

# P96

## Class II Waterproofing Membrane

Release: 1st June 2012  
 Review: January 2015

**DESCRIPTION:**

P96 is a robust, CSIRO certified, CLASS II (AS/NZ 4858: 2004), medium extensibility, fast cure, elasticised, waterbased, reinforced, waterproof membrane. P96 is designed for use in demanding internal and external waterproofing applications inclusive of areas of limited movement. Properly applied, P96 cures to form a durable, elastic, seamless odourless and impervious membrane that will not re-emulsify once it has dried/fully cured even if continually immersed in water. P96 is supplied with reinforcement in the form of non degradable fibres and was tested with reinforcement fibres. P96 is available without reinforcement on request and subject to minimum quantity requirements.

**ADVANTAGES:**

P96 presents a number of positive characteristics encompassing very fast cure, water based, non-hazardous composition with excellent bonding and elongation characteristics at a competitive price. The membrane will not re-emulsify once it dries.

**LIMITATION:**

P96 is not classified as UV resistant and should never be used in any situation where it will be left exposed to sunlight for prolonged periods.

**APPLICATIONS:**

P96 has been specifically designed for most waterproofing requirements including the long term waterproofing of wet areas within buildings (shower recesses, bathrooms, laundries), concrete and timber decks, terraces, balconies, roofs, flashings, planter boxes, **retaining walls** and more. It is suitable for tiling or topping. P96 must be applied in accordance with all appropriate sections of AS3740/2004 and the Building Code of Australia.

**PREPARATION:**

Substrates should be smooth, sound and free from oil and grease, waxes, dust, laitance and all loose matter. Masonry surfaces must be pointed flush and surface defects repaired. Do not apply if rain will develop prior to the membrane drying – about 60 minutes at 20°C.

**SUBSTRATES:**

Suitable for cementitious surfaces: concrete, masonry, fibre-cement and compressed sheeting; plaster board, timber, brick and render. Metal surfaces must be suitably primed. P96 may be applied to damp surfaces although freedom from surface water and continual dampness is essential. Damp surfaces will increase drying/curing times. Applying the membrane over screeds that are not cured or not using a two-pack, waterbased primer can cause the migration of surfactants from the screeds to the membrane and thereby unsettle the chemical composition and integrity of the membrane and problems may result. Also, applying the membrane on top of the screed is only recommended if there is also membrane application at the bottom of the screed because screeds notoriously crack and break-up under traffic thereby exposing the membrane to stresses for which it was not designed.

**CONCRETE/REINFORCED & PRESTRESSED FLOOR SYSTEMS:**

When used to waterproof concrete floor systems, it should be noted that new concrete slabs, especially in high rise floor systems, experience shrinkage cracking. The level of cracking is determined by several factors associated with the concrete mix and construction. Some shrinkage cracking is considered acceptable although, any significant shrinkage cracking will readily rupture in situ membranes. Membranes are not designed to overcome structural faults. Construction engineers can determine the scope of any shrinkage cracking and location on the slab. It is important that such information is at hand before waterproofing begins. In pre-determined crack areas, steps need to be taken to overcome the movement of the in situ membrane. This can be done by way of bond breakers or the construction of a concrete expansion system over the area.

RI Gilbert (University of NSW) – 2001 has stated that shrinkage cracks in aggressive environments should not exceed 0.1 – 0.2mm. Concrete surfaces in exposed areas should not exceed 0.3mm. For sheltered interior where concrete is not exposed, 0.5mm or larger may be acceptable.

Resinflow P96 will contain shrinkage cracks to 0.3mm but variation within crack size may occur so caution should be exercised, remembering that shrinkage

cracks are engineered construction faults.

**Flexural Cracking:** These cracks are caused by engineered design structural faults and will readily shear most membranes. In proper design, expansion joints/ stress relievers are inserted in the area where a flexural crack will develop (engineers can calculate this). In these circumstances, the application of P96 is suitable.

**Mature Concrete/Slabs:** Concrete shrinkage as well as flexural cracks develop early following construction and once the drying process is complete. Up to several years, shrinkage cracks do not develop any further. In these circumstances, Resinflow P96 will hold shrinkage cracks up to 1.0mm providing the proper preparation of the concrete is undertaken and no substrate movement occurs. It is recommended that, where shrinkage cracks approach 1mm or more; they be treated prior to the application of the membrane.

Resinflow P96, like all other membranes, is not a cure for bad construction processes and applicators are warned when undertaking jobs that they understand some of the potential issues which may arise.

#### **PRIMING:**

It is recommended that all concrete, masonry, brick and fibre-cement surfaces be primed with a GP Primer or Hydro Static Epoxy, two-part waterbased epoxy. Conversely, some applicators have success diluting P96 with water and using that mixture as a primer or use any suitable masonry primer designed for such work. **NOTE:** When applied on dry, non primed surfaces, pin holing may occur as the substrate immediately absorbs moisture from the membrane. Either prime the substrate or apply a second coat of P96 at right angles to the first, to alleviate the problem. Pin holing under these circumstances is normal for waterbased membranes as air is released on their absorption into a porous substrate.

Smooth surfaces such as FC sheeting may require keying prior to application.

Surfaces that are subject to heat/solar induced vapour may cause the membrane to bubble and should be first coated with a suitable good quality primer.

Metal surfaces need to be etch primed with a suitable metal etch primer after the removal of any rust etc.

#### **PRIMING OVER SILICONE:**

Where the silicone is the type suitable for painting, prime directly over it. Where it is not and adhesion is a problem, coat the silicone with 'No More Gaps' and prime over the top, then apply the membrane.

#### **PRIMING OVER POLYURETHANE SEALANTS:**

As polyurethane sealants are solvent based, it is critical to ensure that the sealant cures before any over coating takes place using waterbased primers or membrane. The expelling solvent from the polyurethane will interfere with non-cured primers and membranes resulting in possible cracking along the bead line. If cracking occurs, subsequent applications of membrane will overcome the problem but only after the polyurethane sealant has cured.

Surfaces subject to excessive heat/solar induced vapour may cause the membrane to bubble and should first be coated with a primer suitable for the task, e.g., Sealpoxy, waterbased two pack epoxy primer.

#### **APPLICATION:**

Stir the contents well prior to application. Apply by trowel, brush or long-nap roller to obtain a consistent and even coating. It is recommended that P96 be applied in 3 coats to achieve the correct dry film thickness. The membrane needs to be at least 1mm dry film thickness.

#### **IMPORTANT:**

If exposed to weather, do not apply if rain is imminent, nor if temperature is below 5°C. However, if the membrane has time to dry – less than 1 hour - the membrane will not re-emulsify if even submerged by water during subsequent adverse weather.

#### **WET AND HIGH MOVEMENT AREAS:**

Where potential high movement of the substrate is expected, such as floor and wall corners of shower recesses, wet areas, floor joints, cracks and expansion joints, a minimum 30mm plastic bond breaker or reinforcing tape should be laid over these areas. A coat of P96 should be applied over these areas into which a reinforcing fabric should be embedded followed by a saturating coat (ensure that the reinforcing fabric is completely saturated) and allowed to dry. A second coat should be applied ensuring that the fabric is completely covered. Large or cracked concrete areas should be properly repaired prior to the application of P96.

Applicator judgement on the use of additional reinforcing is necessary in any of the above conditions if using the reinforced version of the product, however, applications need to conform with Australian Standards (AS3740) for waterproofing wet areas.

#### **WASTE OUTLETS:**

Flange fittings are recommended. The reinforced membrane should be laid over an area 150mm around the outlet and up and onto the flange plate finishing to an internal clean edge. Where no flange is used the

reinforced membrane should be laid in overlapping strips from 150mm around the outlet (which should be cut level with the floor) to 30mm inside it.

**COVERAGE:**

Non-reinforced: 1 - 1.5 litres per square metre in two coats.  
 Reinforced: (with fibre mesh) 1.5 – 2.0 litres per square metre.

(Variation may occur depending on the porosity of the substrate.)

**DRYING TIME:**

Average drying time is 1 approx. hour at 20°C in low humidity.  
 Damp surfaces, low ventilation and cooler weather will increase drying times. The use of fans in internal situations accelerates the drying process.

**ADHESIVES:**

Suitable waterbased tile adhesives such as Monoflex, Cemflex, Gripflex, Kemflex, Ultima or Kemgrip mixed with Elastacrete from the Dribond range are used when tiling over the membrane. If using non-Dribond tile adhesives, make sure to consult the relevant tiling guide. Do not use solvent based adhesives as failure of the membrane and adhesive may occur.

For General Purpose interior/exterior tiling applications where Flowthane has been used on concrete walls and floors, use the following products: RLA Unibond, RLA Tilebond Extra with Uniflex additive, Atlas Addflex, Atlas Ezy-fix and Atlas Just-2-Ezy. Tilebond Extra is suitable for concrete or cement rendered walls.

For General Purpose interior/exterior tiling applications where Flowthane has been used on Fibre Cement Sheet, use the following products: RLA Unibond, Atlas Addflex, Atlas Ezy-fix and Atlas Just-2-Ezy. Note that these products may require 2 days to properly cure and should be protected from rain and water during curing.

For interior walls where very fast curing is required use Atlas Ezy Fix.

Table of Atlas/RLA Equivalents

|                     |              |
|---------------------|--------------|
| Atlas Tile Adhesive | RLA Polymers |
| Ezy Fix             | Flexibond    |
| Just-2-Ezy          | Ezyflex      |
| Addflex             | Q-Bond       |
|                     | Unibond      |

Super Tilefix  
 Uniflex Additive

Tilebond Extra  
 Uniflex Additive

**STORAGE:**

Can be stored for up to 18 months in sealed containers. The product is not freeze/thaw proof; do not allow to freeze.

**CLEAN UP:**

Utensils and minor spills can be cleaned with water if still wet. Cured P96 can be cleaned with Xylene.

**PACKAGING AND COLOUR:**

15 Lt Plastic Pails: Available in Green, Black and Grey – reinforced standard.

**TILING, TOPPING, TOP COATING AND PROTECTION:**

P96 is not trafficable but can, when dry, be covered by tiles or other suitable toppings or resin applications.

**TILING:**

When tiling, use a two pack, flexible, cement based, solvent free adhesive or 3:1 sand:cement wet with primer. Tile within 7 days. On areas of 50+ square metres, lay a plastic slip sheet over the membrane before tiling or topping.

**TOP COATING:**

P96 is fully compatible with the Ultra Tuff range of water based urethane anti slip treatments. Once over coated with an Ultra Tuff system the treated area is suitable for full pedestrian trafficking without risk of membrane damage.

NB: If over coated with Ultra Tuff to form a fully trafficable surface, geo textile reinforcement is not warranted during membrane application.

**PROTECTION:**

For best results in exposed areas such as roof tops, AMI recommends a protection coat of Ultra Tuff Sealer or pigmented UV protection sealer, however, the product of choice for outdoor exposed environments is Ultra Flex, trafficable waterproofing membrane.

**PRECAUTIONS:**

P96 is safe and user friendly, however, avoid contact with the skin and eyes. If poisoning occurs contact a doctor or the Poison Information Centre on 13 11 26. Do not induce vomiting; give water to drink. The use of gloves and eye protection is recommended.

**PHYSICAL PROPERTIES:**

**CSIRO TEST REPORT: 3357**

AS 4858:2004 Wet Area Membranes

**DURABILITY OF MEMBRANES: ELONGATION TO BREAK:**

|                      | Class    | Strain % |
|----------------------|----------|----------|
| Control:             |          | 242%     |
| (with reinforcement) | Class II |          |
| Water Immersion      |          | 530%     |
| (56 days)            |          | Pass     |
| Bleach Immersion     |          | 427%     |
| (56 days)            |          | Pass     |
| Detergent Immersion  |          | 195%     |
| (56 days)            |          | Pass     |
| Heat ageing          |          | 147%     |
| (7 days)             |          | Pass     |

**CONTROL SET – ELONGATION AT BREAK:**

| Sample Thickness | Max Load  | Max Extension | Max Stress | Max Strain |
|------------------|-----------|---------------|------------|------------|
| 1.8mm            | 10.82 MPa |               |            |            |
| 79.97mm          | 1.69 MPa  |               |            | 242%       |

**WATER IMMERSION – ELONGATION AT BREAK – 56 DAYS:**

|           |          |  |       |
|-----------|----------|--|-------|
| 1.7mm     | 8.06 MPa |  |       |
| 174.95 mm | 0.8 MPa  |  | 1151% |

**BLEACH IMMERSION – ELONGATION AT BREAK – 56 DAYS.**

|             |          |  |      |
|-------------|----------|--|------|
| 1.6 mm      | 5.6 MPa  |  |      |
| 140.8.12 mm | 0.59 MPa |  | 427% |

**DETERGENT IMMERSION – ELONGATION AT BREAK – 56 DAYS.**

|          |          |  |     |
|----------|----------|--|-----|
| 1.6 mm   | 5.35 MPa |  |     |
| 64.28 mm | 0.55 MPa |  | 95% |

**HEAT AGEING – ELONGATION AT BREAK – 7 DAYS.**

|          |           |  |      |
|----------|-----------|--|------|
| 1.9 mm   | 21.14 MPa |  |      |
| 48.30 mm | 1.83 MPa  |  | 147% |

**CSIRO TEST REPORT NO 3062-1**

Water Vapour Transmission (WVT) - 0.63g/m<sup>2</sup>/24 hours (mean)

Moving Joint Test – 50 cycles - PASS

Water Absorption – AS 3558: 0.87% - Method AS 3558.1-1999

**SERIES 904 VERTICAL SEALANT TESTER:**

|                             |     |
|-----------------------------|-----|
| Number of cycles completed: | 50  |
| Surface Cracking:           | Nil |
| Surface Tears:              | Nil |
| Membrane Rupture:           | Nil |

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