structural Insulated Panels (SIPs); or
 - used on buildings constructed of Cross Laminated Timber (CLT); and
 - with absorbent and non-absorbent wall claddings installed over an 18 mm minimum drained cavity; or,
 - with masonry veneer to a specific design for SIP or CLT buildings; and,
 - with roof claddings in accordance with NZBC Acceptable Solution E2/AS1, Paragraphs 8.1 - 8.4; and,
 - situated in NZS 3604 Wind Zones up to and including Extra High.
- [Note: CLT and SIP construction systems have not been assessed and are outside the scope of this Appraisal. See also Paragraph 7.13.]

Specific Design

- 2.4 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay has also been appraised for use over rigid wall underlays or roof sarking on buildings subject to specific weathertightness design. Building designers are responsible for the building design and for the incorporation of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay into their design in accordance with the declared properties and the instructions of Pro Clima (NZ) Ltd.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay, 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, B2.3.1 (b), 15 years and B2.3.2. SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay meets these requirements. See Paragraphs 9.1 and 9.2.
- Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. When used as part of the roof or wall cladding system, SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay will contribute to meeting this requirement. See Paragraphs 12.1 and 12.2.
- Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay meets this requirement and will not present a health hazard to people.

Technical Specification

- 4.1 System components and accessories supplied by Pro Clima (NZ) Ltd are:
- **SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay** consists of a TEEE (Thermoplastic Elastomer Ether Ester) water resistant film laminated to two layers of polypropylene microfibre cover fleece. SOLITEX EXTASANA ADHERO® is coloured blue on the top surface and the bottom surface has a clear adhesive layer and a release backing paper which is split along the length of the roll 250 mm from the top edge. The product is supplied in rolls 1.5 m wide and 30 m long. The product is printed with the SOLITEX EXTASANA ADHERO® logo repeated along the length of the roll. The rolls are wrapped in clear polythene film.
 - **TESCON EXTOSEAL Sill Tape** is used as a flexible flashing tape around joinery openings. See also BRANZ Appraisal No. 815 [2013].
 - **TESCON EXTORA Sealing Tape** is used to repair small tears and holes. See BRANZ Appraisal No. 838 [2013].



- KAFLEX and ROFLEX Grommets are used to seal service penetrations. See BRANZ Appraisal No. 953 [2017].
- Pro Clima [NZ] Ltd PRESSFIX application tool to aid installation of the underlay and tapes.

Rigid Wall Underlays

- Plywood must comply with AS/NZS 2269, be a minimum 7 mm thick and H3 treated in accordance with NZS 3602.
- Fibre cement sheet must be minimum 6 mm thick and comply with AS/NZS 2908.2.
- Proprietary rigid air barriers where use of SOLITEX EXTASANA ADHERO® is approved by the rigid air barrier proprietor. These rigid air barriers have not been assessed and are outside the scope of this Appraisal.

Roof Sarking

- Plywood must comply with AS/NZS 2269, be minimum 15 mm thick and H3 treated in accordance with NZS 3602.

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. They must be stored on end, under cover, in clean, dry conditions and must not be crushed.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay. 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 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay must not be exposed to the weather or ultra violet light for a total of more than 180 days before being covered by the wall or roof cladding.
- 7.2 When SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is used in conjunction with LOSP [light organic solvent preservative] treated timber, the solvent from the timber treatment must be allowed to evaporate [generally at least one week] prior to the installation of the underlay.
- 7.3 SOLITEX EXTASANA ADHERO® may be used as a flexible wall underlay over plywood or fibre cement as specified in NZBC Acceptable Solution E2/AS1 Paragraph 9.1.7.1.
- 7.4 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay when used over a rigid wall underlay of fibre cement or plywood may be used as a temporary weather protecting sheathing to allow the internal lining of framed buildings to proceed before the wall cladding is installed. To achieve temporary weathertightness:
- the fibre cement and plywood must be fixed to the framing as a temporary wall cladding in accordance with the rigid wall underlay supplier instructions appropriate to the wind zone, and;
 - all joints, internal and external corners of the rigid wall underlay must be sealed e.g. by covering the substrate with SOLITEX EXTASANA ADHERO®, and;
 - the roof claddings and soffit linings must be installed, and;
 - the flexible sill and jamb flashing tape systems must be installed around the window and door openings, and;
 - the window and door joinery must be installed complete with head flashings and airseals, and;
 - timber wall framing must have a maximum moisture content as specified by the internal lining systems supplier at the time of insulation installation and internal lining application.

Framing/Supporting Structure

- 7.5 Timber and steel wall framing must be provided in accordance with the requirements of the NZBC and the rigid underlay and cladding supplier.
- 7.6 CLT and SIP construction must meet the requirements of the NZBC. *[Note: These systems have not been assessed and are outside the scope of this Appraisal.]*

Walls

- 7.7 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is intended for use as a wall underlay adhered to rigid underlays of plywood and fibre cement fixed to timber or steel framed walls as required by NZBC Acceptable Solution E2/AS1, Paragraph 9.1.7.2.
- 7.8 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use under wall claddings on timber framed buildings as a flexible wall underlay as called up in NZBC Acceptable Solution E2/AS1, Table 23.
- 7.9 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use under cavity based wall claddings on steel framed buildings as an absorbent synthetic wall underlay as called up in NZS 2295, Table 2.4. Refer to Table 1 for product properties.

Roofs

- 7.10 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay may also be used as a roof underlay adhered to plywood or OSB roof sarking on pitched roofs.
- 7.11 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use under roof claddings on buildings as a roof underlay as called up in NZBC Acceptable Solution E2/AS1, Table 23. Refer to Table 1 for material properties of SOLITEX EXTASANA ADHERO®.
- 7.12 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use at roof pitches less than 8° (minimum 3°).

SIP/CLT

- 7.13 The product may also be used on Structural Insulated Panel (SIP) systems with plywood or fibre cement facings, or construction utilising Cross Laminated Timber (CLT), when deemed suitable by the system proprietor. The adhesion of the product to the substrate must be confirmed by the SIP/CLT system proprietor.

Table 1: NZBC E2/AS1, Table 23 [NZS 2295] Requirements

NZBC E2/AS1, Table 23 Wall and Roof Underlay Properties	Property Performance Requirement	Actual Property Performance
Absorbency	≥ 150 g/m ²	Pass
Vapour Resistance	≤ 7 MN s/g	Pass
Water Resistance	≥ 100 mm	Pass
pH of Extract	≥ 6.0 and ≤ 9.0	Pass
Shrinkage	≤ 0.5%	Pass
Mechanical [values are for SOLITEX EXTASANA ADHERO® only and do not include the substrate].	Edge tear and tensile strength	Edge tear [Average]: Machine direction = 230 N Cross direction = 170 N Tensile strength [Average]: Machine direction = 4.5 kN/m Cross direction = 3.3 kN/m
Air Barrier	Air resistance: ≥ 0.1 MN s/m ³	Pass. SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use as an air barrier.



Structure

- 8.1 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High when used as an overlay for rigid wall underlays and roof sarking.

Durability

- 9.1 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay meets code compliance with NZBC Clause B2.3.1 [a], not less than 50 years for wall and roof underlays used where the cladding durability requirement or expected serviceable life is not less than 50 years, e.g. behind masonry veneer, and code compliance with NZBC Clause B2.3.1 [b], 15 years for wall and roof underlays used where the cladding durability requirement is 15 years.

Serviceable Life

- 9.2 Provided it is not exposed to the weather or ultra-violet light for a total of more than 180 days, and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is expected to have a serviceable life equal to that of the cladding.

Control of Internal Fire and Smoke Spread

- 10.1 As SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay is not exposed to view in occupied spaces, the product does not need to meet the requirements of NZBC Acceptable Solutions C/AS2 to C/AS6, Paragraph 4.17.8 b), for the surface finish requirements of suspended flexible fabric. It may therefore be used with no restrictions in all buildings.

Prevention of Fire Occurring

- 11.1 Separation or protection must be provided to SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 to C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

- 12.1 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay must be used behind wall claddings or roofing that meet the requirements of the NZBC, e.g. such as those covered by NZBC Acceptable Solution E2/AS1 or wall claddings or roofing covered by a valid BRANZ Appraisal.
- 12.2 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay, when installed in accordance with the Technical Literature and this Appraisal will assist in the total cladding system's compliance with NZBC Clause E2.

Installation Information

Installation Skill Level Requirements

- 13.1 Installation must always be carried out in accordance with the SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.

Underlay Installation

- 14.1 SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay may be fixed horizontally or vertically.
- 14.2 On framed walls, the product must extend from the upper-side of the top plate to the under-side of the bearers or wall plates supporting ground floor joists, or below bottom plates on concrete slabs. When used on SIP or CLT construction, SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay must be installed as directed by the SIP or CLT system proprietor and as required by NZBC Clause E2 External Moisture.



- 14.3 For horizontal installation, it is recommended that the height for the bottom layer of underlay is marked at regular intervals along the length of the substrate. The first [narrow] release paper is removed and the underlay is adhered to the substrate evenly along the element length. The second release paper is removed and the underlay is smoothed down and along the substrate.
- 14.4 For vertical installation, it is recommended that a vertical line is marked on the rigid substrate. Both release papers are removed from the top down and the underlay adhered to the rigid substrate.
- 14.5 For both installation orientations, care must be taken to avoid wrinkles or folds.
- 14.6 Horizontal, vertical and end laps must be no less than 150 mm wide, with the direction of the lap ensuring that water is shed to the outer face of the underlay.
- 14.7 After initial application of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay, it must be smoothed down with a 150 mm wide hard roller or the pro clima PRESSFIX tool to ensure adhesion to the substrate.
- 14.8 The underlay should be run over windows and doors openings and these left covered until the joinery is ready to be installed. Openings are formed in the underlay by cutting on a 45-degree diagonal from each corner of the penetration. The flaps of the cut underlay must be folded inside the opening and adhered to the exposed penetration framing. Excess underlay may be cut off flush with the internal face of the wall frame. Openings must be finished with TESCON EXTONSEAL Sill Tape in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.5 b).
- 14.9 Any damaged areas of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay, such as tears, holes or gaps around service penetrations, must be repaired. Damaged areas can be repaired by covering with new material lapping the damaged area by at least 150 mm, or by taping small tears using pro clima TESCON EXTORA. Service penetrations may be sealed with pro clima KAFLEX and ROFLEX Grommets - refer BRANZ Appraisal No. 953 [2017].

Inspections

- 15.1 The Technical Literature must be referred to during the inspection of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay installations.

Basis of Appraisal

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

Tests

- 16.1 The following tests have been carried out on SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay in accordance with NZBC Acceptable Solution E2/AS1, Table 23: tensile strength, edge-tear resistance and resistance to water vapour transmission in accordance with AS/NZS 4200.1, shrinkage in accordance with AS/NZS 4201.3, resistance to water penetration in accordance with AS/NZS 4201.4, surface water absorbency in accordance with AS/NZS 4201.6, pH of extract in accordance with AS/NZS 1301.421s and air resistance to BS 6538.3. A range of these tests were completed before and after SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay was exposed to ultra-violet light.

Other Investigations

- 17.1 A durability opinion has been given by BRANZ technical experts.
- 17.2 The practicability of installation of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay has been assessed by BRANZ and found to be satisfactory.
- 17.3 The Technical Literature, including installation instructions, has been examined by BRANZ and found to be satisfactory.



Quality

- 18.1 The manufacture of SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay 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. BRANZ has taken note of Codemark Certificate GM-CM30032 covering quality aspects associated with the underlay component.
- 18.2 The quality of supply to the market is the responsibility of Pro Clima NZ Ltd.
- 18.3 Building designers are responsible for the design of the building, and for the incorporation of the wall underlay into their design in accordance with the instructions of Pro Clima NZ Ltd.
- 18.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Pro Clima NZ Ltd.

Sources of Information

- AS/NZS 1301.421s: 1998 Determination of the pH value of aqueous extracts of paper, board and pulp - cold extraction method.
- AS/NZS 4200.1: 1994 Pliable building membranes and underlays - materials.
- AS/NZS 4201.1: 1994 Pliable building membranes and underlays - Methods of test - Resistance to dry delamination.
- AS/NZS 4201.2: 1994 Pliable building membranes and underlays - Methods of test - Resistance to wet delamination.
- AS/NZS 4201.3: 1994 Pliable building membranes and underlays - Methods of test - Shrinkage.
- AS/NZS 4201.4: 1994 Pliable building membranes and underlays - Methods of test - Resistance to water penetration.
- AS/NZS 4201.6: 1994 Pliable building membranes and underlays - Methods of test - Surface water absorbency.
- BS 6538.3: 1987 Method for determination of air permeance using the Garley apparatus.
- NZS 2295: 2006 Pliable, permeable building underlays.
- NZS 3604: 2011 Timber-framed buildings.
- 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.

Amendments

Amendment No. 1, dated 24 April 2019

This Appraisal has been amended to update the maximum exposure period to 180 days.



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Appraisal No. 989 [2017]

BRANZ Appraisal
Appraisal No. 989 [2017]
20 December 2017

SOLITEX EXTASANA ADHERO®
SELF-ADHESIVE UNDERLAY



In the opinion of BRANZ, **SOLITEX EXTASANA ADHERO® Self-Adhesive Underlay** 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 **Pro Clima [NZ] 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. **Pro Clima [NZ] 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 **Pro Clima [NZ] 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 **Pro Clima [NZ] Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

20 December 2017