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

EXTERNAL/ EXPOSED USE:

The membrane is designed to cope with light pedestrian traffic only. The product is made from safe water-based ingredients, is not toxic and has no odour. With the additional two pack urethane topcoat, UltraFlex FC can be incorporated in a wide range of non-slip light trafficable waterproofing and roofing systems.

PRODUCT ADVANTAGES:

Cost effective system which both waterproofs substrates and allows light 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. UltraFlex FC exhibits excellent durability to traffic, aging and weathering and when properly applied, will cope with light pedestrian traffic.

TRAFFICABLE PRODUCT USES:

UltraFlex FC is suitable for applications where a light pedestrian trafficable waterproofing membrane is required. These areas can include balconies, roof top areas, roofs, terraces and decks. The product can be used as part of a trafficable waterproofing non-slip system by the addition over the UltraFlex FC 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 (e.g., 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 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.

UltraFlex FC 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. 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 UltraFlex FC 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 UltraFlex FC 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.

UltraFlex FC, like all other membranes, 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.

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SUBSTRATE PRIMING:

Prime in accordance with the instructions pertaining to the primer that is being used. Ensure that the UltraFlex FC is applied within the application window for the primer being used. The manufacturer recommends the use of good quality two-pack epoxy primers such Floseal Vapour Lock for all applications 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 pedestrians and machines 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 prime over the top, then apply the membrane.

WORKING OVER SOLVENT BASED SEALANTS:

Never apply any water-based 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 UltraFlex FC. The use of bond breaking tapes is recommended.

SUBSTRATES:

New (green) concrete will need to be primed with a water-based epoxy primer such as Floseal Vapour Lock 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 primer.
For priming over wood surfaces, use a suitable wood priming system and apply the UltraFlex FC 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 water-based membrane over torch on membrane. We know of no fail proof priming system for this substrate. Although you may experience success in coating torch on, failures cannot be avoided.

CEMENT SCREEDS.

As per AS 3740-2010 UltraFlex FC can be applied over dry, clean, and stable screeds constructed as per AS 3958.1. Sand-cement screeds should contain polymer additives to achieve the required tensile and compressive strength.

Best practice would be to apply two coats of Floseal Vapour Lock epoxy.

Waterproofing over screeds on balconies requires the screed to be installed to AS 3958.1, and must be dry, stable, and free of all moisture content.

We recommend that two coats of Floseal Vapour Lock epoxy be installed before the application of the UltraFlex FC membrane system.

Membranes are not warranted if applied over a screed that was not constructed over a membrane. That is, in order for the UltraFlex FC 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 screed, joints should be a 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 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 1 – 1.2 mm utilising 1.5L of product per square metre. Thicker applications can be undertaken. Joins, gaps, expansion joints, cracks and holes should be filled and sealed with the repair being allowed to dry before 50mm bond breaking tape is applied.

When using reinforcing, the reinforcing fibreglass mesh should be embedded in the first coat of UltraFlex FC which should be applied at the rate of 1L 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.

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 can still re-emulsify if flooded during the first 24 to 36 hours.

MEMBRANE MAINTENANCE:

UltraFlex FC membranes used externally should be serviced every 8 years in order to ensure overall long life of the membrane.

WET AREA WATERPROOFING AS3740 AND TILING:

ADHESIVES:

We do not recommend tiling directly over UltraFlex FC as damage to the membrane can occur. We recommend that the membrane be topped with a screed however, suitable water-based tile adhesives mixed with an acrylic additive can be used when tiling over the membrane - 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 15L of membrane over 8m2 with reinforcement.

PRIMING:

We recommend that all concrete, masonry, brick and f ibre-cement be primed with Aquaflex Primer W waterbased primer for all under tile wet areas. To take away any failure doubt, use a two part waterbased epoxy such as Floseal Vapour Lock.

PIN HOLES:

When any water-based 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 UltraFlex FC to alleviate the 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 may cause the membrane to bubble and should be first coated with a suitable primer such as Floseal Vapour Lock, 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 UltraFlex FC or any other resin flow membrane is applied over particle board irrespective of the preparation undertaken or priming system used. Refer to for additional details.

SCREEDS:

See advice on previous page.

PRIMING OVER POLYURETHANE SEALANTS:

Where polyurethane sealants are solvent based, it is critical to ensure that the sealant cures before any
overcoating with UltraFlex FC. The expelling solvent from the polyurethane will interfere with non-cured water-based primers and water-based membranes resulting in possible cracking along the bead line. An alternative sealant that can be used safely is a 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 UltraFlex FC 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 UltraFlex FC. 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:

Reinforced with fibre: 1.5L per square metre in 2 coats.
Reinforced: (with fibreglass) 1.5 - 2.5L per square metre. (Variation may occur depending on the porosity of the substrate.)

DRYING TIME:

Average drying time is approximately 1 to 2 hours 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, such as Xylene.

PACKAGING:

UltraFlex FC is available in 4L and 15L pails.

PRECAUTIONS:

UltraFlex FC is a safe water-based 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.

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 Aging	457% (7 days)	Pass

CONTROL SET - ELONGATION AT BREAK

Sample Thickness	1.5mm
Max Load	16.46N
Max Extenaion	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 ATS

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 AGING - 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	0.0077ug/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:

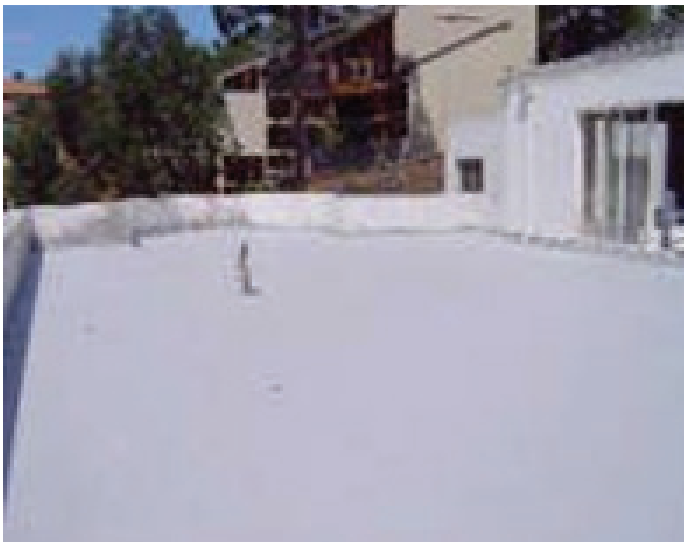
Number of cycles completed:	50
Surface Crazing:	Nil
Surface Tears:	Nil
Membrane Rupture:	Nil

TECHNICAL NOTES:

Shelf Life	18 months in a cool dark environment
Clean Up	Water
Flash Point	Not applicable
Application Temp 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.



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 the manufacturer. Failure to do so immediately on discovering the alleged problem or fault will negate the manufacturers obligation to warrant the membrane. The manufacturer 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 Manufacturer. Operatives will supervise the application as it is undertaken.

DISTRIBUTED BY:
RMR & CO PTY LTD
Unit 2, 45 Bay Road, Taren Point NSW 2229

MANUFACTURED BY
Australian Membrane Industries (AMI) Pty Ltd
PO Box 242 Glenorie NSW 2157