SEALCO STARFLEX MONO100 WATERPROOFING MEMBRANES

1. GENERAL

This section relates to the application of **Sealco Ltd** products for StarFLEX Mono100 polyurethane waterproofing
The system includes:
- StarFLEX 130/230 primer 2-part primer
- StarFLEX Mono100 polyurethane coating
- Accessories incl reinforcements

1.1 RELATED WORK
Refer to ~ for ~

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:

DFT	Dry Film Thickness

Documents

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

NZBC E2/AS1	External moisture
BRANZ BU 397	Waterproofing basements
NZS 4121	Design for access and mobility: Buildings and associated facilities
NZS 3114	Specification for concrete surface finishes

1.4 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
Sealco Product Manual
Standard detailed drawings

Manufacturer/supplier contact details

Company:	**Sealco Ltd**
Web:	www.sealco.co.nz
Email:	admin@sealco.co.nz
Telephone:	03 - 366 9495 (Head office) or 0508 SEALCO
Mobile:	(027) 5445532

Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:

15 years:	For Lexcoat on approved substrates with 7-8yr recoat as per manufacturers requirements.

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of completion of the application.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.6 WARRANTY - INSTALLER/APPLICATOR
Provide an installer/applicator warranty:

2-5 years:	For execution

- Provide this warranty on the installer standard form.

- Commence the warranty from the date of completion of the application.

Requirements

1.7 QUALIFICATIONS
Waterproofing work to be carried out by Licensed Building Practitioners who are also licensed applicators approved by Sealco Ltd.

1.8 NO SUBSTITUTIONS
Substitutions are not permitted to any specified Sealco Ltd system, or associated components and products.

1.9 PROJECT REGISTRATION
Contact Sealco Ltd to confirm that the project has been registered.
Web: www.sealco.co.nz/project-registration.html
Telephone: 03 - 366 9495 or 0508 SEALCO
If the project has not been registered, telephone and provide all required details.

Compliance information

1.10 INFORMATION REQUIRED FOR CODE COMPLIANCE
Provide the following compliance documentation: -
- Manufacturer's, importer's, or distributors warranty
- Installer's / applicator's warranty
- Producer Statement - Construction from the applicator / installer
- Other information required by the BCA in the Building Consent Approval documents.

Performance

1.11 PERFORMANCE
Accept responsibility for the weather-tight performance of the completed membrane system.

1.12 PRE-INSTALLATION MEETING
Convene a meeting between the applicator, contractor, all associated consultants and Sealco Ltd to ensure all parties know what is required for effective performance of the system.

1.13 SPECIAL DETAILS
Where a standard detail does not exist, or if a standard detail cannot be applied, an approved alternative must be obtained from Sealco Ltd before proceeding with the installation.

1.14 QUALITY ASSURANCE
Maintain quality necessary to assure that work is performed in accordance with this specification and the qualifying requirements of Sealco Ltd.

Ensure that Sealco Ltd.'s Quality Control sheets are completed fully and faithfully for each installation area.

2. PRODUCTS

Materials

2.1 MEMBRANE PRIMER
StarFLEX 130/230 primer membrane primer. Supplied in drums. Single component liquid primer in pails marked with the manufacturer's mark.

2.2 MEMBRANE PRIMER – FOR NEGATIVE PRESSURES / TANKING
Strata 100 epoxy sealer suitable for use on internal concrete walls and floors as a negative sealer able to hold up to 40psi water pressure. A two-pack water based non-toxic solvent free epoxy primer.

2.3 WATERPROOFING MEMBRANE
StarFLEX Mono100 single-part polyurethane waterproofing membrane available in light grey (or white and black on indent) in 2gal or 5gal plastic pails with manufacturers mark.

2.4 CONCRETE SLURRY PRIMER
Sand/Cement Primer additive a concrete moisture vapour primer for filling concrete voids, in pails marked with the manufacturer's mark, and used in accordance with Sealco Ltd technical literature.

Accessories

2.5 REINFORCEMENT
Polyester RF fabric tapes and rolls, Butyl-flash tapes or pre-formed Elastofabric tapes and preformed internal and external corners.

2.6 SEALANT
MS60 sealant supplied in 375ml or 600ml tubes/sausage.

2.7 SUBSTRATE FILLER
Sand/Cement Primer combined with Sealco approved Cement to form a repair mortar.

2.8 RAINWATER AND FLOOR WASTE OUTLET FITTINGS
Use only Sealco approved proprietary fittings.

2.9 PAVER SUPPORTS - ADJUSTABLE WITH LEVELLING HEAD
SEALCO EcoJack Adjustable Paver Supports with levelling head, comprised of a base, height control ring, a threaded top and a 3mm high levelling disc. Extension ring provides adjustable height from 42mm to 451mm. Levelling head provides up to 5% slope justification. Refer to SELECTIONS for sizes.

3. EXECUTION

Conditions

3.1 GENERALLY
Comply with the requirements and instructions of Sealco Ltd and the manufacturer's requirements.

3.2 STORAGE
Take delivery of pails of liquid membrane and accessories undamaged. Include for site handling facilities where required. Store, on a level surface, off concrete floors, out of direct sunlight or freezing conditions and with the required accessories under conditions that ensure no deterioration or damage.

3.3 CHECK SUBSTRATE
Check that the substrate will allow work of the required standard and will comply with the requirements of the NZBC. Complete any remedial work identified before commencing any work. On re-roof situations over weathered membranes, ensure existing membrane is fully adhered to substrate.

3.4 CURING OF NEW CONCRETE
Allow concrete to fully cure before applying membranes. Maximum moisture content of concrete 75% RH.

3.5 FILM THICKNESS
Ensure that the dry film thickness specified in the Sealco Ltd installation documents is achieved. Film thickness is an important factor to the waterproofing performance of the membrane and its long term durability.

Preparation – StarFLEX Mono100

3.6 SUBSTRATE CONDITION

Ensure that the substrate is in a suitable condition to allow work of the required standard and will comply with the requirements of the NZBC E2/AS1 for the relevant substrate and Sealco Ltd requirements.

Ensure that the substrate construction is well braced against movement and deflection and structurally sound. Ensure that the substrate falls to the rainwater/water outlets and water must not pond. Ensure all surfaces are clean, dry, and free from dust and dirt, oils or grease with no projections of sharp materials.

3.7 SUBSTRATE PREPARATION - CONCRETE

Remove projections and all debris, leaving the surface dust-free, oil-free and clean, with nothing that could diminish the adhesion of primers. Grind off steps or sharp protrusions caused by formwork joints. Ensure there are no concrete additions or release agents that could diminish adhesion of membrane. Vacuum when preparation is complete to remove all dust. For internal or negative head waterproofing (tanking), ensure substrate has been ground/etched and primer is fully dry before installing StarFLEX Mono100. Acid etch and/or diamond grid concrete surfaces as required to achieve a suitable surface.

3.8 SUBSTRATE PREPARATION – EXISTING MEMBRANES

Ensure the existing rubber, fibreglass or bitumen membrane is fully adhered to the substrate with no lose areas. All details, penetrations and outlets are fully sealed and watertight. Fully bonded to the substrate. Remediate any loose areas as appropriate.

3.8 FALLS

Exposed exterior membrane minimum falls:

1 : 30 minimum	For roofs (to NZBC E2/AS1, 8.5.1 a.)
1 : 40 minimum	For decks (to NZBC E2/AS1, 8.5.1 b.)
1 : 100 minimum	For gutters (to NZBC E2/AS1, 8.5.1 c.)

3.9 CONCRETE SUBSTRATE

Ensure concrete is dry and that new concrete has cured for at least 28 days. The relative humidity of concrete substrates must be 75% or less to NZBC E2/AS1, 10.0 - Construction moisture before commencing membrane application. Fill surfaces and stone grind to remove imperfections to achieve a finish to NZS 3114 U2/U3. Fill holes with a mortar patching compound.

3.10 FIBRE CEMENT SUBSTRATE

Check fibre cement sheets are laid with staggered joints (brick bond), and laid tight-butted, with all edges fully supported. Ensure sheets are rigid, with joints flush, no lumps or hollows, smooth, clean, dry (20% maximum moisture content) and free of debris.

3.11 EXISTING MEMBRANE SUBSTRATES

Thoroughly clean existing membrane and use etching solvent where necessary to remove any impurities. Ensure no dust or debris remains. Ensure existing membrane is fully adhered to substrate and all details and penetrations are fully watertight. Remediate any loose areas with EpiSPAN detail tape.

3.11 PRIME SUBSTRATES - FIBRE CEMENT

Ensure substrate is clean and dust-free. Prime substrates thoroughly with StarFLEX 130/230 primer or Strata100 2-part primer, ensuring a good even coverage and penetration as recommended by Sealco Ltd. Where an existing coating is present on the substrate confirm with Sealco Ltd technical department that StarFLEX 130/230 primer primer is the most appropriate primer to use for the specific substrate.

3.13 PRIME SUBSTRATES - CONCRETE

Ensure substrate is clean and dust-free. Prime substrates thoroughly with StarFLEX 130/230 primer or Strata100 2-part primer, ensuring a good even coverage and penetration as recommended by Sealco Ltd. Where an existing coating is present on the substrate confirm with Sealco Ltd technical department that StarFLEX 130/230 primer primer is the most appropriate primer to use for the specific substrate. For internal or

negative head waterproofing (tanking), ensure substrate has been ground/etched and primer is fully dry before installing StarFLEX Mono100.

3.14 PRIME SUBSTRATES - EXISTING TORCHON, TPO & LIQUID MEMBRANES
Ensure substrate is clean and dust-free. Prime substrates thoroughly with StarFLEX 130/230 primer 2-part primer, ensuring a good even coverage and penetration as recommended by Sealco Ltd. Where an existing coating is present on the substrate confirm with Sealco Ltd technical department that StarFLEX 130/230 primer primer is the most appropriate primer to use for the specific substrate.

3.15 PRIME SUBSTRATES - EXISTING EPDM & BUTYL RUBBER MEMBRANES
Ensure substrate is clean and dust-free. Most often existing EPDM & Butyl rubber membranes are not required to be primed. The StarFLEX Mono100 is formulated to go over existing rubber membranes without the requirement of primer. Ensure existing membrane is clean and dry and use etching solvent to clean surface of membrane. If necessary (or in low bond conditions) it may be required to apply a full coating of StarFLEX 130/230 primer 2-part primer.

3.14 PRIME METAL SUBSTRATES
Ensure all metal substrates are lightly sanded with 80-100grit sandpaper to improve adhesion. Clean all metal surfaces. Prime metal substrates thoroughly with etching primer ensuring a good even coverage as recommended by Sealco Ltd.

3.15 ALLOW PRIMER TO DRY
Allow the primer to fully dry as recommended by Sealco Ltd. Prevent contamination of the primed surface prior to application of the membrane.

3.16 FILL VOIDS
Voids and gaps to be filled with Sealco approved mortar or with MS60 sealant.

Installation – StarFLEX Mono100

3.17 WEATHER CONDITIONS
Install StarFLEX Mono100 liquid membrane only in fair weather with surface temperature above 10°C and below 30°C

3.18 APPLY MS60 SEALANT (NEW CONCRETE SUBSTRATES)
Apply a 10mm fillet of MS60 sealant at junctions or substrate abutments before the application of selected reinforcing tape.

3.19 REINFORCEMENT
Provide reinforcement in potential movement areas to the StarFLEX Mono100 membrane with RF tapes, LexCOAT reinforcing tapes to Sealco Ltd specifications. For full reinforcement over the body of the membrane where required, use 1.0m x 30m RF Reinforcement rolls. Ensure substrate is clean and dust-free. Embed the reinforcement into a wet coat of the StarFLEX Mono100® and ensure that the reinforcing is completely covered with subsequent coatings of the liquid membrane. Areas requiring reinforcement are substrate cracks, internal/external corners, substrate sheet joints and detailing.

3.20 JUNCTIONS IN SUBSTRATE
Ensure that all junctions in substrate i.e. wall/floor and wall/wall and substrate abutments are reinforced to Sealco Ltd specifications. Reinforce over cracks up to 2mm maximum. Reinforce to enhance seals around penetrations and pipes through the membrane.

3.21 APPLY STARFLEX MONO100®
Ensure substrate is clean and dust-free. Apply the StarFLEX Mono100® membrane to the substrate to Sealco Ltd installation specifications. A minimum of three coats to apply a total minimum of 1.0 litres/m² giving a minimum DFT of 1.5mm as recommended by Sealco Ltd. Apply subsequent coats at different directions to the preceding coat. Apply with roller (13 nap roller fleece), long bristle brush or spray.

3.22 PROTECTION OF MEMBRANE
Cover with protection sheeting if required and eliminate traffic over membrane if possible.

Accessories

3.33 DECK PAVER SUPPORTS - ADJUSTABLE WITH LEVELLING HEAD
Install SEALCO EcoJack Adjustable Paver Supports with levelling head to Sealco Ltd installation details. Install 1.5mm thick EPDM rubber as impact isolation pads to prevent wear on the StarFLEX Mono100® membrane system.

Completion - generally

3.34 CLEAN UP
Clean up as the work proceeds.

3.35 ACCEPTANCE
- Arrange for an inspection of the completed work.
- Complete Sealco Ltd Quality Control sheets and provide to them for the issuing of the Materials Warranty.
- Protect the membrane until completion of the contract works.

3.36 LEAVE
Leave this work in a sound and waterproof condition and free of any defect.

3.37 REMOVE
Remove debris, unused materials and elements from the site.

Commissioning

3.38 WATERPROOF TESTING
Conduct a flood test where able, to ensure membrane is watertight. Meet the BCA compliance requirements for the test and documentation of the test.

4. SELECTIONS

For further details on selections go to www.sealco.co.nz
Substitutions are not permitted to the following, unless stated otherwise.

Materials

4.1 MEMBRANE PRIMER

Location:	Christchurch / Auckland
Supplier:	Sealco Ltd
Substrate:	Concrete
Primer:	StarFLEX 130/230 primer 2-part primer / Sealco Strata100 Epoxy primer

4.2 WATERPROOFING MEMBRANE

Location:	Christchurch / Auckland
Supplier:	Sealco Ltd
Substrate:	Concrete
Membrane:	StarFLEX Mono100® Light Grey
DFT:	1.5mm minimum (achieved with a 2-coat system)

Accessories

4.3 MEMBRANE REINFORCING

Location:	Christchurch / Auckland
Supplier:	Sealco Ltd
Substrate:	All Substrate Detailing
Size:	150mm x 30m (for detailing) or 1.0m x 30m (for body)
BRAND:	RF Fibreglass Lexcoat Reinforcement