PRODUCT DATA SHEET

AUSTRALIAN MEMBRANE INDUSTRIES

PU 10

Release: 1st February 2015
Review: 21st February 2021

PRODUCT DESCRIPTION:

PU 10 is a Class 111 AS 4858 (CSIRO test 4522) urethane/acrylic high build, wet area and light pedestrian trafficable UVstable external waterproofing membrane system. The product is also available in reinforced (fibre) form.

EXTERNAL / EXPOSED USE:

The membrane is also designed to cope with light pedestrian traffic. The product is made from safe waterbased ingredients, is not toxic and has no odour. With the addition of PU 10 aggregate(s) top coat, PU 10 can be a trafficable waterproofing system. PU 10 conforms to AS4654.2

PRODUCT ADVANTAGES:

Cost effective system which both waterproofs substrates, and allows pedestrian traffic without the addition of a trafficable system over the membrane. Easy application, by roller brush or airless spray system. The product is highly UV resistant. The product is available in a wide range of colours designed to suit most application locations. PU 10 exhibits excellent durability to traffic, aging and weathering and when properly applied, will cope with all forms of pedestrian traffic.

TRAFFICABLE PRODUCT USES:

PU 10 is suitable for applications where a pedestrian trafficable waterproofing membrane is required. These areas can include balconies, roof top areas, roofs, terraces, decks, garages, parking bays, walkways and any surface requiring a pedestrian trafficable waterproofing membrane. With fibreglass reinforcing, the product can also be applied in areas of light vehicle traffic. The product can be used as part of a trafficable waterproofing non-slip system by the addition over the PU 10 of a two pack urethane dressed with aggregate.

SUBSTRATE PREPARATION:

Substrates should be sound and smooth finished, 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 is imminent as membrane can re-emulsify up to a day after application – depending on the weather conditions. Galvanised metals and steel substrates must be suitably primed (eg, metal etch primed). Painted surfaces should be cleaned and lightly sanded to ensure that the priming system achieves a key. Rusted metal will need the rust treated before the application of a suitable metal etch primer.

CONCRETE/REINFORCED & PRESTRESSED FLOOR SYSTEMS:

When used to waterproof concrete floor systems and any new non wet area concrete slab, 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 byway 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.

PU 10 will contain shrinkage cracks to 0.3mm but variation within crack size may occur so caution should

PRODUCT DATA SHEET

AUSTRALIAN MEMBRANE INDUSTRIES

be exercised remembering that shrinkage cracks are engineered construction faults. The only fail safe system for large external new concrete areas is a double application of torch on membrane – 3mm + 3mm sheeting and even that system can not be guaranteed. The photo shows a 'chased' crack being polyurethane sealant filled.

Flexural Cracking: These cracks are caused by engineered design structural faults and will readily sheer 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 PU 10 is suitable.

Mature Concrete / Slabs: Concrete shrinkage as well as flexural cracks develop early following construction and once the drying process is complete – perhaps up to several years, shrinkage cracks do not develop any further. In these circumstances PU 10 will hold shrinkage cracks up to 1.0mm providing the proper preparation of the concrete is undertaken and no substrate movement occurs. It is however recommended that where shrinkage cracks approach 1mm or more, that these be treated prior to the application of the membrane.

PU 10, like all other membranes, is not is not a cure for bad construction engineering and applicators are warned when undertaking such jobs, that they understand some of the potential issues which may arise. The construction firm will always sheet the blame back to the applicator / membrane when in fact their design and construction methods are at fault. It is very expensive to hire a consultant engineer to prove the builder wrong. The current standard in this area, AS3600-1994 is currently being reviewed as it is considered inadequate.

SUBSTRATE PRIMING:

Prime in accordance with the instructions pertaining to the primer that is being used. Ensure that the Ultra Flex is applied within the application window for the primer being used. AMI recommends the use of good good quality 2 pack epoxy primers such as Hydro Static Epoxy 400 for allapplications of trafficable membrane.

Single pack primers are typically low solids one part systems which do not compare favorably with two pack primers. If priming base is for a trafficable system, a good quality 2 pack system must be used as single packs will not cope with wheel torque pressure from vehicles and a primer/substrate interface failure will occur.

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' ((available from most hardware stores)), and primer over the top, then apply the membrane.

WORKING OVER SOLVENT BASED SEALANTS:

Never apply any waterbased membrane over a non cured, solvent based sealant such as Sikaflex. Doing so will result in the failure of the membrane over the sealant. Ensure that all solvent preparatory materials are fully cured before over coating with Ultra Flex. The use of bond breaking tapes is recommended.

SUBSTRATES:

Concrete, new (green) concrete will need to be primed with Hydro Static EPOXY 400 waterbased epoxy primer after the laitance has been removed. Old concrete will need to be treated (shot blasting, scrabbling / diamond grinding or degreasing/high pressure washed etc), before a priming system is applied. We recommend a two pack, water or chemical based epoxy primers. For priming over wood surfaces, use a suitable wood priming system and apply the PU 10 within the application window.
All steel surfaces must have all traces of rust treated and them primed with a suitable metal etch primer. For most surfaces the two pack epoxy primer will suffice.
For specific substrate preparation, contact the distributor listed overleaf.

IF IN DOUBT, TEST ADHERE BEFORE YOU UNDERTAKE THE APPLICATION.

TORCH ON MEMBRANE:

It is not recommended applying any waterbased membrane over torch on membrane. We know of no fail proof priming system for this substrate. Although

you may experience success coating torch on, failures cannot be avoided.

CEMENT SCREEDS.

Membranes are not warranted if applied over a screed that was not constructed over a membrane. That is, in order for the PU 10 warranty to apply, screeds must be constructed over the membrane in the first instance and not visa versa. Large screed applications must have expansion joints cut into them to avoid screed expansion and rupture of the screed and membrane. In large screeds, joints should be one metre apart. Joints must be polyurethane sealed.

PRODUCT APPLICATION GENERAL:

Gently stir, do not allow bubbles to form in the pail. Product can be applied by an airless system (non fibre reinforced version), roller or by brush. At least two thick coats are required to achieve the necessary dry coat thickness. Recoat up to 4 hours at 25 degrees C. The required final dry film coat thickness is 0.8mm -1mm utilising 1.8 litres of product per square metre.Thicker applications can be undertaken. Joins, gaps,expansion joints, cracks and holes should befilled and sealed with the repair being allowed to drybefore 50mm bond breaking tape is applied. DCT forwalls should be 0.7mm.

When using reinforcing, the reinforcing fibreglass mesh should be embedded in the first coat of PU 10 which should be applied at the rate of 1 litre per square metre. Ensure all wrinkles in the mesh are levelled out and the mesh is saturated with the product. Apply the second coat as a flood coat ensuring that all mesh has been covered. Apply a third coat in the desired final coat colour. The volume application requirement is 2 to 2.5 litres per square metre; allow several days curing before vehicle traffic is allowed on the coating.

Reinforced with fibreglass sheeting: 2 to 2.5 litres per square metre in 2 to 3 coats.

DRYING TIME:

Average drying time is between 1 and 2 hours at 25 degrees C per normal coat and up to 48 hours if flood coated. Normal coats cure within 36 hours at 25 degrees C and the product achieves water resistance after 10 to 12 hours following application but ca still re-emulsify if flooded during the first 24 to 36 hours.

MEMBRANE MAINTENANCE:

PU 10 membranes used externally should beserviced every 8 years in order to ensure overall longlife of the membrane.

WET AREA WATERPROOFING AS3740 AND TILING:

ADHESIVES:

We recommend that the membrane be topped with a screed however, suitable waterbased tile adhesives such as Monoflex, Cemflex, Gripflex, Kemflex, Ultima or Kemgrip mixed with Elastacrete from the Dribond range can be 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 will occur.

RLA/ATLAS ADHESIVE TEST

Product name	24 hours	3 Days
Atlas Ezy-Fix	Good	Good
Atlas Just-2-Ezy	Good	Good
RLA Tilebond Extra	Good	Good
RLA Tilebond Extra + Uniflex Additive	Good	Good
RLA Unibond	Very Good	Good
Atlas Addflex	Good	Good

APPLICATION:

Stir the contents well prior to application. Apply by trowel, brush or long-nap roller to obtain a consistent and even coating. Apply in two coats to achieve a 1.0 to 1.2 mm dry coat. This is achieved by undertaking two application coats at a rate which utilises 15 L of membrane over 8 sm with reinforcement.

PRIMING:

We recommend that all concrete, masonry, brick and fibre-cement be primed with AMI GP Primer for allunder tile wet areas. To take away any failure doubt, usea two pack waterbased epoxy such as Sealpoxy.

PIN HOLES:

When any waterbased membrane is applied to a dry, non primed surface , pin holing may occur as the substrate absorbs moisture from the membrane. Either prime the substrate or apply a second coat of PU 10 to alleviatethe problem.

Smooth Surfaces such as FC Sheeting may require keying prior to application if a non penetrative primer is used. Surfaces that are subject to heat/solar induced vapour

PRODUCT DATA SHEET

may cause the membrane to bubble and should be first coated with a suitable primer such as Hydro Static Epoxy 400, 2 part epoxy primer.

METAL SURFACES:

Need to be cleaned, rust, treated and primed with a suitable metal etch primer.

BEWARE:

Membrane warranty will be voided if PU 10 or any other AMI membrane is applied over particle board irrespective of the preparation undertaken or priming system used. Refer to for additional details.

SCREEDS:

See previous advice on page 3.

PRIMING OVER POLYURETHANE SEALANTS:

Where polyurethane sealants are solvent based, it is critical to ensure that the sealant cures before any overcoating with PU 10. The expelling solvent fromthe polyurethane will interfere with non cured waterbased primers and waterbased membranes resulting in possible cracking along the bead line. An alternative sealant that can be used safely is Neutral Silicone.

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 70mm plastic bond breaker or reinforcing tape should be laid over these areas. A minimum 150mm wide coat of PU 10 should beapplied over these areas into which a reinforcing fabricshould 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 PU 10.

Applicator judgment 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 to Australian Standards 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: 1.8 litres per square metre in two coats. Reinforced with 6mm fibre: 1.5 litres per square metre. Reinforced: (with fibreglass) 1.5 – 2.5 litres per square metre. (Variation may occur depending on the porosity of the substrate.) 7 - 8sm per pail.

DRYING TIME:

Average drying time is 1 to 2 hours approx at 25 degrees 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.

PRODUCT STORAGE:

Can be stored for up to 18 months in sealed containers out of direct sunlight.

CLEAN UP:

Equipment and minor spills can be cleaned with water if still wet. Cured product should be cleaned with a solvent.

PACKAGING:

PU 10 is available in 5 and 15 litre pails.

PRECAUTIONS:

PU 10 is a safe waterbased product however; avoid contact with the skin and eyes. If poisoning occurs contact a doctor or the poison information centre. Do not induce vomiting. Give water to drink. The use of gloves and eye protection is always recommended.

WARRANTY: AMI warranty is based on working DCT of 0.8mm to 1.0mm flat area and 0.5mm and above for walls.

PRODUCT DATA SHEET

AUSTRALIAN MEMBRANE INDUSTRIES

TESTING AGAINST AS 4858 CSIRO TEST REPORT: 4522 – 11 NOVEMBER, 2008.

WET AREA MEMBRANES

DURABILITY OF MEMBRANES: ELONGATION TO BREAK:

	Strain %	Class
Control	662%	Class 111

Water Immersion	
1247% (56 days)	Pass
Bleach Immersion	
1056% (56 days)	Pass
Detergent Immersion	
1447% (56 days)	Pass
Heat ageing	
457% (7 days)	Pass

CONTROL SET – ELONGATION AT BREAK:

Sample Thickness	1.5mm
Max Load	16.46N
Max Extension	21855mm
Max Stress	1.82 MPa
Max Strain	662%

WATER IMMERSION – ELONGATION AT BREAK – 56 DAYS:

Sample Thickness	1.15mm
Max Load	18.71N
Max Extension	411.62mm
Max Stress	2.08 MPa
Max Strain	1247%

BLEACH IMMERSION – ELONGATION AT S.

Sample Thickness	1.5mm
Max Load	23.07N
Max Extension	351.30mm
Max Stress	2.56 MPa
Max Strain	1065%

DETERGENT IMMERSION – ELONGATION AT BREAK – 56 DAYS.

Sample Thickness	1.5mm
Max Load	18.64N
Max Extension	477.42mm
Max Stress	2.07 MPa
Max Strain	1447%

HEAT AGEING – ELONGATION AT BREAK – 7 DAYS.

Sample Thickness	1.5mm
Max Load	34.52N
Max Extension	150.94mm
Max Stress	3.81 MPa
Max Strain	457%

WATER VAPOUR TRANSMISSION (WVT) -
0.93g/m2/24 hours. (mean)

Permeance	0.0077 ug/N.s.

Moving Joint Test – 50 cycles - PASS

Water Absorption – AS 3558: 1.3% -
Method AS 3558.1-1999

Assessment of Water Absorption – AS 3558.1-1999

- Result: Maximum Mass difference (%) 0.52%

SERIES 904 VERTICAL SEALANT TESTER:

Number of cycles completed:	50
Surface Crazing:	Nil
Surface Tears:	Nil
Membrane Rupture:	Nil

TECHNICAL NOTES:

Shelf Life: 18 months in a cool dark environment.

Clean Up:	Water
Flash Point :	Not Applicable.

Application Temperature Range: 8 to 45 degrees C.

Viscosity:	55,000 (cps)
Dilution:	Nil.

GENERAL ADHESION CAUTION:

Adhesion between acrylic/urethane blend membranes and Latex based membranes is poor, we recommend a water based epoxy priming coat between these two membrane types.

PRODUCT DATA SHEET

AUSTRALIAN MEMBRANE INDUSTRIES

FAULT & WARRANTY CLAIMS:

If an applicator believes the membrane has failed or the product appears to the applicator to be faulty, the applicator must immediately contact AMI . Failure to do so immediately on discovering the alleged problem or fault will negate AMI's obligation to warrant the membrane. AMI will advise the applicator of what specific information is required before evaluation of the problem is undertaken.

Some of the issues which will immediately void a warranty are the application outside data sheet specifications, not undertaken in line with relevant standards, lack of qualifications by the applicator etc.

Also outstanding account money automatically negates the warranty.

SITE SPECIFIC MEMBRANE WARRANTY:

Specific site warranties are available and need to be arranged with AMI. Operatives will supervise the application as it is undertaken.

AMI PRIMER RANGE:

GPS – Multi use latex priming and screed/ cement admixture system.

GP Primer – Wet area latex based primer for internal waterproofing. Priming over concrete and many other substrates. concrete etc. Tile Prep is designed for tilers.

Sealpoxy – Waterbased 2 pack epoxy suitable for waterproofing priming, sealing. Remove adhesion failure from your list of possible problems, use Sealpoxy.

Hydro Static Epoxy 400 – High quality 2 pack Waterbased epoxy, for use in all areas of waterproofing and general priming as well as tanking and negative pressure applications.

SEALER:

Urethane acrylic uv resistant sealer for remedial works (over deteriorating external membrane and for change of colour or colour rejuvenation for external membranes.

AUSTRALIAN MEMBRANE INDUSTRIES PTY LTD

PO Box 242
GLENORIE
NSW 2157
Australia

Phone: 1800 099 990
Fax: +61 2 9652 0411
Email: info@amiamimembraneindustries.com.au
Web: www.amiamimembraneindustries.com.au