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**Specification: Cosmofin Waterproof Membrane - External**

Project:

Address:

Date:

**Scope of Work:**

The Scope of Work is to supply, fix and guarantee waterproof; the waterproof membrane to **(add areas to be included: eg; Below Ground** **Basement Retaining Walls, Below Basement Concrete Slab, OSD Tanks, Lift Pit, Planter Boxes, Box Gutters, Balconies, Courtyards, Terraces, Green Roofs and Concrete Roof Deck)** as indicated on the drawings.

The membrane work is to include finish at all perimeters as detailed, protection, backfill supervision and effective spanning of any expansion joints.

Detail to all pipes, joints, edges and protrusions to ensure full, guaranteed waterproofing. ***The Membrane installation is to meet or exceed the requirements of AS 4654.2 (Waterproofing membrane systems for external use – Above ground level)***

# The Membrane:

**Provide a proprietary membrane system certified as suitable for external waterproofing by the following:**

The Membrane shall be **Cosmofin LLV reinforced PVC sheet; 1.5 mm thick to;** together with a concealed fixing and finish-detail system consisting of:

* eg: Terraces (over habitable spaces)
* eg: Roof Decks (over habitable spaces)
* eg: Green Roofs (over habitable spaces)
* ……………..

The Membrane shall be **Cosmofin LL reinforced PVC sheet; 1.5 mm thick to;** together with a concealed fixing and finish-detail system consisting of:

* eg: Tanking of Below ground Retaining Walls
* eg: Below Concrete Slab (Water table above basement FFL)
* eg: Lift Pits
* **……………….**

**(a):** Cosmofinsteel: 0.6mm zinc-galvanised cosmofinsteel factory pre-coated with 0.8mm thick membrane

**(b):** Cosmofinsteel; 0.6mm 316L Stainless Steel Cosmofinsteel factory pre-coated with 0.8mm thick membrane.

**(c):** Cosmofin AF 6 cast-in extruded reglet profiles (where shown on the drawings).

All membrane junctions are to be homogeneously welded - adhesives or tapes are not to be used for jointing nor detailing to pipes, penetrations etc. Detailing is to include sealants only where indicated on the

Standard Guide Details or shop drawings prepared by Projex Group (Projex).

Where sealants are so specified, they are to be installed to be permanently accessible for service,

wherever practicable. **Laying is to be performed by skilled Cosmofin membrane applicators.**

**Contact Projex (Ph: 02 8336 1666; Fax: 02 8336 1670; mail@projex.com.au) for a list of**

**Cosmofin installers.**

# Generally – terminations/laps

The membrane shall: Have all terminations either cast into the concrete or fitted into sawcuts as specified herein. Terminations of the pressure seal type will not be permitted; Have all laps and connections fully

homogeneously welded.

# Substrate Preparation (by others):

Concrete is to be finished to smooth helicopter standard, without ridges, boniness or sharp changes of plane.

Formed concrete to be minimum Class 3 with “sharps” knocked off.

Timber, fibre cement or plywood substrates are to be countersunk screwed, not nailed to avoid nail "backout".

Ensure that there are positive falls in the substrate to outlets/ water egress points brickwork should be struck flush.

Rock faces should be hand-finished and flushed with mortar to remove “sharps”.

Vertical faces should be finished smooth with no sharps and no hollows.

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Vertical faces should be finished smooth with no sharps and no hollows.

**Existing Membranes (preparation by applicator):** It is generally not necessary to remove existing membranes if they are either present or can be rectified to present, a smooth sound surface. Cosmofin LLV is completely bitumen compatible. Subject to any contrary Projex advice, the following are appropriate preparation methods:

1. **Nuralite**: Perforate with 20 dia punched holes at 3 per square metre to allow trapped vapour diffusion. Repair any voids with 3:1 sand/cement with 50% bitumen emulsion in the mixing water. Do not use cold bitumen compounds. Thoroughly clean and prime with solvent-based bitumen primer.
2. **Torch applied bitumen systems**: All as Nuralite above. Where the surface is coated with slate or similar chips, remove all loose material with a mechanical brush machine and dispose.
3. **Butyl Sheet or Urethane Coatings**: Where butyl, perforate as above: in any case thoroughly clean and prime with solvent-based bitumen primer. Loose laps in the butyl sheet shall be covered with CosmofinTec E. Note; the existing bond may be unsatisfactory and should be carefully checked - call for Projex advice re fixbands in such cases.
4. **EPDM Sheet, PIB Sheet and Acrylic Coatings**: Check the surface quality and thoroughly clean. No primer is usually necessary. For EPDM and PIB, perforate as above.
5. **Monomeric PVCs**: Check the surface quality and thoroughly clean. Prime with 389B primer and spread with a mop or squeegee.
6. **Substrate Quality Generally**: Refer all doubtful substrates to Projex for advice as to the recommended “clean up” process and/or supplementary fixation required for each case.

# Terminations:

All membrane terminations are to use Projex recommended details and are to be self-sufficiently waterproof at each termination. This responsibility does not extend to the internal waterproof integrity of the substrates, such as masonry walls.

Where the cut in profile is specified, the preparation by the Applicator is a sawcut 5 mm wide x 20 mm deep, which is prefilled with one part urethane. The profile is inserted while the sealant is wet and a second run of sealant is applied after the membrane welding is completed.

If the profile is to be inserted into a horizontal substrate (ie: concrete ground slab) the saw cut must be filled with a two (2) part epoxy grout, as specified by Projex.

Where the cast in extruded reglet is specified, it is to be supplied and fixed to the form shutter by the Membrane Applicator. The Applicator is to clean off any laitence or fixing media after strip before welding the membrane to the profile.

***Refer to AS 4654.2-2012, Appendix A, Table A1 for minimum membrane termination heights.***

# Bolt Fixings:

Where columns and the like are to be installed such that their fixings penetrate the membrane,

the fixings are to be installed before the membrane. They are to be of a type that leaves a firm stud,

threaded rod or similar projecting from the substrate. The Membrane Applicator will detail the membrane

to those studs. The installation of the standard, column etc is to be closely supervised by the Membrane Applicator.

**Starter Bars:**

Where starter bars are protruding from the concrete slab and the area needs to be

waterproofed, the Membrane Applicator will detail the membrane to those starter bars.

**Safety Anchors:**

Raised concrete mount anchor suitable for fall arrest and rope use on ballast/aggregate roofs to be installed by others. Safety anchors are then detailed with Wolfin IB as per manufactured instructions.

**Solar Panel Anchors:**

Mechanically fix Roof Anchors to the substrate with appropriate fasteners and weld the Cosmofin apron to the Cosmofin PVC membrane (previously installed).

**Plinths (on concrete decks):**

When possible apply Cosmofin membrane system to the deck before the installation of plinths. Seal the reinforcing bars penetrating the Cosmofin membrane. Install a slip sheet over the membrane area to be covered by the plinth. DO NOT FIX FORMWORK THROUGH THE MEMBRANE. Hold formwork in place with sandbags or similar.

**Door and Glazing Unit Sills/Thresholds:**

The Cosmofin membrane must be carried beneath the sill (or sub-sill where fitted). To achieve this, the sills must be fitted in conjunction with the Membrane Applicator. ***The membrane must be installed in accordance with AS 4654.2 clause 2.8.3.***

Refer also the clause “Bolt Fixings” above.

# Shop Drawings:

All details that are not precisely as the Standard Guide Details, are to be the subject of shop drawings

prepared by Projex and submitted by the Applicator for the approval of the Superintendent, time permitting.

The contractual responsibilities remain unchanged by such approval.

Before commencement the Applicator is to coordinate with Projex to ensure the shop drawings

are provided in adequate time for approval, allowing time for resubmission if needed.

No variation to the Applicator’s price is to result from any shop drawing (nor Projex advice),

unless the detail is a legitimate contract variation within the meaning of the Contract.

**Applied Finishes:**

Ideally, any finish applied directly to the Membrane should be performed by the Membrane Applicator to maximise warranty protection.

If the applied finishes are required to be performed by others, their installation shall be closely supervised by the Membrane Applicator. The Builder is to ensure that appropriate arrangements exist in the contract to cover the Membrane Applicator’s attendance on such works.

**Gravel or similar ballast is to be applied only by the Membrane Applicator. Protection medium for both horizontal and vertical tanking is to be applied only by the membrane applicator.**

1. **Toppings, tile beds**: It is preferred that the Membrane Applicator supply and adhere Abelflex or similar to all upstand faces and supply, place and tape a PE slip plane to the surface of the membrane.
2. **Pod Supported Pavers**: The Membrane Applicator shall bond 200 square Shockmat pads to the Membrane, set out at paver intersections. The Shockmat reduces impact sound transmission and protects the membrane from pad abrasion.
3. **Bar Reinforced Slabs:** The protection methods should be discussed with the Membrane Applicator (or Projex) before the tender is finalised. If not specified otherwise, ***the Membrane Applicator is to allow for the supply and placement of 10mm Projex Shockmat instead of the PE slip plane, to minimise reinforcement steel placement damage.***
4. **Mesh Reinforced slabs**: The protection methods should be discussed with the Membrane Applicator (or Projex) before the tender is finalised. If not specified otherwise, ***the Membrane Applicator is to allow for the supply and placement of 5mm Projex Shockmat in lieu of the PE slip plane, to minimise reinforcement steel placement damage.***
5. **Vertical Tanking:** The applicator is to allow for the supply and placement of 5mm thick “Bubble Board”.
6. **Concrete Dish Drain:** Where the dish drain is to be poured against the membrane, it is preferred that the Membrane Applicator bond 10mm thick Abelflex to the membrane as a separation.
7. **Gravel Ballast (roof decks)**: The Membrane Applicator shall lay A64 geotextile fabric onto the Membrane turned up and taped for the height of the ballast at all upturns. The ballast shall be a minimum #2 wash round river gravel/pebbles, free of fines and sharp or broken stone – or other material as specified and approved by Projex. Ballast is only to be installed onto the membrane by the Membrane Applicator.
8. **Insulation and Gravel Ballast**: The Membrane Applicator shall place the specified insulation boards onto the Membrane, overlaid with filter fabric, turned up and taped for the height of the ballast at all upturns. The ballast shall be a minimum #2 wash round river gravel/pebbles, free of fines and sharp or broken stone – or other material as specified and approved by Projex. Ballast is only to be installed by the Membrane Applicator.
9. **Lift Pit Walls:** Protect the membrane with 6mm FC sheeting (minimum).
10. **Timber decking:** If the timber decking is to have joists/bearers fixed through the substrate, booker rods, lag screws, etc are to be individually detailed as specified by Projex (Bolt detail drawings SD-9.02 ). Regardless of the timber decking being ‘Fixed to substrate’ or ‘Floating’, the joists/battens are to be laid on top of Projex Shockmat strips to protect the membrane at all times. Ensure decking fixings do not penetrate through the underside of joists/bearers.
11. **Projex Shockmat - or Artificial Grass**: Where specified to be bonded, the duration of possible laying-water contact with the adhesive should be considered. The following adhesive choices are suggested: Where laying water is long-term or permanent – seek adhesive manufacturer’s advice. Where laying water is temporary – Rebound Adhesive 2000.

Note: Projex has empirically tested the adhesive suggested but does not warrant their performance.

1. **Render or Skirting Tiles on Membrane:** Where tiles are shown on the drawings to be applied onto membrane upturns, the membrane is to be Cosmofin for the extent of the vertical area, laid and detailed tight. Adhere tiles to the vertical face of Cosmofin membrane. Contact Projex for recommended tile adhesives.
2. **Planters – Green Roofs & Landscape Areas, Drainage Cells / Media**: Where such materials are to be laid onto the Membrane, the Membrane Applicator is to place A64 geotextile fabric onto the Membrane beforehand. Drainage cells are to be placed by the Membrane Applicator, to avoid “cut edge” and/or tight fit damage.
3. **Vertical Tanking:** Protect the membrane with 6mm FC sheeting (minimum).

**Pre-surfacing Damage Check:**

The membrane is to be checked for damage and signed off by the Membrane Applicator immediately

before pouring or covering up.

# Protection:

No work by others is to proceed over the Membrane unless the Membrane Applicator’s advice as to protection

media is sought AND FOLLOWED.

In all cases where temporary protection is to be provided, or a finish is to be applied by others, the Builder must

notify the Membrane Applicator, giving two working days notice before protection removal or commencement

of finished works, to inspect the Membrane and certify it as being undamaged.

The Builder is to accept the cost of any repairs found necessary as a consequence of any such works.

# Generally - warranty

Waterproofing Contractor to submit a warranty against defective workmanship and arrange for the supplier to provide a warranty against defective materials.

**Cosmofin Warranty Period**: 20 years**.**

**Specification: Waterproof Membrane – Internal Wet Areas**

Project Address:

**SLAB ON GROUND:**

Internal Wet Areas – concrete slab on Ground - Floors:

Liquid applied polyurethane membrane\* or equivalent (by others) to the following areas:

* Wet Areas structural floors only (Bathrooms, Laundries, Showers…)

Internal Wet Areas – slab on ground screed & internal walls:

Screed and internal walls a liquid acrylic membrane\* or equivalent (by others) to the following areas:

* Wet Areas - Screed & Walls only (Bathrooms, Laundries, Showers…)

**Liquid membrane system or similar as per the manufacturer's written instructions to the internal wet areas on ground, floors & walls in accordance with Australian Standard AS 4858-2004 (Material) & AS 3740- 2021 (Installation - minimum requirement).**

**\*Liquid Applied Membranes are not supplied by Projex Group/Wolfin Membranes, refer to manufacturers of liquid waterproofing systems for suitable products and warranties.**

**UPPER LEVELS:**

Internal Wet Areas – Upper Levels above habitable spaces:

**Cosmofin FG LL PVC sheet membrane 1.5mm thick to the following areas:**

* Upper Levels wet areas Structural Floors Only\* (Bathrooms, Laundries & Ensuites…)

#Wet areas build-up: Concrete substrate - Cosmofin FG LL PVC sheet membrane – Screed – Acrylic membrane.

Internal Wet Areas – Upper-Level Walls:

Liquid acrylic membrane\* or equivalent (by others) to the following areas:

* Upper levels wet areas – Screed & Walls (Bathrooms, Laundries & Ensuites…)

**Cosmofin FG LL PVC sheet membrane** to upper levels wet areas **floors only** as per manufacturer’s instructions in ***accordance with Australian Standard AS 4858-2004 (Material) & AS 3740- 2021 (Installation - minimum requirement).***

**Cosmofin LL PVC Membrane warranty is for 10-20 years materials only.**