# 4161PC PRO CLIMA EXTERNAL UNDERLAYS, TAPES & ACCESSORIES

## 1. GENERAL

 If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.

 The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

 This section relates to the application of **Pro Clima NZ Limited** external roofing and wall underlays, tapes and accessories.

 Modify or extend the above description to suit the project being specified.

### 1.1 RELATED WORK

 Refer to ~ for ~

 Include cross references to other sections where these contain related work.

### 1.2 ABBREVIATIONS AND DEFINITIONS

 Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

 The following abbreviations apply specifically to this section:

 NZMRM New Zealand Metal Roofing Manufacturers Association Inc.

 MVTR Moisture vapour transmission resistance

 TEEE Thermoplastic Elastomer-Ether Ester

 The following definitions apply specifically to this section:

 Wall underlay the same meaning as defined in [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, covering kraft based and synthetic wall underlays, sometimes called, wall wraps, building wraps or building papers.

 **Documents**

### 1.3 DOCUMENTS

 Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

 [NZBC B2](http://www.masterspec.co.nz/redirect.aspx?pl=223)/AS1 Durability

 [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2 Protection from fire

 [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 External moisture

 [NZBC F2](http://www.masterspec.co.nz/redirect.aspx?pl=236)/AS1 Hazardous building materials

 AS 1530.2 Methods for fire tests on building materials, components and structures - Test for flammability of materials

 [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845) Pliable, permeable building underlays

 [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Timber-framed buildings

 [AS/NZS 4389](http://www.masterspec.co.nz/redirect.aspx?pl=923) Roof safety mesh

 [AS/NZS 4534](http://www.masterspec.co.nz/redirect.aspx?pl=413) Zinc and zinc/aluminium-alloy coatings on steel wire

 [NZMRM CoP](http://www.masterspec.co.nz/redirect.aspx?pl=1236) NZ Metal Roof and Wall Cladding Code of Practice

 Note: AS 1530.2 is cited in [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS1, the NZS/AS is the same Standard adopted by NZS.

 [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697):2002 is cited in the [NZBC H1](http://www.masterspec.co.nz/redirect.aspx?pl=258)/AS1. New version [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697) &.2:2018 not yet cited.

 [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697):2002 superseded by [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697):2018 Part 1 and [AS/NZS 4859](http://www.masterspec.co.nz/redirect.aspx?pl=290).2:2018 Part 2

 Delete from the DOCUMENTS clause any document not cited. List any additional cited documents

 The following are related documents and if referred to in the work section need to be added to the List of DOCUMENTS.

 Check with Pro Clima NZ Limited to ensure that you have the most up to date information.

 [NZBC H1](http://www.masterspec.co.nz/redirect.aspx?pl=258)/AS1 Energy efficiency

 [NZS 3602](http://www.masterspec.co.nz/redirect.aspx?pl=299) Timber and wood based products for use in building

 [NZS 4218](http://www.masterspec.co.nz/redirect.aspx?pl=317) Thermal insulation - Housing and small buildings

 [NZS 4243.1](http://www.masterspec.co.nz/redirect.aspx?pl=1027) Energy efficient - Large buildings - Building thermal envelope

 [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697):2002 Materials for the thermal insulation of buildings - General criteria and technical provisions

 [AS/NZS 4859.1](http://www.masterspec.co.nz/redirect.aspx?pl=697):2018 Thermal insulation materials for buildings - Part 1: General criteria and technical provisions

 [AS/NZS 4859](http://www.masterspec.co.nz/redirect.aspx?pl=290).2:2018 Thermal insulation materials for buildings - Part 2: Design

 BRANZ BU 573 Flexible Wall Underlays

 NASH National Association of Steel Framed Housing (various publications)

 HSWA [Health and Safety at Work Act 2015](http://www.masterspec.co.nz/redirect.aspx?pl=2018)

### 1.4 MANUFACTURER/SUPPLIER DOCUMENTS

 Pro Clima documents relating to work in this section are:

 SOLITEX EXTASANA® Installation Guide

 SOLITEX MENTO® Roof Underlay Installation Guide

 [BRANZ Appraisal 815](http://www.masterspec.co.nz/redirect.aspx?pl=1891) - TESCON EXTOSEAL Sill Tape

 [BRANZ Appraisal 838](http://www.masterspec.co.nz/redirect.aspx?pl=1892) - TESCON EXTORA Sealing Tape

 [BRANZ Appraisal 855](http://www.masterspec.co.nz/redirect.aspx?pl=1893) - SOLITEX MENTO 3000 Roofing Underlay

 [BRANZ Appraisal 876](http://www.masterspec.co.nz/redirect.aspx?pl=1896) - SOLITEX MENTO 1000 Roofing Underlay

 [BRANZ Appraisal 989](http://www.masterspec.co.nz/redirect.aspx?pl=2234) - SOLITEX EXTASANA ADHERO® Self-adhesive Underlay

 [BRANZ Appraisal 953](http://www.masterspec.co.nz/redirect.aspx?pl=2290) - KAFLEX and ROFLEX Grommets

 SOLITEX MENTO 1000 connect Roof Underlay Installation Guide

 SOLITEX MENTO 3000 connect Roof Underlay Installation Guide

 CodeMark™ [GM-CM30032](http://www.masterspec.co.nz/redirect.aspx?pl=1894) SOLITEX EXTASANA Wall protection membrane

 Manufacturer/supplier contact details

 Company: **Pro Clima NZ Limited**

 Web: [www.proclima.co.nz](http://www.proclima.co.nz/)

 Email: welcome@proclima.co.nz

 Telephone: 0800 pro clima (776 254)

 It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

 **Warranties**

### 1.5 WARRANTY - MANUFACTURER/SUPPLIER

 Provide a material manufacturer/supplier warranty:

 10 years For pro clima system

 - Provide this warranty on the pro clima standard form.

 - Commence the warranty from the date of purchase of the product from the manufacturer.

 Refer to the pro clima warranty agreement and the general section 1237 WARRANTIES for additional requirements.

 6 years If the products are installed in combination with products from third parties.

 10 years For the pro clima airtightness system and for individual pro clima construction products in combination with all approved thermal insulation materials and for the SOLITEX steep-roof and wall-sealing system if these products are installed solely in combination with pro clima standard products, insofar as products are available in the pro clima system for the relevant application.

 The six year warranty period for products begins from sale of the product to the supplier by the manufacturer (Moll bauökologische Produkte GmbH).

 The warranty period extends to ten years from sale of the product to the supplier by the manufacturer if installation of the products is carried out solely in combination with pro clima standard products.

 Contact pro clima for a copy of the full warranty agreement and approved materials.

 Modify or expand the clause to suit project or manufacturer/supplier requirements, options include:

 - Change the standard form to be used (check with the manufacturer/supplier, use the general section 1237WA WARRANTY AGREEMENT if required)

 - Commence the warranty from the date of practical completion of the contract works (check with the manufacturer/supplier)

### 1.6 WARRANTY - INSTALLER/APPLICATOR

 Provide an installer warranty:

 2 years: For installation

 - Provide this warranty on the installer/standard form.

 - Commence the warranty from the date of practical completion of the contract works.

 Refer to the general section 1237 WARRANTIES for additional requirements.

 Modify or expand the clause to suit project or installer requirements, options include:

 Change the standard form to be used (check with the installer, use the general section 1237WA WARRANTY AGREEMENT if required)

 Commence the warranty from the date of installation (check with the installer)

 **Requirements**

### 1.7 NO SUBSTITUTIONS

 Substitutions are not permitted to any specified materials, or associated products, components or accessories.

### 1.8 INSTALLATION SKILL LEVELS

 Installers to be experienced in the installation of Pro Clima products and familiar with Pro Clima NZ Limited technical literature and the related documents listed in this design i.e. [NZMRM CoP](http://www.masterspec.co.nz/redirect.aspx?pl=1236).

## 2. PRODUCTS

 Select the system for this work and then use the PRODUCTS and EXECUTION clauses required for the particular system. Consult the manufacturer for any special requirements.

 **Wall underlay**

 Note: [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301):2011 now includes Extra High Wind Zone; check with Manufacturer for Extra High conditions. Note; most claddings in Extra High wind zones will require a rigid wall underlay as well as an underlay plus a cavity, [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 9.1.7.2.

 Note: Synthetic roof underlays are an Alternative Solution to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, table 23.

### 2.1 WALL PROTECTION MEMBRANE - MECHANICAL FIX

 SOLITEX EXTASANA® wall underlay to [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), comprised of a non porous, UV stable, water resistant TEEE film, laminated between two layers of non woven spun-bonded polypropylene, coloured blue on the top surface and grey on the bottom. Watertight to >10,000mm water column pressure, with low MVTR (vapour open).

 Has a flammability Index of ≤ 5, when tested to AS 1530.2 and meets the requirements of [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2, 4.17.8. (b) for suspended flexible fabrics, [NZBC B2](http://www.masterspec.co.nz/redirect.aspx?pl=223) Performance B2, 3.1(a), 3.1(b), 3.2, [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347) Performance E2, 3.2 and [NZBC F2](http://www.masterspec.co.nz/redirect.aspx?pl=236) Performance F2, 3.1 in accordance with CodeMark™ Certificate [GM-CM30032](http://www.masterspec.co.nz/redirect.aspx?pl=1894). Supplied in rolls 1.5m x 36.5m long (55m²) and 2.74m wide x 36.5m long (100m²).

 Note: SOLITEX EXTASANA® can be exposed to weather or ultraviolet light for a period of up to 90 days.

 For use under direct fix and non-direct fixed, absorbent/non-absorbent wall cladding on timber and steel framed buildings.

 Can be used as a non rigid backing behind solid plaster. Suitable for extra high wind zones when installed in accordance with [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 Clause 9.1.7 2c. Suitable as an air barrier to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 as an Acceptable Solution.

 Note: CodeMark™ Certificate [GM-CM30032](http://www.masterspec.co.nz/redirect.aspx?pl=1894) refers to the superseded version [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS1, Part 6. Table 6.2, which has been replaced by [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2, 4.17.8. (b). It is deemed that the Certificate of Conformity confirms compliance with [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224).

### 2.2 WALL PROTECTION MEMBRANE - PEEL AND STICK

 SOLITEX EXTASANA® ADHERO wall underlay to [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), comprised of a non porous, UV stable, water resistant TEEE film, laminated between two layers of non woven spun-bonded polypropylene, coloured blue on the top surface and grey on the bottom. Pressure sensitive solid acrylic adhesive layer on underside. PE release paper. Watertight to >10,000mm water column pressure, with very low MVTR (diffusion open).

 Has a Flammability Index of ≤ 5, when tested to AS 1530.2 and meets the requirements of [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2, 4.17.8. (b) for suspended flexible fabrics, [NZBC B2](http://www.masterspec.co.nz/redirect.aspx?pl=223) Performance B2, 3.1(a), 3.1(b), 3.2, [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347) Performance E2, 3.2 and [NZBC F2](http://www.masterspec.co.nz/redirect.aspx?pl=236) Performance F2. Supplied in rolls 1.5m x 30m long (45m²).

 Note: SOLITEX EXTASANA® ADHERO can be exposed to weather or ultraviolet light for a period of up to 180 days.

 For use under direct fix and non-direct fixed, absorbent/non-absorbent wall cladding over rigid wall underlays.

 Can be used with masonry veneer to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1. Suitable for extra high wind zones when installed in accordance with [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 Clause 9.1.7 2c. Suitable as an air barrier to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 as an Acceptable Solution.

 **Roofing underlays**

 Note: [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301):2011 now includes Extra High Wind Zone; check with Manufacturer for Extra High conditions.

 Note: Synthetic roof underlays are an Alternative Solution to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, table 23.

### 2.3 ROOF UNDERLAY - LIGHT WEIGHT, HIGH EXPOSURE

 SOLITEX MENTO® 1000, consists of a waterproof, non-porous diffusion open membrane laminated to two layers of polypropylene fleece. Has a flammability Index of ≤ 5, when tested to AS 1530.2. Refer to [BRANZ Appraisal 876](http://www.masterspec.co.nz/redirect.aspx?pl=1896) for details. Supplied in rolls 1.5m wide x 50m long. Self supporting.

 Note: SOLITEX MENTO® 1000 can be exposed to weather or ultra violet light for a period of up to 30 days.

### 2.4 ROOF UNDERLAY - LIGHT WEIGHT, HIGH EXPOSURE, SELF-ADHESION STRIP

 SOLITEX MENTO® 1000 connect, consists of a waterproof, non-porous diffusion open membrane laminated to two layers of polypropylene fleece and adhesive strips on either side of sheet. Has a flammability Index of ≤ 5, when tested to AS 1530.2. Refer to [BRANZ Appraisal 876](http://www.masterspec.co.nz/redirect.aspx?pl=1896) for details. Supplied in rolls 1.5m and 3m wide x 50m long. Self supporting.

 Note: SOLITEX MENTO® 1000 connect can be exposed to weather or ultraviolet light for a period of up to 30 days.

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring tape over top of the lap.

### 2.5 ROOF UNDERLAY - MEDIUM WEIGHT, VERY HIGH EXPOSURE

 SOLITEX MENTO® 3000 consists of a waterproof, non-porous diffusion open membrane laminated to two layers of polypropylene fleece. Has a flammability Index of ≤ 5, when tested to AS 1530.2. Complies with [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2, 4.17.8. (b) for suspended flexible fabrics. Refer to [BRANZ Appraisal 855](http://www.masterspec.co.nz/redirect.aspx?pl=1893) for details. Available in rolls 1.5m wide x 50m long.

 Note: SOLITEX MENTO® 3000 can be exposed to weather or ultraviolet light for a period of up to 90 days.

### 2.6 ROOF UNDERLAY - MEDIUM WEIGHT, VERY HIGH EXPOSURE, SELF-ADHESION STRIP

 SOLITEX MENTO® 3000 connect consists of a waterproof, non-porous diffusion open membrane laminated to two layers of polypropylene fleece. Has a flammability Index of ≤ 5, when tested to AS 1530.2. Complies with [NZBC C](http://www.masterspec.co.nz/redirect.aspx?pl=224)/AS2, 4.17.8. (b) for suspended flexible fabrics. Refer to [BRANZ Appraisal 855](http://www.masterspec.co.nz/redirect.aspx?pl=1893) for details. Available in rolls 1.5m and 3m wide x 50m long.

 Note: SOLITEX MENTO® 3000 connect can be exposed to weather or ultraviolet light for a period of up to 90 days.

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring tape over top of the lap.

### 2.7 ROOF UNDERLAY - WITH SEPARATION LAYER / SELF-ADHESION STRIP

 SOLITEX® UM connect, a four layer roof underlay with 3D separation layer and integrated self-adhesive strip, consists of a waterproof, non-porous, diffusion open membrane laminated to two layers of polypropylene fleece and a 10mm thick PP mesh. Has a flammability Index of ≤ 5, when tested to AS 1530.2. Refer to Pro Clima catalogue for details. Supplied in rolls 1.5m wide x 25m long.

 Separation layer provides increased acoustic insulation and ventilation and drainage path between timber sarking and metal roofing / cladding.

 Note: SOLITEX® UM connect can be exposed to weather or ultraviolet light for a period of up to 30 days.

 Suitable for ventilated or unventilated structures in combination with roofing or cladding materials such as titanium zinc, aluminium, stainless steel, gavanized steel, copper, etc.

 **Components**

### 2.8 WEATHERTIGHT SEALING TAPE

 TESCON EXTORA® weathertight sealing tape, a multi-purpose, UV stable, pressure-sensitive, self-adhering tape comprised of a PP fleece protection layer, solid acrylic glue and siliconized release backing paper. Suitable for jambs and heads of framed openings only. Supplied in rolls 60mm, 100mm, 150mm and 200mm wide x 30m long.

 Note: TESCON EXTORA® can be exposed to weather or ultra violet light for a period of up to 180 days.

 Used as one piece flexible tape for window / door jambs and head openings.

 Suitable for windproof and weathertight sealing of wall underlays, roof underlays and other weathertightness layers, in conjunction with SOLITEX EXTASANA and SOLITEX MENTO.

### 2.9 SILL TAPE

 TESCON EXTOSEAL® Sill Tape, a butyl rubber, pressure-sensitive, self-adhering, one piece stretchable, self-sealing, non-bitumen sill tape with a siliconized release backing paper. Workable in cold temperatures, down to - 20°C. Does not melt in the heat and can be applied to damp surfaces. Complies with [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 9.1.5(b) Wall underlays to wall openings. Refer to [BRANZ Appraisal 815](http://www.masterspec.co.nz/redirect.aspx?pl=1891) for details. Supplied in rolls 150mm and 200mm wide x 20m long. TESCON EXTOSEAL® can be exposed to weather or ultraviolet light for a period of up to 180 days.

 Used as one piece flexible sill tape for window and door openings with no other products or procedures necessary ie. corner moulds, primers, warming before application.

### 2.10 WEATHERTIGHT JOINERY SEALING TAPE

 TESCON EXTORA® PROFIL weathertight joinery sealing tape, UV stable, pressure-sensitive, self-adhering tape comprised of a PP fleece protection layer, solid acrylic glue and a split, siliconized release backing paper. Applied to perimeter of joinery extrusion and joined to wall underlay. Supplied in rolls 60mm wide x 30m long.

 Note: Tescon Extora® PROFIL can be exposed to weather or ultra violet light for a period of up to 180 days.

 Suitable for permanent weathertight (wind and rain) connection between weathertightness layer and windows and doors at the outer line of the weathertightness plane. This reduces the reliance on PEF rod and foam as weathertightness components.

### 2.11 NAIL SEALING TAPE

 TESCON® NAIDECK double sided butyl rubber self-sealing tape, water resistant, reinforced, non bitumen, used on the underside of a purlin / batten on roofs to form a seal around nail or screw penetrations. Supplied in rolls 50mm wide x 20m long.

 Suitable for temporary weathertightening of the roof when used with Pro Clima roof underlays before the roof cladding is installed - allows for work to continue within the building.

### 2.12 WINDOW AND DOOR CONNECTION STRIP

 CONTEGA® IQ window and door connection tape for SOLITEX EXTASANA® wall underlay comprised of PP microfibre fleeces, used for airtight or weathertight connection to window and door frames to the air tightness layer, wall underlay or other weathertightness layer. Supplied in rolls 90mm wide x 30m long.

 1 self-adhesive strip used for masonry construction and 2 self-adhesive strip used for timber construction.

### 2.13 DOUBLE SIDED TAPE

 DUPLEX Double sided tape comprised of siliconized release paper, used for bonding the overlaps of roof underlay SOLITEX MENTO® membranes and fixing of membranes to steel frame structures. Supplied in rolls 25mm wide x 20m long.

### 2.14 WINDOW AND DOOR SEALANT AIRSEAL BOND ENHANCING TAPE

 TESCON ADHISO WS Pure aluminium tape, solid acrylic adhesive, pressure sensitive, with a siliconised release backing tape.

 Where gunned sealant (wet seal) airseals are used, use TESCON ADHISO WS tape to separate sealant from underlays and sill tapes, to prevent incompatibility issues . To be applied over wall underlay and sill tapes to the full perimeter of an opening where the gunned sealant airseal will be applied. Supplied in rolls 38mm wide x 30m long.

 Tape installed to prevent compatibility issues between the wall underlay and sill tapes and the gunned sealant airseal around openings. Refer to manufacturers for test documentation from approved wet sealant providers.

 Refer to manufacturers for a list of substrates the tape can be applied to.

### 2.15 MULTI-PURPOSE ADHESIVE

 ORCON® Classic multi-purpose adhesive, for bonding pro clima membranes to rough adjoining structural components or mineral surfaces. Supplied in a 310ml cartridge or 600ml sausage.

 **Accessories**

### 2.16 SEALING GROMMETS - SINGLE AND DOUBLE

 KAFLEX mono/duo sealing grommets 145mm x 145mm, manufactured from special reinforced paper with EPDM. Single and double models for cables of diameter 6-12mm.

 Suitable for sealing penetrations through roof and wall underlays. KAFLEX grommets can be exposed to weather or ultraviolet light for a period of up to 180 days.

### 2.17 SEALING GROMMET - FOR PIPES, 15-30MM DIAMETER

 ROFLEX 20 self-adhesive sealing grommet for pipes manufactured from PP fleece, solid acrylic glue and EPDM rubber, 140mm x 140mm in size. Sealing grommet for pipes of diameter 15mm-30mm.

 Suitable for sealing penetrations through roof and wall underlays, for indoor and outdoor applications. ROLEX 20 grommets can be exposed to weather or ultraviolet light for a period of up to 180 days.

### 2.18 SEALING GROMMETS - FOR PIPES, 30-320MM DIAMETER

 ROFLEX 30 / 50 / 100 / 150 / 200 / 250 / 300 sealing grommets for pipes manufactured from EPDM rubber. Models supplied in sizes 140mm x 140mm to 500mm x 500mm for pipe diameters between 30mm - 320mm.

 Designed for permanent airtight sealing of penetrations of cables and pipes through an air tightness layer. Also suitable for sealing penetrations through roof and wall underlays for indoor and outdoor applications when used in conjunction with TESCON EXTORA® adhesive tape over grommets. ROLEX 30-300 grommets can be exposed to weather or ultraviolet light for a period of up to 180 days.

### 2.19 STUD STRAPS - POLYPROPYLENE

 Stud straps, 19mm wide polypropylene straps.

 Required by [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 for cavity construction with framing centres greater than 450mm to prevent wall underlay and insulation pushing into the cavity. Alternative materials are galvanized wire or mesh, or timber battens at 300mm centres (vertically).

 Can also be used as a support for roofing underlay.

### 2.20 WIRE NETTING

 75mm galvanized hexagonal wire netting to [AS/NZS 4534](http://www.masterspec.co.nz/redirect.aspx?pl=413).

 In accordance with [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), wire netting is required to support roofing underlays where the roof has a pitch <10° or where purlin spacings are greater than 1200mm centres.

 Note: As Pro Clima roofing underlays are self-supporting for purlins spacing up to 1200mm centres wire netting support is not required.

### 2.21 SAFETY MESH

 Safety mesh**,** 2mm x 150 x 300mm galvanized or PVC coated safety mesh to [AS/NZS 4389](http://www.masterspec.co.nz/redirect.aspx?pl=923).

 Barrier safety mesh meeting the requirements of [AS/NZS 4389](http://www.masterspec.co.nz/redirect.aspx?pl=923). Safety mesh is used in open spans such as factories and storage facilities. Usually required under profiled plastic roofing to prevent fall through.

 Normally galvanized but PVC coated is available for visual purposes or for sea spray zones and chemical environments. Stainless Steel is sometimes available for extreme environments, check availability.

### 2.22 GUTTER AND UNDER FLASHINGS

 SOLITEX MENTO® range roof underlay to [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), cut to width for use under valley, apron flashing and internal gutters.

 Supplied in standard cut widths for each situation. Refer to manufacturer's manual for specific situation and product information.

## 3. EXECUTION

 **Conditions**

### 3.1 DELIVERY, STORAGE & HANDLING OF PRODUCTS

 Refer to 1270 CONSTRUCTION for requirements relating to delivery, storage and handling of products.

 Use this standard generic clause and if appropriate add additional special requirements.

### 3.2 ROUTINE MATTERS

 Refer to 1250 TEMPORARY WORKS & SERVICES for protection requirements.

 Refer to 1270 CONSTRUCTION for requirements relating to defective or damaged work, removal of protection and cleaning.

 Use this standard generic clause and if appropriate add additional special requirements

### 3.3 GENERAL REQUIREMENTS

 Design application and installation of Pro Clima NZ Limited products to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, BRANZ Appraisals, Pro Clima Technical Literature and Industry Codes of Practice.

### 3.4 INSPECTION

 Before starting work, check that the building construction phase will allow work of the required standard. Carry out remedial work identified before laying underlay.

 **Preparation**

### 3.5 PREPARATION

 Before starting work, ensure all surfaces are stable, dry, smooth, and free from dust, dirt, silicone and grease. Remove all unwanted material from the surface with a vacuum cleaner or cloth if necessary. Remove flaking and loose materials such as peeling paintwork, building papers and labels. Adhesion to frozen surfaces not possible, if in doubt carry out adhesion tests.

 **Application - wall underlay**

 Note: Solitex Extasana® can be exposed to weather and ultraviolet light for a period of up to 90 days.

### 3.6 SCOPE LIMITATIONS - TIMBER FRAMED BUILDINGS

 SOLITEX EXTASANA® Wall Protection Membrane is to be used as a flexible wall underlay on timber framed buildings within the following scope limitations:

 - The scope limitations of [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 1.1, with regards to building height and floor plan area.

 - With absorbent wall claddings directly fixed to the frame.

 - With non-absorbent, non-metallic wall claddings directly fixed to the frame.

 - With Absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity.

 - With masonry veneer to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1.

 - Situated in [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Wind Zones up to and including Very High.

### 3.7 SCOPE LIMITATIONS - STEEL FRAMED BUILDINGS

 SOLITEX EXTASANA® Wall Protection Membrane is to be used as a flexible wall underlay on steel framed buildings within the following scope limitations;

 - The scope limitations of [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1.1.1, with regards to building height and floor plan area.

 - With Absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity.

 - With masonry veneer to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1.

 - Situated in [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Wind Zones up to and including Very High.

### 3.8 SCOPE LIMITATIONS - OVER RIGID WALL UNDERLAYS

 SOLITEX EXTASANA® Wall Protection Membrane is to be used as a flexible wall underlay over rigid wall underlays on timber and steel framed buildings within the following scope limitations:

 - The scope limitations of [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 1.1, with regards to building height and floor plan area.

 - With absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity.

 - With masonry veneer to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1.

 - Situated in [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Wind Zones up to and including Extra High.

### 3.9 SCOPE LIMITATIONS - OVER RIGID WALL UNDERLAYS

 SOLITEX EXTASANA® ADHERO Peel and Stick Wall Protection Membrane is to be used as a flexible wall underlay over rigid wall underlays on timber and steel framed buildings within the following scope limitations:

 - The scope limitations of [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 1.1, with regards to building height and floor plan area.

 - With absorbent and non-absorbent wall claddings installed over an 18mm minimum drained cavity.

 - With masonry veneer to [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1.

 - Situated in [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Wind Zones up to and including Extra High.

### 3.10 FIX WALL UNDERLAY - TIMBER FRAMING

 Fix wall underlay in accordance with SOLITEX EXTASANA® Instruction Guide and as follows:

 - Apply underlay to exterior walls from below bottom plate to top plate. Fix securely with fasteners e.g. "LITTLE GRIPPERS", 6mm - 8mm staples or 20mm large head galvanized clouts at 300mm centres horizontally and vertically. Provide additional fixings around window and door openings.

 - In sea spray zone (Zone D) all fixings shall be stainless steel.

 - Allow a 150mm minimum lap at joins and all vertical overlaps over studs and tape with Pro Clima TESCON EXTORA® to increase weathertightness. Repair any forced tears using TESCON EXTORA®.

 - Pro Clima recommendation: Apply ORCON® Classic adhesive to perimeter at footing level to prevent wind wash over insulation.

 - Pro Clima recommendation: Apply TESCON EXTORA® to horizontal laps to prevent wind wash over insulation.

 - Note: Fastenings behind brick veneer must have equivalent service life of 50 years. Refer to [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Tables 4.1, 4.2 and 4.3.

 - When ready to install doors and windows cut at each opening at 45° from each corner. Pull SOLITEX EXTASANA® flaps inside and fasten to frame.

 - Apply TESCON EXTOSEAL® sill tape.

 Refer to [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) section 4 for fastener durability.

### 3.11 FIX SELF-ADHESIVE WALL UNDERLAY

 Fix wall underlay in accordance with SOLITEX EXTASANA® ADHERO Instruction Guide and as follows:

 - Mark a horizontal line across RIGID WALL UNDERLAY as a guide.

 - Apply SOLITEX EXTASANA ADHERO underlay to exterior walls from below bottom plate in horizontal application only.

 - Allow a 150mm minimum lap at horizontal joins.

 - Press SOLITEX EXTASANA ADHERO onto substrate using a hard roller of approximately 150mm width.

 - Tape vertical overlaps with Pro Clima TESCON EXTORA® to increase weathertightness. Repair any forced tears using TESCON EXTORA®.

 - Note: Fastenings behind brick veneer must have equivalent service life of 50 years. Refer to [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Tables 4.1, 4.2 and 4.3.

 - When ready to install doors and windows cut at each opening at 45° from each corner. Pull SOLITEX EXTASANA® ADHERO flaps inside and fasten to frame.

 - Apply TESCON EXTOSEAL® sill tape.

 Refer to [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) section 4 for fastener durability.

### 3.12 INSTALL STUD STRAPS

 Where studs are at greater than 450mm centres, install 19mm wide polypropylene straps horizontally at 300mm centres over wall underlay, draw taut and fix to studs.

 Amend if using, wire, mesh or battens. Not required for self-adhesive SOLITEX EXTASANA ADHERO.

### 3.13 METAL CLADDING ON TIMBER CAVITY BATTENS

 Fix strip of Pro Clima TESCON EXTORA® as a separator between timber and metal cladding.

 **Application - roofing underlay**

### 3.14 WIRE NETTING

 Lay 75mm galvanized wire netting at right angles across the purlins and drawn taut before fixing. Tie edges of netting together with galvanized wire clips.

 In accordance with [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), wire netting is required to support roofing underlays where the roof has a pitch <10° or where purlin spacings are greater than 1200mm centres.

 Note: As Pro Clima roofing underlays are self-supporting for purlins spacing up to 1200mm centres wire netting support is not required.

### 3.15 SAFETY MESH

 Lay safety mesh over exposed roof areas fixed in accordance with [AS/NZS 4389](http://www.masterspec.co.nz/redirect.aspx?pl=923) and [NZMRM CoP](http://www.masterspec.co.nz/redirect.aspx?pl=1236).

### 3.16 FIX ROOF UNDERLAY - USING STANDARD METHOD

 Fix roof underlay in accordance with SOLITEX MENTO® Roof Underlay Installation Guide and as follows:

 - Fix roof underlay at maximum 150mm centres to all framing with large-head clouts 20mm long, 8mm-12mm stainless steel staples, self drilling screws or proprietary underlay fixings.

 - Pull membrane taut over framing before fixing.

 - Run underlay vertically or horizontally at roof pitches greater than 8°, horizontally with roof pitches less than 8°.

 - Underlay must extend from the ridge and overhang the fascia board by 20mm - 25mm. Vertical laps must be no less than 150mm wide. Horizontal laps must be no less than 150mm wide, with the direction of the lap ensuring that water is shed to the outer face of the underlay. End laps must be made over framing and be no less than 150mm wide.

 - Repair damaged areas such as tears, holes or gaps around service penetrations by covering with new material lapping the damaged area by at least 150mm and taping with TESCON EXTORA® Sealing Tape.

### 3.17 FIX ROOF UNDERLAY - USING PRO CLIMA METHOD

 Fix roof underlay in accordance with SOLITEX MENTO® Roof Underlay Installation Guide and as follows. Applicable when the underlay is separated from the roofing to provide additional ventilation to the roof space:

 - Fix roof underlay horizontally and fix direct to the top of the rafter or truss top chord and secure with 45mm x 45mm counter batten fixed directly over the rafter or truss member. Increase the length of fixings used to secure purlins and tile battens to the rafter or truss by 45mm.

 - All laps to be a minimum of 150mm. Seal all laps with TESCON EXTORA® Sealing Tape.

 - For pitches less than 15° or less, seal laps with ORCON® CLASSIC , or alternatively use SOLITEX roof underlays with "connect" inbuilt adhesive strip.

 - For pitches less than 10° pro clima recommend that the underlay is laid on solid sarking.

 Note: Ventilated cavity replicates wall construction but lifts purlin clear of drainage plane. 25mm air separation between insulation and underlay can be deleted due to non-porous membrane.

### 3.18 FIX ROOF UNDERLAY - USING STANDARD METHOD, WITH SELF-ADHESION STRIP

 Fix roof underlay in accordance with SOLITEX MENTO® 1000 connect Roof Underlay Installation Guide and as follows:

 - Fix roof underlay at maximum 150mm centres to all framing with large-head clouts 20mm long, 8mm-12mm stainless steel staples, self drilling screws or proprietary underlay fixings.

 - Pull membrane taut over framing before fixing.

 - Run underlay vertically or horizontally at roof pitches greater than 8°, horizontally with roof pitches less than 8°.

 - Underlay must extend from the ridge and overhang the fascia board by 20mm - 25mm. Vertical laps must be no less than 150mm wide. Horizontal laps must be no less than 150mm wide, with the direction of the lap ensuring that water is shed to the outer face of the underlay. End laps must be made over framing and be no less than 150mm wide.

 - All laps to be a minimum of 150mm. Seal laps with self-adhesion strips provided on either side of sheet.

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring tape over top of the lap.

### 3.19 FIX ROOF UNDERLAY - PRO CLIMA METHOD, WITH SELF-ADHESION STRIP

 Fix roof underlay in accordance with SOLITEX MENTO® 3000 connect Roof Underlay Installation Guide and as follows. Applicable when the underlay is separated from the roofing to provide additional ventilation to the roof space:

 - Fix roof underlay at maximum 150mm centres to all framing with large-head clouts 20mm long, 8mm-12mm stainless steel staples, self drilling screws or proprietary underlay fixings.

 - Fix roof underlay horizontally and fix direct to the top of the rafter or truss top chord and secure with 45mm x 45mm counter batten fixed directly over the rafter or truss member. Increase the length of fixings used to secure purlins and tile battens to the rafter or truss by 45mm.

 - All laps to be a minimum of 150mm. Seal laps with self-adhesion strips provided on either side of sheet.

 - For pitches less than 10° pro clima recommend that the underlay is laid on solid sarking.

 Note: Ventilated cavity replicates wall construction but lifts purlin clear of drainage plane. 25mm air separation between insulation and underlay can be deleted due to non-porous membrane.

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring tape over top of the lap.

### 3.20 GUTTER AND UNDER FLASHINGS

 Install SOLITEX MENTO® range roof underlay for use as an underlay to valley, apron flashings, and internal gutters. Lap under flashings with adjoining underlays. Fix SOLITEX MENTO® range soffit liner from top plate down 150mm past ribbon plate.

 Refer to pro clima for specific situation and product information

 **Application - tape systems**

### 3.21 APPLY TESCON TAPE SYSTEMS

 Apply TESCON tape systems in accordance with Pro Clima TESCON Installation Guides.

 Note: Tapes can be specified for all joins in SOLITEX membranes to prevent wind-wash of insulation and resulting degradation of insulation performance.

 **Application - grommet and detail solutions**

### 3.22 INSTALL GROMMETS AND DETAIL SOLUTIONS

 Install grommets and detail solutions in accordance with Pro Clima KAFLEX and ROFLEX Installation Guides.

 **Completion**

### 3.23 COMPLETION MATTERS

 Refer to 1270 CONSTRUCTION for completion requirements and if required commissioning requirements.

 Use this standard generic clause and if appropriate add additional special requirements.

## 4. SELECTIONS

 For further details on selections go to [www.proclima.co.nz](http://www.proclima.co.nz/).

 Substitutions are not permitted to the following.

 If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.

 Select the options to suit the project and delete options not specified.

 **Materials**

### 4.1 PRO CLIMA SOLITEX EXTASANA® MEMBRANE - MECHANICAL FIX

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX EXTASANA® Wall Protection Membrane

 Sealing tape: ~

 Adhesive: ORCON® Classic multi-purpose adhesive

 Accessories: ~

 Options:

 Sealing tape: TESCON EXTORA® weathertight sealing tape

 TESCON EXTOSEAL® sill tape

 TESCON EXTORA® PROFIL weathertight joinery sealing tape

 CONTEGA® IQ window and door connection strip

 TESCON ADHISO WS openings airseal separation tape

 Accessories: KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

### 4.2 PRO CLIMA SOLITEX EXTASANA® ADHERO MEMBRANE - PEEL AND STICK

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX EXTASANA® ADHERO Peel and Stick Wall Protection Membrane

 Sealing tape: ~

 Accessories: ~

 Options:

 Sealing tape: TESCON EXTORA® weathertight sealing tape

 TESCON EXTOSEAL® sill tape

 TESCON EXTORA® PROFIL weathertight joinery sealing tape

 CONTEGA® IQ window and door connection strip

 TESCON ADHISO WS openings airseal separation tape

 Accessories: KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

### 4.3 PRO CLIMA SOLITEX MENTO 1000 ROOF UNDERLAY

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX MENTO® 1000 three layer underlay

 Jointing tape: ~

 Adhesive: ORCON® Classic multi-purpose adhesive

 Accessories: ~

 Options:

 Jointing tape: TESCON EXTORA® weathertight sealing tape

 TESCON EXTORA® PROFIL weathertight joinery sealing tape

 TESCON® NAIDECK nail sealing tape

 DUPLEX double sided tape

 TESCON ADHISO WS openings airseal separation tape

 Accessories: KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

### 4.4 PRO CLIMA SOLITEX MENTO 1000 CONNECT ROOF UNDERLAY, WITH SELF-ADHESION STRIP

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX MENTO® 1000 connect three layer underlay

 Accessories: ~

 Options:

 Accessories: TESCON EXTORA® PROFIL weathertight joinery sealing tape

 TESCON® NAIDECK nail sealing tape

 DUPLEX double sided tape

 TESCON ADHISO WS openings airseal separation tape

 KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring TESCON EXTORA® tape over top of the lap.

### 4.5 PRO CLIMA SOLITEX MENTO 3000 ROOF UNDERLAY

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX MENTO® 3000 three layer underlay

 Jointing tape: ~

 Adhesive: ORCON® Classic multi-purpose adhesive

 Accessories: ~

 Options:

 Jointing tape: TESCON EXTORA® weathertight sealing tape

 TESCON EXTORA® PROFIL weathertight joinery sealing tape

 TESCON® NAIDECK nail sealing tape

 DUPLEX double sided tape

 TESCON ADHISO WS openings airseal separation tape

 Accessories: KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

### 4.6 PRO CLIMA SOLITEX MENTO 3000 CONNECT ROOF UNDERLAY, WITH SELF-ADHESION STRIP

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX MENTO® 3000 connect three layer underlay

 Accessories: ~

 Options:

 Accessories: TESCON EXTORA® PROFIL weathertight joinery sealing tape

 TESCON® NAIDECK nail sealing tape

 DUPLEX double sided tape

 TESCON ADHISO WS openings airseal separation tape

 KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

 Adhesive strip on either side of the sheet enables the laps to self seal without requiring TESCON EXTORA® tape over top of the lap.

### 4.7 PRO CLIMA SOLITEX UM CONNECT ROOF UNDERLAY

 Location: ~

 Manufacturer: Pro Clima NZ Limited

 Type: SOLITEX® UM connect, four layer underlay (with 3D separation layer and integrated self-adhesive strip)

 Jointing tape: ~

 Adhesive: Inbuilt

 Accessories: ~

 Options:

 Jointing tape: TESCON EXTORA® weathertight sealing tape

 TESCON EXTORA® PROFIL weathertight joinery sealing tape

 TESCON® NAIDECK nail sealing tape

 DUPLEX double sided tape

 TESCON ADHISO WS openings airseal separation tape

 Accessories KAFLEX mono/duo sealing grommets

 ROFLEX 20 sealing grommet for pipes

 ROFLEX 30 / 50 / 100 / 150 / 20 / 250 / 300 sealing grommets for pipes

 **Accessories**

### 4.8 STUD STRAPS

 Location: ~

 Type: ~ 19mm blue polypropylene tape

 Options:

 Type:

 Required by [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 for cavity construction with framing centres greater than 450mm to prevent wall underlay and insulation pushing into the cavity. May be used to secure the wall underlay to the framing. Amend if using alternative materials.

### 4.9 WIRE NETTING

 Location: ~

 Type: ~

 Option

 Type: 75mm galvanized wire netting, or

 Suitable plastic or plastic coated netting (Zone D and Zone E)

 In accordance with [NZS 2295](http://www.masterspec.co.nz/redirect.aspx?pl=845), wire netting is required to support roofing underlays where the roof has a pitch <10° or where purlin spacings are greater than 1200mm centres.

 Note: As Pro Clima roofing underlays are self-supporting for purlins spacing up to 1200mm centres wire netting support is not required.

### 4.10 SAFETY MESH

 Location: ~

 Finish: ~

 Finish: PVC coated or galvanized

 Use on commercial and industrial type buildings to provide a safety from falling barrier. Usually required under profiled plastic roofing to prevent fall through. Stainless steel is sometimes available for extreme environments, check availability.

### 4.11 GUTTER AND UNDER FLASHINGS

 Location: ~

 Brand: ~

 Jointing tape: TESCON EXTORA