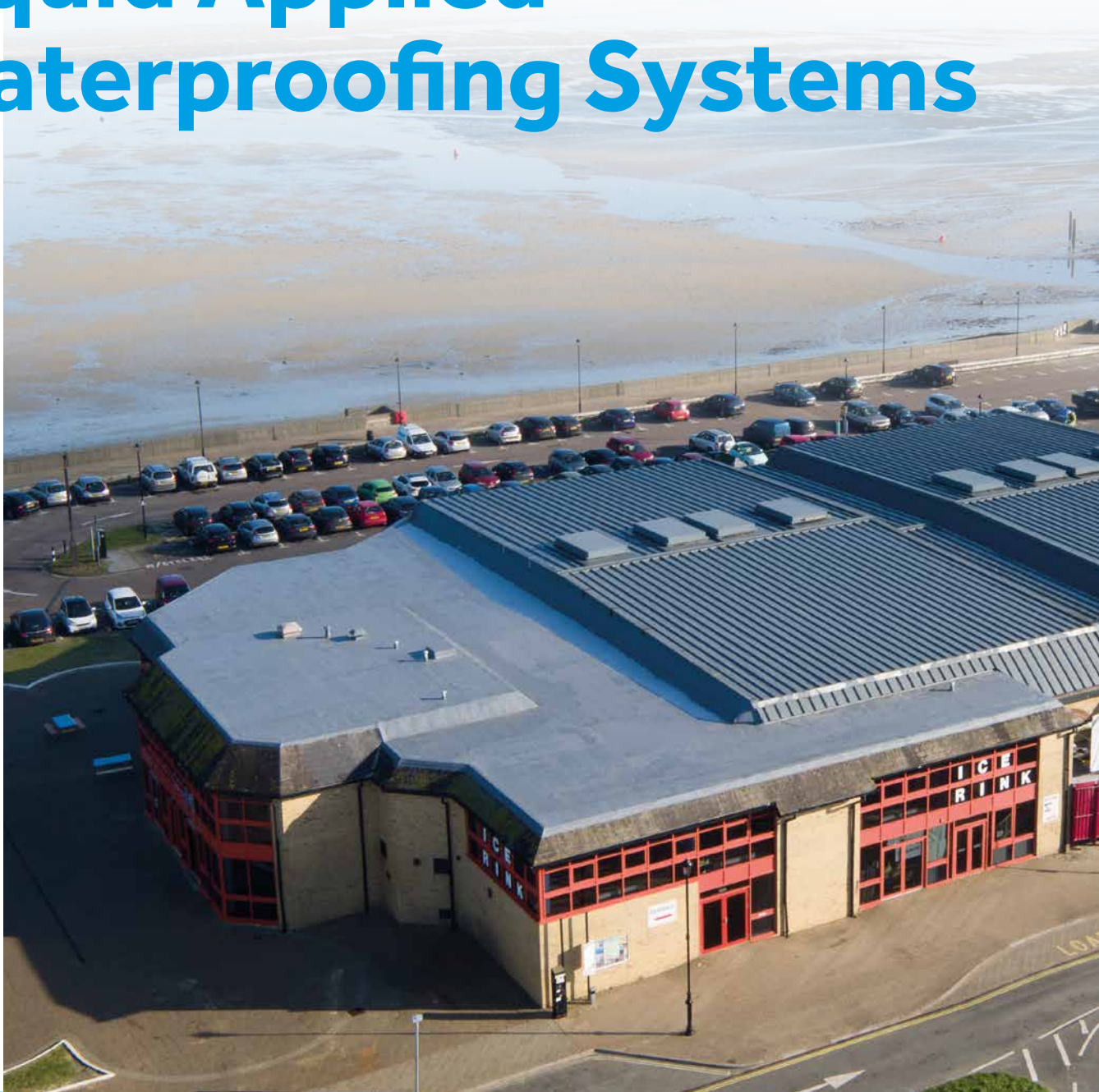


Sealoflex Ultima Liquid Applied Waterproofing Systems



BMI Sealoflex

bmigroup.com

The Sealoflex Ultima Liquid Applied Waterproofing System is an extremely versatile, single component system that is solvent-free. Seamless and light weight, it is ideal for commercial and residential projects with complex geometries and multiple penetrations on both new and existing buildings.

The System is applied in one operation, making it quick to install and easy to use. It can be applied as a complete roof overlay solution or as a detailing solution in combination with bitumen and synthetic membranes.

This installation manual provides all of the information needed to successfully install a Sealoflex Ultima System.

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Our innovative Sealoflex systems provide practical, efficient and, above all, best value waterproofing solutions.



Dallas Harris, BMI Group

Section 1

GENERAL SURFACE PREPARATION

It is the installer's responsibility to prepare the surface so that it meets the required standard prior to applying the Sealoflex Ultima System. To meet this standard, each of the conditions listed below should be addressed. (As a minimum, the surface should be clean, dry and sound).

- The existing roof membrane must be thoroughly cleaned. All dust, chalking, bitumen exudate, greases or oils and other loose debris should be removed by mechanical abrasion, power washing or sweeping. Be careful when power washing to preserve the integrity of the existing roof membrane and to avoid damage to the membrane seams (especially adhered seams). Use approved detergents for more effective washing and to remove oil and grease. Organic growth can be treated using an approved fungicidal wash. Allow the roof to dry completely.
- All preliminary work including the formation of upstands, kerbs, box gutters, sumps, grooves, chases, expansion joints etc. and any repairs to the existing surface or flashings, should be completed.
- Roof fixtures and other items such as lightning protection systems, cables, pipes and so on, should be temporarily diverted or completely removed so that the whole surface can receive the liquid applied waterproofing. Redundant or obsolete plant and equipment should be removed and disposed of accordingly. These areas should be repaired where necessary. All plant and equipment should be reinstalled on appropriate supports and bearing pads. (Before replacing any of these fixtures or items, ensure that the Sealoflex Ultima System has had adequate time to cure).
- In areas where existing insulation is found to be soft or damaged, cut out the affected area of insulation, replace with a suitable alternative and apply a replacement patch of membrane where necessary. While some areas of wet insulation might be noticeable simply by walking on them, an infrared moisture scan is recommended for all refurbishment projects to accurately determine the moisture content of the surface and where areas of wet insulation exist.

- Where there is evidence of 'standing or ponding water' on the surface, it is strongly advised to introduce positive falls that encourage the movement of rainwater to the designated discharge points.
- In some instances it may be necessary to isolate ventilation or air intake systems.

SUBSTRATE PREPARATION

It is the installer's responsibility to prepare each substrate in accordance with the instructions below. Refer to the Sealoflex Ultima Substrate Treatment and Primer Guide to select the appropriate primer for each substrate.

Plywood / OSB

Only Plywood and Oriented Strand Board (OSB) suitable for roof decking should be used. Boards for roof decking should be a minimum of 18 mm thick for joist spans of up to 600 mm.

During installation there should be an appropriate gap between boards to allow for expansion and contraction at the joint. Board joints must first be reinforced with Sealoflex Ultima Reinforcing Fabric (minimum 100 mm wide) prior to installing the full System over the whole surface area. All boards must be securely fixed and supported in accordance with the board manufacturer's instructions. Any damaged or wet boards should be replaced.

Concrete (and Screeds)

New concrete surfaces must be allowed to cure and harden for a minimum of 28 days.

Mechanical preparation such as milling, grinding with a diamond disc or grit blasting may be necessary to provide a sound, smooth surface for adhesion. Any cracks or gaps in the surface should be repaired and all laitance removed.

Moisture content should be checked and the substrate allowed to dry out if necessary.

Bituminous Surfaces

Check surface for defects. Cut out badly cracked and defective areas of felt as required. Blisters should be star cut, dried out and re-sealed. Check the integrity of up-stands and cut back or repair any layers that have de-bonded. Fill any voids greater than 5 mm with a suitable filling compound.

Solar reflective paint or other coatings on the surface should be removed by power washing, wire brushing or grit blasting as appropriate. Excess or loose mineral should be swept up with a stiff bristle broom and removed.

Note: Application of the Sealoflex Ultima System onto textured or mineral finished surfaces will increase the recommended minimum consumption of material.

Asphaltic Surfaces

Check surface for defects. Cut out and fill any blisters or defective areas with a suitable filling compound. Slumped or de-bonded asphalt should be cut back. Areas of badly crazed asphalt should be mechanically abraded to remove the majority of surface irregularities and the resulting voids filled.

Solar reflective paint or other coatings on the surface should be removed by power washing, wire brushing or grit blasting as appropriate. Embedded chippings should be removed using a mechanical scabbler.

Note: Application of the Sealoflex Ultima System onto textured surfaces will increase the recommended minimum consumption of material.

Synthetic Membranes: PVC, TPO and FPO

Any areas where the synthetic membrane has torn, cracked or buckled, or where scrim is exposed must be repaired using similar compatible materials to the current roof.

Any areas that are loose must be made good; mechanical fasteners may need to be replaced.

Metal Surfaces

Plastisol Coated Metal - Metal surfaces covered with plastisol coatings or similar require to be primed with Sealoflex Ultima EP1 Primer prior to application of the specified waterproofing membrane. An adhesion test should always be performed to ensure sufficient adhesion is achieved on the substrate. Any corrosion or oxidation should be completely removed by wire brushing or mechanical abrasion. Should the levels of corrosion be severe, consideration should be given to replacing areas affected with new materials.

Profiled Metal - Where profiled sheets drip into a separate gutter, obstruction to any condensation drip trays or dedicated ventilation channels should be avoided.

Powder Coated Metal - An adhesion test is required for metal surfaces covered with powder coatings or similar to ensure sufficient adhesion is achieved on the substrate. If adhesion is insufficient, the powder coating needs to be removed prior to application of the specified waterproofing membrane. Any corrosion or oxidation should be completely removed by wire brushing or mechanical abrasion. Should the levels of corrosion be severe, consideration should be given to replacing areas affected with new materials.

Bare Metal - Metal surfaces should be suitably abraded and/or cleaned prior to application of the specified waterproofing membrane. Stubborn stains or marks can be cleaned with White Spirit on a rag. Allow all White Spirit to evaporate before over-coating. Any corrosion or oxidation should be completely removed by wire brushing or mechanical abrasion exposing the bright metal surface beneath. Should the levels of corrosion be severe, consideration should be given to replacing areas affected with new materials.

Other Substrates

For treatment of other substrates, please contact BMI Technical Services for advice.

DEW POINT CALCULATIONS

For example, an air temperature of +20 °C with 60 % relative humidity impacting on surfaces of +12 °C or cooler, will produce condensation.

AIR TEMPERATURE (°C)	DEW POINT TEMPERATURE (°C) AT A RELATIVE HUMIDITY OF:											
	30 %	40 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %
+30	+10.5	+14.9	+18.4	+20.0	+21.4	+22.7	+23.9	+25.1	+26.2	+27.2	+28.2	+29.1
+28	+8.8	+13.1	+16.6	+18.1	+19.5	+20.8	+22.0	+23.2	+24.2	+25.2	+26.2	+27.1
+26	+7.1	+11.4	+14.8	+16.3	+17.6	+18.9	+20.1	+21.2	+22.3	+23.3	+24.2	+25.1
+24	+5.4	+9.6	+12.9	+14.4	+15.8	+17.0	+18.2	+19.3	+20.3	+21.3	+24.2	+25.1
+22	+3.6	+7.8	+11.1	+12.6	+13.9	+15.1	+16.3	+17.4	+18.4	+19.4	+20.3	+21.2
+20	+1.9	+6.0	+9.3	+10.7	+12.0	+13.2	+14.4	+15.4	+16.4	+17.4	+18.3	+19.2
+18	+0.2	+4.2	+7.4	+8.8	+10.1	+11.3	+12.5	+13.5	+14.5	+15.4	+16.3	+17.2
+16	-1.5	+2.4	+5.6	+7.0	+8.3	+9.4	+10.5	+11.1	+12.6	+13.5	+14.4	+15.2
+14	-3.3	+0.6	+3.8	+5.1	+6.4	+7.5	+8.6	+9.6	+10.6	+11.5	+12.4	+13.2
+12	-5.0	-1.2	+1.9	+3.3	+4.5	+5.6	+6.7	+7.7	+8.7	+9.6	+10.4	+11.2
+10	-6.8	-3.0	+0.1	+1.4	+2.6	+3.7	+4.8	+5.8	+6.7	+7.6	+8.4	+9.2
+8	-8.5	-4.8	-1.8	-0.5	+0.7	+1.8	+2.9	+3.9	+4.8	+5.6	+6.5	+7.3
+6	-10.2	-6.6	-3.6	-2.3	-1.2	-0.1	+1.0	+1.9	+2.8	+3.7	+4.5	+5.3
+4	-12.0	-8.4	-5.5	-4.2	-3.1	-2.0	-1.0	0.0	+0.9	+1.7	+2.5	+3.3
+2	-13.7	-10.2	-7.3	-6.1	-4.9	-3.9	-2.9	-2.0	-1.1	-0.3	+0.5	+1.3
0	-15.5	-12.0	-9.2	-7.9	-6.8	-5.8	-4.8	-3.9	-3.0	-2.2	-1.4	-0.7
-2	-17.3	-13.8	-11.0	-9.8	-8.7	-7.7	-6.7	-5.8	-5.0	-4.2	-3.4	-2.7
-4	-19.0	-15.6	-12.9	-11.7	-10.6	-9.6	-8.7	-7.8	-6.9	-6.1	-5.4	-4.7

TOOLS AND EQUIPMENT

The following is a list of basic tools and equipment used to install a Sealoflex Ultima System. Depending on the project and installers' personal preferences, other tools and equipment may also be used[†].

- Short or medium pile rollers. For field area application, large roller frames should be double armed with screw type extension poles. New roller sleeves should be used at the start of each new application.
- Mini rollers are used for detailing areas, such as corners and penetrations.
- Brushes can be used to apply primers and coatings to small areas. They can also be used to embed the reinforcing fabric into the coating at 90° angles, gaps and cracks.
- A good pair of large, sharp scissors will be needed to cut the reinforcing fabric – **do not use a utility knife**.
- Tape measure and marking pen to measure and mark reinforcing fabric.
- Disposable nitrile gloves are essential for handling the materials during applications.
- Hand held paddle or drill with a decorator's whisk is essential for mixing Parts A and B of two component systems.
- Personal Protective Equipment (PPE) such as gloves, goggles, dust masks and so on.*
- A mechanical scabbler may be required to remove solar reflective paint, chippings or other surface finishes.
- Moisture meter to measure substrate moisture.
- Grinder with diamond cup discs.
- Vacuum cleaner.
- Leaf blower.
- Sand paper.
- Adhesion tester.
- Surface temperature thermometer.

* Always refer to the Safety Data Sheets for further PPE requirements.

[†] BMI does not endorse or recommend any particular brand of tool or equipment.

Section 1

ADHESION TESTING

Adhesion tests should always be carried out when the contractor is not certain what the substrate material is or when recommended in the Substrate Treatment and Primer Guide found in this manual. The test should be carried out prior to the start of any project work to determine if or what primer is needed to achieve the best adhesion to the given substrate. It is highly recommended that the contractor or specifier run tests on particular unknown surfaces to check for adhesion.

The following items will be needed in order to carry out the test:

- Small quantity of Sealoflex Ultima Waterproof Coating
- Clean water and cloth or hand brush.
- 150 x 175 mm sections of Sealoflex Ultima Reinforcing Fabric.
- Small quantity of the appropriate Sealoflex Ultima Primer (See Substrate Treatment and Primer Guide).
- Paint brush.
- Permanent marker (to mark the tests).

To carry out a test, the instructions below should be followed taking note of the required times:

- Clean an area of the roof approximately 600 x 600 mm using the clean water and/or the hand brush.
- Section the area in two and mark one 'primed' the other 'un-primed'.
- Use the appropriate Sealoflex Ultima Primer and apply a thin even covering as stated in the primer application instructions within this manual. Allow to dry.
- Prepare the Sealoflex Ultima Waterproof Coating and apply a small even amount of product to both the primed and non-primed areas. Carefully place the 150 x 175 mm reinforcing fabric into the coating leaving a small tail of untreated fabric showing (approximately 25 mm strip to one edge). Apply a further coat of Sealoflex Ultima Waterproof Coating to the saturated fabric and leave to cure.

- Allow the samples to cure for 24 hours.
- Once cured, pull up the sample patches. Both samples will pull from the surface. Compare which of the sample is the harder to remove and which of these samples leaves a quantity of product on the substrate (if any).

It is recommended to photograph both samples as they are pulled back and document the findings for record.

MAINTENANCE

BMI recommend that maintenance staff and / or a maintenance contractor inspect the roof periodically or at least twice a year, ideally before and after the winter period. This ensures that dirt and debris is removed before it can cause damage and that signs of any failure can be reported and remedial action taken at an early stage. Maintenance items, including flashings and sealants, are the responsibility of the building owner and are not included within the scope of a BMI Roofing System Warranty.

The inspection should concentrate on high-risk areas such as roof hatches, drains and around all rooftop equipment, as well as general inspection of the entire roof. The inspector should be looking for membrane damage (cuts and tears), oil or refrigerant leaks, chemical spills from roof plant machinery, or water infiltration into the roofing system itself.

Compliance with the maintenance requirements listed below will aid in assuring a durable and watertight roof waterproofing membrane.

Failure to adequately maintain the roof may invalidate any BMI warranty.

ITEM	ACTION
Internally	Check internal surfaces visually for signs of moisture, leakage or condensation (e.g. damp patches, staining, etc).
General	Remove any unnecessary debris from the roof area particularly objects, which could cause damage to the membrane. Do not use the roof as a working platform for adjoining buildings or further works. If access is required adequate protection must be provided so as not to damage the membrane.
Drainage	Keep the roof surface clean at drain areas to avoid clogging. Clear leaves, silt or other debris, which may cause blockage of outlets or otherwise impede drainage. Check that ponding water is drained from the roof within 48 hours following rain.
Petroleum Products	Keep all petroleum products (solvents, greases, paints, oils or any liquids containing petroleum products) off the membrane to avoid degradation.
Animal Fats	Do not exhaust kitchen wastes (vegetable oils) or other animal fats directly onto the roof surface. They could degrade the membrane.
Chemicals	Contact BMI if any chemicals come in contact with the roofing membrane. Some chemicals could degrade the membrane or cause swelling.
Foot Traffic	Walkways must be provided if regular traffic is required or if rooftop equipment has a regular thirty (30) day or less maintenance schedule. Exercise caution when not walking on walkways, especially on white membranes since ice or frost build-up may not be visible. Membranes are slippery when wet.
Roof Alterations	Check with BMI that the proposed alteration will not invalidate the warranty. Work should be carried out by the roofing contractor who carried out the original installation to limit split liability. Do not allow other trades to fix through the waterproofing membrane without proper advice. This is especially important when having aerials, heating and ventilation equipment or telephone cables fitted.
Cleaning	Pressure washers can be used to clean the Sealoflex Ultima Liquid Applied Waterproofing Membrane (including anti-skid surface finishes) where the following limits are observed: <ul style="list-style-type: none"> ▪ Pressure to be no greater than 40 bar / 580 psi. ▪ Minimum 20 cm distance between pressure washer nozzle and surface.
Metal Work	Keep roof maintenance items, such as counterflashing, metal curbs and metal ducts sealed watertight at all times.
Leaks	Try to determine if it is a roof membrane leak or a wall, curb, skylight, metal ductwork or plumbing leak. Deterioration or failure of building components that causes a leak is not covered by the warranty. A water leak may be indicated by soft or warped insulation or the presence of water under the membrane. Physical damage to the membrane or flashing is not covered by the warranty. Please notify BMI if the leak is determined to be membrane related. The building owner is liable to the cost of investigation and repair if the problem is found to be outside the scope of the waterproofing warranty.
Temporary Repairs	Damaged areas of membrane should be repaired as follows. Remove any excess debris, including the cutting away of any loose or damaged membrane. Thoroughly clean the affected area. Once prepared, apply a base layer of Sealoflex Ultima Coating at the required coverage rate and install a pre-cut section of Sealoflex Ultima Reinforcing Fabric. Complete the repair with the application of Sealoflex Ultima Coating as the top layer.
Rooftop Maintenance	When it is necessary for workers to be on the roof to service rooftop equipment, e.g. HVAC units, antennas, etc, workers should be cautioned to use walkways where present and to exercise care with their tools and equipment to avoid puncturing the roofing membrane.

Section 2

SEALOFLEX ULTIMA SYSTEM COMPONENTS

SYSTEM COMPONENT	DESCRIPTION	COMPONENT SIZE	CONSUMPTION
Substrate Primers			
Sealoflex Ultima Bitumen Primer	For use on bitumen and asphalt based substrates	2.5 litre, 5 litre and 15 litre	0.3 L/m ²
Sealoflex Ultima EP1 Primer	For use on PVC membranes and wooden roof boards	1 litre, 5 litre and 15 litre	0.2 L/m ²
Sealoflex Ultima Concrete Primer	For use on cementitious substrates	(3 x 1 kg); 10 kg	0.5 kg/m ²
Sealoflex Ultima TPO Primer	For use on TPO and FPO membranes	1 litre	0.1 L/m ²
Waterproof Coating			
Sealoflex Ultima Waterproof Coating – Grey and White	Single component waterproof coating	5 litre and 15 litre	1.5 - 2.1 L/m ² (2.2 kg/m ² - 3.2 kg/m ²)*
Reinforcing Membrane			
Sealoflex Ultima Reinforcing Fabric	Polyester reinforcement for the Sealoflex Ultima System	1 m x 50 m; 0.3 m x 50 m	N/A
Surface Finish			
Sealoflex Ultima Wearcoat Clear	Clear liquid UV protection coating	5 litre	0.3 kg/m ²
Sealoflex Ultima Coloured Quartz	0.4 - 0.8 coloured quartz granules for anti-skid walkway	25 kg	3 - 5 kg/m ²

* For P4 (Premium) Specification, minimum consumption is 2.1 L/m² (3.2 kg/m²). See Sealoflex Ultima Waterproof Coating Product Data Sheet for Protective Coating Application Instructions and Consumption.

SUBSTRATE TREATMENT AND PRIMER GUIDE

SUBSTRATE	PRE-TREATMENT	PRIMER
Asphalt; APP* and SBS modified bitumen membranes; hot and cold bitumen coatings	Grinding, milling or dust free shot blasting	Sealoflex Ultima Bitumen Primer
Concrete; light weight concrete; plaster or masonry; screeds; tiles; timber	Grinding, milling or dust free shot blasting	Sealoflex Ultima Concrete Primer
Metals (rust free) – aluminium; copper; stainless steel; galvanised steel; zinc	Mechanically remove any surface rust and wipe down with White Spirits	No primer
Synthetic membranes (TPO, FPO)	Clean, dry and sound	Sealoflex Ultima TPO Primer
Synthetic membranes (PVC and EVA)	Clean, dry and sound	Sealoflex Ultima EP1 Primer
Approved wooden roofing boards	Clean, dry and sound	Sealoflex Ultima EP1 Primer
Epoxy resin coating	Abrade; adhesion and compatibility test	No primer
uPVC Sky light frames; rigid PVC	Clean and mechanically abrade	No primer
PU coating	Abrade; adhesion and compatibility test	No primer

*APP membranes must be surfaced with mineral chippings.

PRIMERS

Sealoflex Ultima Bitumen Primer

Surfaces to be primed: New and aged bitumen membranes; asphalt.

Application Conditions

Apply only when atmospheric and substrate temperatures are greater than 5 °C. The surface of the substrate should be clean and dry and must be 3 °C above the dew point. If the surface is at or below the dew point temperature, moisture can form at the surface, which might affect adhesion and curing. Optimal application temperature is above 12 °C.

Before applying Sealoflex Ultima Bitumen Primer:

- Make sure the surface has been properly prepared.
- Ensure all tools and equipment are available and ready to use.

Application

- 1 Remove the lid of the container and stir product with a mixing stick or a mechanical mixer at low speed until it has reached an even consistency and is a solid blue colour.
- 2 Apply product to the substrate using a roller or a brush (product may also be spray applied).
- 3 The minimum consumption is 0.3 litre / m²; this may increase depending on the texture of the surface.
- 4 Allow primer to dry thoroughly before applying the Sealoflex Ultima System.

Drying Time

The product is 'rainproof' after approximately 45 minutes and is ready to overcoat after 1 – 2 hours (at 23 °C and 50% RH). Drying times may be longer depending on ambient conditions.

Please Note

- Sealoflex Ultima Bitumen Primer must fully cover the substrate surface area and have a consistent blue colour throughout; if this is not the case, apply a further coat until a consistent blue colour is achieved.
- The Sealoflex Ultima System must be applied to the primed surface within 8 days of application. If left longer, the surface must be re-primed.

Sealoflex Ultima EP1 Primer

Surfaces to be primed: New and aged PVC membranes; timber roofing boards; timber structures; GRP membranes; GRP trims.

Application Conditions

Apply only when atmospheric and substrate temperatures are greater than 5 °C. The surface of the substrate should be clean and dry and must be 3 °C above the dew point. If the surface is at or below the dew point temperature, moisture can form at the surface, which might affect adhesion and curing. Optimal application temperature is above 12 °C.

Before applying Sealoflex Ultima EP1 Primer:

- Make sure the surface has been properly prepared.
- Ensure all tools and equipment are available and ready to use.

Application

- 1 Remove the lid of the container and stir product with a mixing stick or a mechanical mixer at low speed until it has reached an even consistency.
- 2 Apply product to the substrate using a roller or a brush (product may also be spray applied).
- 3 The minimum consumption is 0.1 litre / m²; this may increase depending on the texture of the surface.
- 4 Allow primer to dry thoroughly before applying the Sealoflex Ultima System.

Drying Time

The product is 'rainproof' after approximately 20 minutes and is ready to overcoat after 30–60 minutes (at 23 °C and 50% RH). Drying times may be longer depending on ambient conditions.

Please Note

- Sealoflex Ultima EP1 Primer is milky white when applied. As the primer dries, it becomes transparent giving the surface a 'shiny' appearance. If the 'shine' is not visible apply a further coat, wait for it to dry and check the surface. Only when the surface has a shiny appearance is it ready to receive the Sealoflex Ultima System.
- The Sealoflex Ultima System must be applied to the primed surface within 8 days of application. If left longer, the surface must be re-primed.

Sealoflex Ultima Concrete Primer

Surfaces to be primed: Concrete and cementitious based substrates.

Application Conditions

Apply only when atmospheric and substrate temperatures are greater than 10 °C. The surface of the substrate should be clean and dry and must be 3 °C above the dew point. If the surface is at or below the dew point temperature, moisture can form at the surface, which might affect adhesion and curing.

Before applying Sealoflex Ultima Concrete Primer:

- Make sure the surface has been properly prepared.
- Ensure all tools and equipment are available and ready to use.

Application

For 10kg component size: Pour Component B into Component A and mix with a mechanical mixer at low speed until the mixture has an even consistency and colour and is free from streaks. (Mixing time is 2 minutes and product must be applied within 25 minutes of mixing).

For 3 x 1kg sachets: Remove the bag from the aluminium packaging. Knead Component A (bigger part) thoroughly. Pull away the rubber cord separating the two components, so that both components (A and B) can be mixed together. Now knead the bag quickly and thoroughly (30 - 60 seconds) so that a homogenous mixture is formed. Cut off one corner and pour the product into a separate container.

- 1 Apply the product evenly to the substrate using a roller.
- 2 The minimum coverage rate is 0.4 kg / m²; this may increase depending on the texture of the surface.
- 3 Allow primer to dry thoroughly before applying the Sealoflex Ultima System.

Note: Sealoflex Ultima Concrete Primer is available in a Winter grade where the minimum application temperature is 5 °C.

Drying Time

The primer requires a minimum of 16 hours to cure and must be 'tack free' before it is ready to receive the Sealoflex Ultima System.

Please Note

- The Sealoflex Ultima System must be applied to the primed surface within 8 days of application. If a delay of longer than 8 days is anticipated. Sealoflex Ultima Coloured Quartz can be broadcast into the wet primer to avoid re-priming.

Sealoflex Ultima TPO Primer

Surfaces to be primed: New and aged TPO and FPO membranes.

Application Conditions

Apply only when atmospheric and substrate temperatures are between 5 °C and 35°C. The surface of the substrate should be clean and dry and must be 3 °C above the dew point. If the surface is at or below the dew point temperature, moisture can form at the surface, which might affect adhesion and curing.

Before applying Sealoflex Ultima TPO Primer:

- Make sure the surface has been properly prepared.
- Ensure all tools and equipment are available and ready to use.

Application

- 1 This solvent based primer does not require mixing.
- 2 Apply product to the substrate in a flowing motion using a roller or a brush.
- 3 The minimum consumption is 0.1 litre / m².
- 4 Allow primer to dry thoroughly before applying the Sealoflex Ultima System.

Drying Time

The primer is ready to overcoat within 15 – 60 minutes (at 23 °C and 50% RH). Drying times may be longer depending on ambient conditions.

Please Note

- The Sealoflex Ultima System must be applied to the primed surface within 48 hours of application. If left longer, the surface must be re-primed.

WATERPROOF LAYER

The Sealoflex Ultima System is applied in a continuous sequence of base coat, fabric reinforcement and top coat. This process is referred to as 'wet on wet'. When the System is cured it becomes a fully saturated, reinforced waterproofing membrane.

When using the System for a complete roof installation, whether for new construction or for refurbishment, it is recommended to waterproof the roof details first, before proceeding to the field area. The use of masking tape to mark off the detailing areas before applying the System, is also recommended.

Lastly, it is recommended to pre-cut the reinforcing fabric to be used on details into the required lengths and shapes, before proceeding with the installation.

Before applying the Sealoflex Ultima System:

- Make sure the surface has been properly prepared and primed with the recommended Primer.
- Ensure all tools and equipment are available and ready to use.

Application Conditions

Apply when atmospheric and substrate temperatures are between 0 and 40 °C and the surface is 3 °C above the dew point. (See Dew Point Calculation Table in this manual) If the surface is below or at dew point temperature then moisture can form at the surface, which can affect adhesion.

Do not apply if rain is imminent.

Mixing Instructions

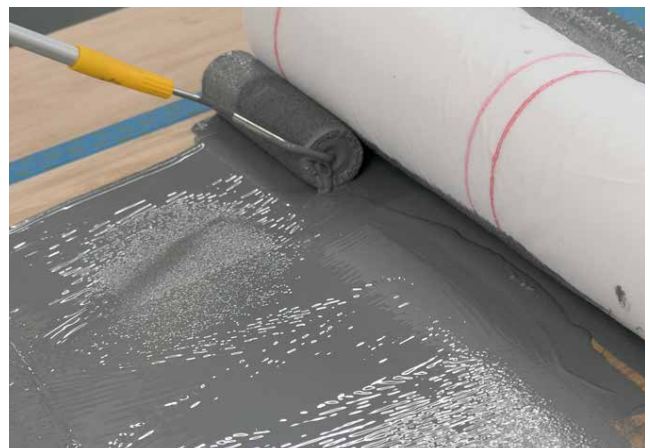
Sealoflex Ultima Waterproof Coating is a single component liquid that is ready to use straight out of the plastic container. However, each new container will require mixing before use.

To mix, use a suitable mixing stick or a mechanical mixer at low speed. **Do not** mix at high speed or over agitate the liquid when mixing, as this will result in air becoming trapped in the liquid. If this does occur, allow the product to settle for approximately 5 minutes or until no more air bubbles are visible.

At low temperatures the liquid may thicken, making it difficult to apply. Therefore we recommend that containers are stored at temperatures above 10°C before arriving at the job site.

Application Methodology

- 1 Follow the consumption rates stipulated in the Product Data Sheet and Specification Guide provided.
- 2 Apply a base coat of Sealoflex Ultima Waterproof Coating to the prepared substrate at the recommended membrane coverage rate.



- 3 Place the Sealoflex Ultima Reinforcing Fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.



- 4 Apply a top coat of Sealoflex Ultima Waterproof Coating to the saturated fabric at the recommended membrane coverage rate.
- 5 Allow to cure.



Job Interruptions and Over Coating

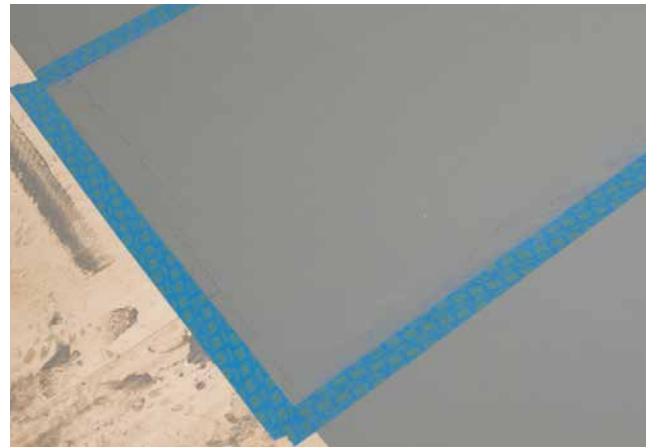
The Sealoflex Ultima System may be over coated at any time after initial installation without the need for any special preparation. However, make sure the surface to be coated is clean and dry before over coating.

ANTI-SKID WALKWAY SYSTEM

To create a surface above the waterproofing layer that is suitable for foot traffic install the Sealoflex Ultima Anti-skid Walkway System. Designed to provide the optimum combination of aesthetic and functional performance the Sealoflex Ultima Anti-skid Walkway System forms an integral part of a complete Sealoflex Ultima System where waterproofing and surfacing are required.

Install the Sealoflex Ultima Anti-skid Walkway System as follows:

- 1 Tape the designated area with good quality masking tape.



- 2 Apply a thin base coat of Sealoflex Ultima Waterproof Coating at a consumption rate of 0.2 L/m².



- 3 Broadcast Sealoflex Coloured Quartz onto the wet layer of coating at a consumption rate of 3 kg/m² or until no wet patches show through the layer of Quartz.



- 6 Apply Sealoflex Ultima Wearcoat Clear at a consumption rate of 0.3 kg/m².
- 7 Leave to dry.



- 4 Allow at least 2 or 3 hours for the coating to cure before sweeping away the excess Quartz.
- 5 Ensure that no loose Quartz granules remain on the surface.



Please Note

- Before the Sealoflex Ultima Anti-skid Walkway System is installed check that the waterproofing layer has fully cured and is free from any defects.
- Sealoflex Ultima Wearcoat Clear is milky white when applied. As it dries it becomes transparent giving the Quartz surface a 'shiny' appearance. If the 'shine' is not visible apply a further coat, wait for it to dry and check the surface again.
- Installation of the Sealoflex Ultima Anti-skid Walkway System is complete when the Quartz surface has a shiny appearance.
- The System is ready to receive foot traffic, 24 hours after installation.

GENERAL NOTES

Fabric Overlaps

All overlaps of Sealoflex Reinforcing Fabric on field areas and details should be a minimum of 75 mm. Always ensure that there is sufficient coating between fabric overlaps and that no air is trapped within the overlap.

Waterproofing Height Above Roof Deck

Follow local guidelines on minimum height above roof deck to receive waterproofing membrane. BMI recommends a minimum height of 150 mm above the deck, with at least 10 mm of coating extending above the top edge of the fabric to ensure proper sealing.

Day Joints

Where new waterproofing membrane is to be joined to existing cured membrane at a day joint, the new application should be lapped on to the existing by 75 mm.

No preparation is necessary unless the existing membrane is contaminated on the lap edge, in which case appropriate measures should be taken to clean the surface.

Cleaning of Tools and Equipment

Re-usable tools and equipment can be cleaned with a low solvent type cleaner such as 'white spirits'. Do not allow material to cure on tools as it then becomes very difficult to remove.

All brushes and rollers must be clean before use. Wrap 'gaffer' tape around the roller head prior to use to remove loose fibres. New roller heads should be used at the start of each new application. Keep your equipment clean and tidy. Wipe up all splashes and spills as they occur.

Health & Safety

Safety Data Sheets for all components in the Sealoflex Ultima System and any associated products must be available on site. The Authorised Contractor must read and understand them before commencing work.

All relevant Health & Safety signage must be posted in advance of any System application to inform members of the public, road users or other contractors of the works in progress.

Important Note

When transporting, storing and working with Sealoflex Ultima System Components, always ensure compliance to all pertinent safety data sheets and technical codes of practice, and pay attention to all markings, hazard information and safety tips on the containers.

Storage

Keep containers firmly sealed.

Containers must be stored in a dry, cool (but frost-free) and well ventilated place.

Protect against heat and direct sunlight.

Storage stability: at least 12 months.

In winter, store containers at room temperature prior to use where possible.

Clean Working Environment

The areas used for mixing and transferring products to other containers must be covered with a suitable plastic sheet (e.g., PE sheet), before work commences.

Disposal of Waste Product and Containers

All waste containers must be disposed of in accordance with the Local Authority and Environmental requirements. See Product Safety Data Sheets for guidance.

Section 3

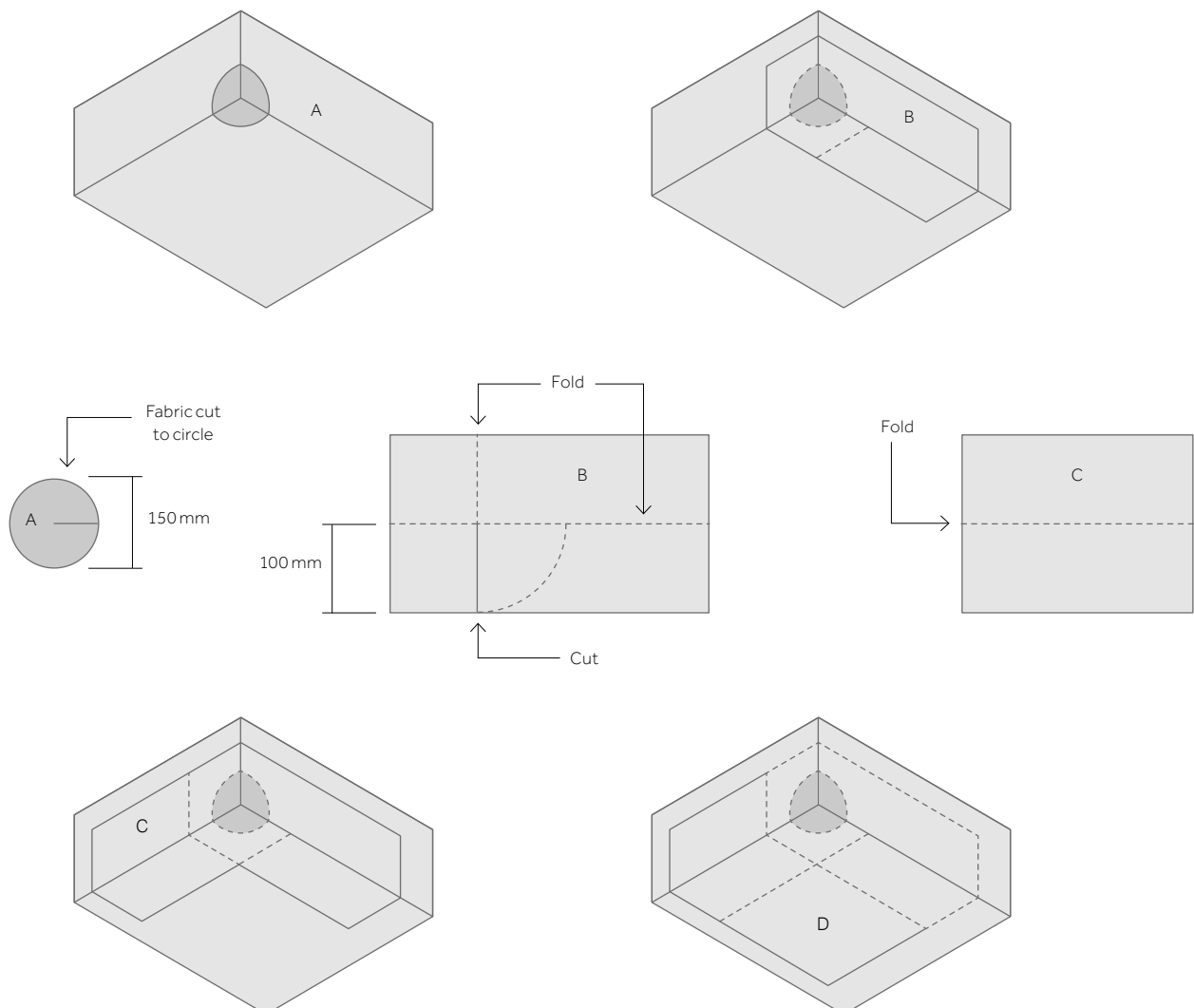
INTERNAL AND EXTERNAL CORNERS

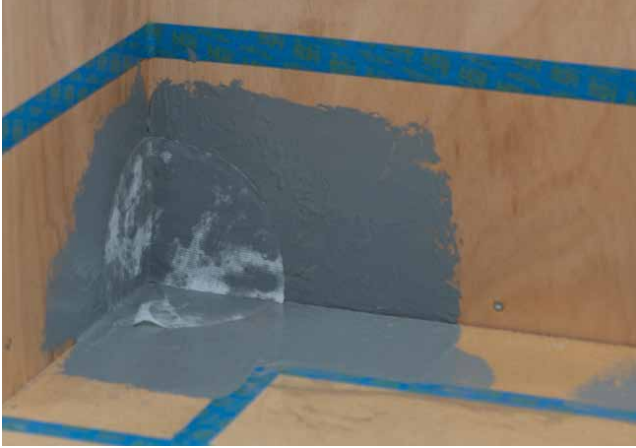
All corner details must be double reinforced with the Sealoflex Ultima Reinforcing Fabric.

- 1 Cut circles approximately 150 mm in diameter from the Reinforcing Fabric.
- 2 Fold twice and cut along one fold into the centre.
- 3 Apply a base coat of Sealoflex Ultima Waterproof Coating to the area around the corner and place the circle into the base coat as shown.

- 4 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 5 For the internal corner, make sure there is a layer of liquid between the folds of the fabric.
- 6 Tape the vertical surface a minimum of 160 mm above the horizontal surface and the horizontal surface a minimum of 120 mm out from the base of the vertical surface on either side of the corner.
- 7 Cut a strip of Reinforcing Fabric so that it extends 75 mm around each corner as shown.

Fabric Cuts for Internal Corner





Fabric A



Fabric B

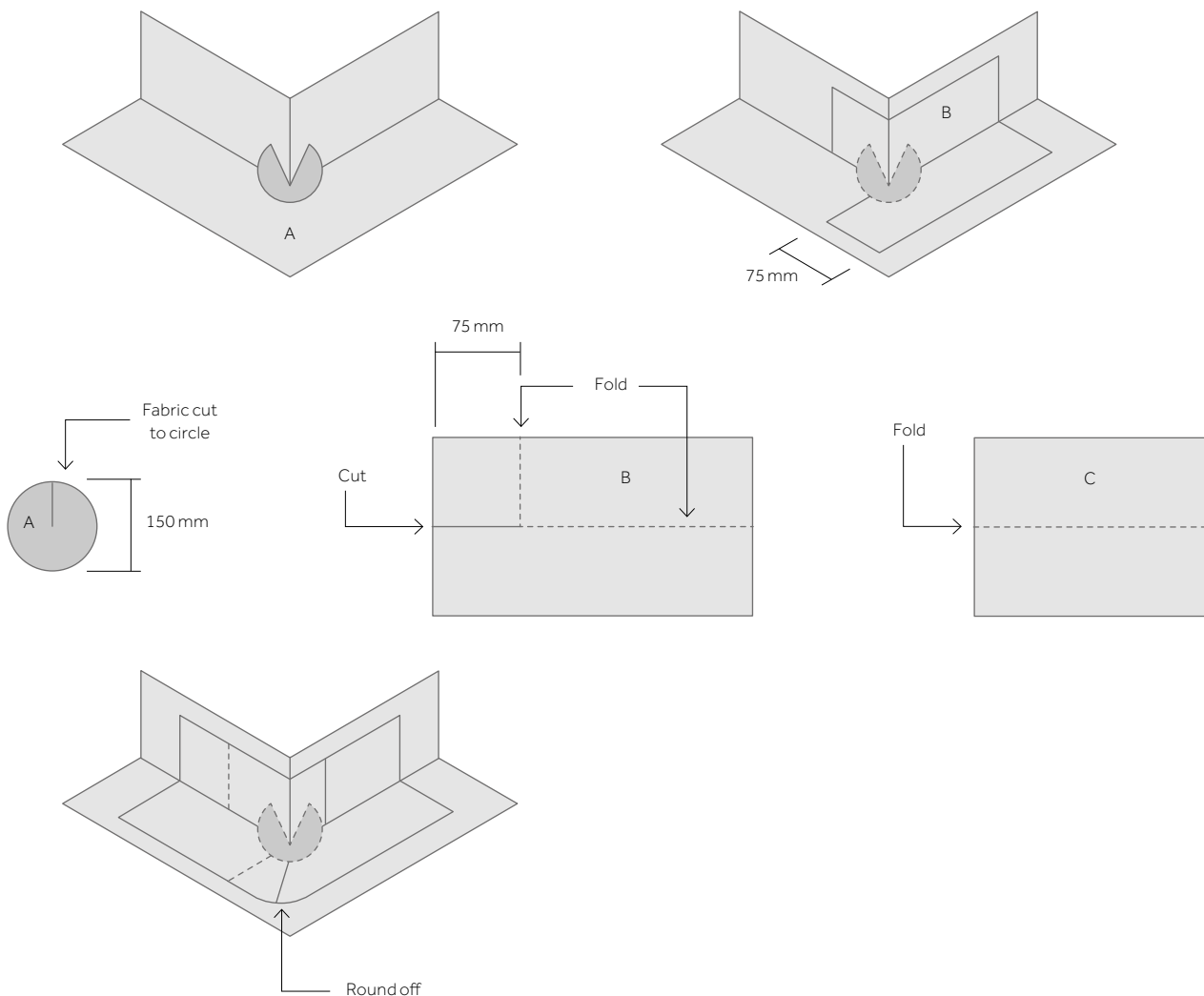


Fabric C



- 8 Apply a base coat of Sealoflex Ultima Waterproof Coating to the vertical and horizontal areas around the corner, covering the saturated Reinforcing Fabric already installed.
- 9 Make a cut 100 mm long that is 75 mm from the edge of the fabric as shown.
- 10 Place the Reinforcing Fabric at least 150 mm up from the horizontal surface on the vertical, press into the angle at the base and 'return' the fabric around the corner as shown.
- 11 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 12 For the internal corner, make sure there is a layer of liquid between the folds of the fabric.
- 13 Apply the top coat of Sealoflex Ultima Waterproofing Coating to the saturated Reinforcing Fabric.
- 14 Remove the tape before the System cures.

Fabric Cuts for External Corner





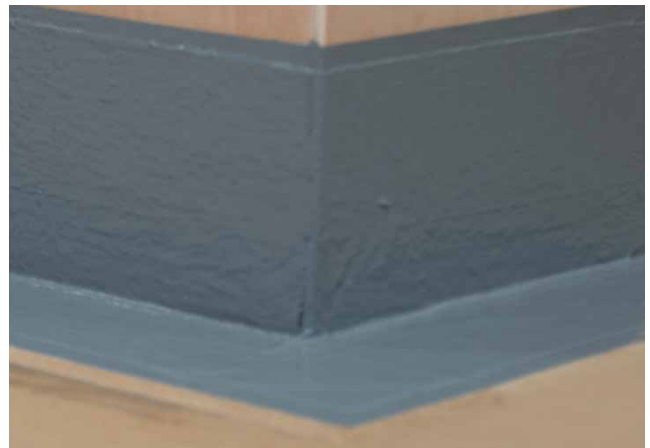
Fabric A



Fabric B



Fabric C



UPSTANDS

All junctions at vertical and horizontal surfaces must be reinforced with Sealoflex Ultima Reinforcing Fabric. Although it is possible to apply Reinforcing Fabric direct from the roll, in certain conditions such as where surfaces are uneven or in windy weather, it is advisable to cut the fabric into more manageable lengths.

- 1 Tape the vertical surface a minimum of 160 mm above the horizontal surface and the horizontal surface a minimum of 110 mm out from the base of the vertical surface.
- 2 Cut a strip of Reinforcing Fabric to the required length.
- 3 Apply a base coat of Sealoflex Ultima Waterproof Coating to the vertical and horizontal areas.
- 4 Place the Reinforcing Fabric at least 150 mm up from the horizontal surface on the vertical and press into the angle at the base.
- 5 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 6 Apply the top coat of Sealoflex Ultima Waterproofing Coating to the saturated Reinforcing Fabric.
- 7 Remove the tape before the System cures.

PIPE PENETRATIONS

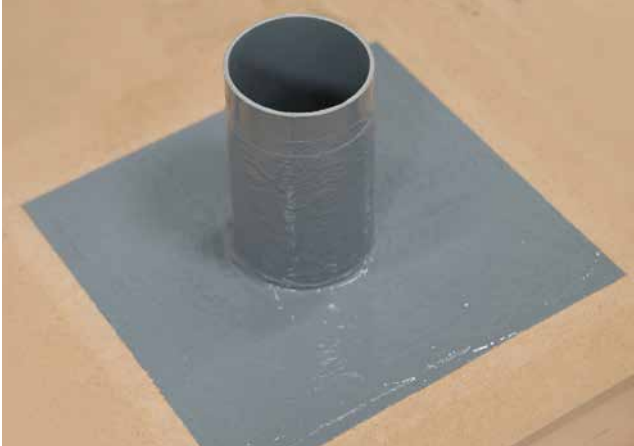
All pipe penetrations are double reinforced using two pieces of Sealoflex Ultima Reinforcing Fabric.

The first piece of fabric should be cut to a width that extends a minimum of 150 mm up the vertical surface of the pipe from the horizontal surface and a minimum of 75 mm from the base of the pipe onto the horizontal surface.

- 1 Cut a length of Reinforcing Fabric 50 mm more than the circumference of the pipe, allowing for the overlap.
- 2 Measure and draw a line 75 mm from the edge of the fabric.
- 3 Make cuts every 20 – 30 mm from the edge of the fabric up to the line.
- 4 Tape the circumference of the pipe at least 160 mm from the horizontal surface; and tape a square at least 10 mm beyond the length of the fabric strips.
- 5 Apply a base coat of Sealoflex Ultima Waterproof Coating to the vertical and horizontal areas.
- 6 Place the solid section of Reinforcing Fabric (which will be at least 150 mm wide) into the base coat on the surface of the pipe and the 'finger cuts' of Reinforcing Fabric into the base coat of the horizontal surface around the pipe as shown.
- 7 Make sure the fabric is 'tight' at the vertical and horizontal junction and that there is a layer of liquid between the fabric overlap.
- 8 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.

The second piece of fabric should be cut to a square with sides equal in length to the diameter of the pipe + the length of the 'finger cuts' + 10 mm. (Alternatively, two pieces of fabric should be cut so that they go around the pipe with an overlap of 75 mm.

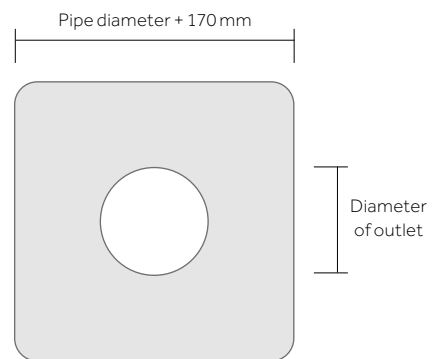
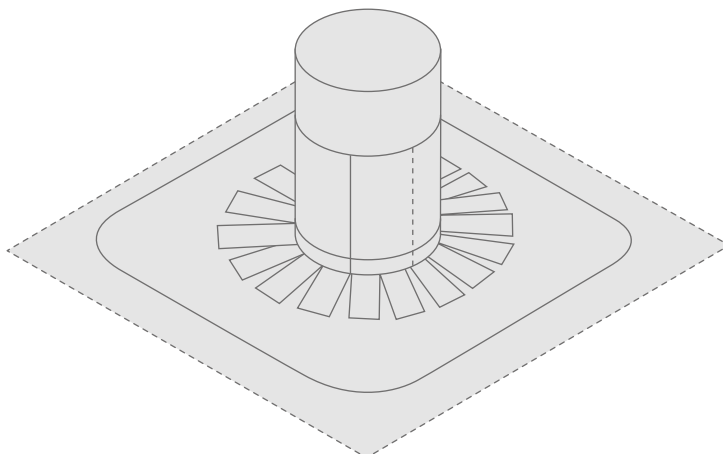
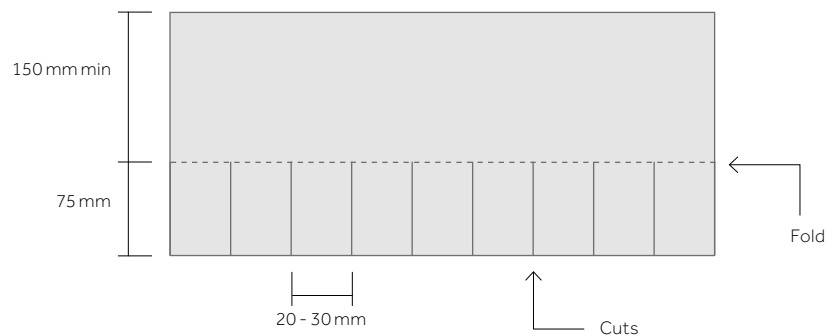
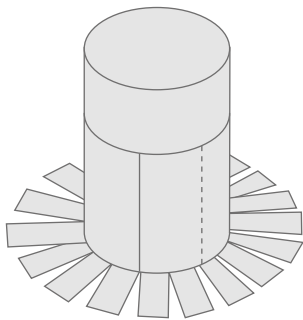




If using one piece of fabric:

- 1 Place the fabric over the centre of the pipe and draw a circle around the circumference.
- 2 Cut out this circle.
- 3 Apply a coat of Sealoflex Ultima Waterproofing Coating onto the saturated Reinforcing Fabric on the horizontal surface.
- 4 Place the fabric over the pipe and press down onto the horizontal surface.
- 5 Using a roller or a brush embed the fabric into the coating making sure there are no creases in the fabric and that no air is trapped beneath it.
- 6 Apply the top coat of Sealoflex Ultima Waterproof Coating to the saturated fabric around the whole detail area.
- 7 Remove the tape before the System cures.

Fabric Cuts for Pipe Penetration



INTERNAL RAINWATER OUTLETS

Before applying the Sealoflex Ultima System to an existing internal rainwater outlet, remove any leaf grates or covers and set aside. Clear any debris or blockages from the outlet. Any damage to the outlet should be suitably repaired.

When applying the Ultima System to an outlet ensure that drainage will not be impaired.

All internal rainwater outlets are double reinforced using two pieces of Sealoflex Ultima Reinforcing Fabric.

The first piece of fabric should be cut to a minimum width of 125 mm so that it extends a minimum of 50 mm into the outlet and a minimum of 75 mm from the top of the outlet onto the horizontal surface.

- 1 Cut a length of Reinforcing Fabric 50 mm more than the circumference of the pipe, allowing for the overlap.
- 2 Measure and draw a line 75 mm from the edge of the fabric.
- 3 Make cuts every 20 – 30 mm from the edge of the fabric up to the line.
- 4 Tape a square around the outlet at least 10 mm beyond the length of the 'finger cuts'
- 5 Apply a base coat of Sealoflex Ultima Waterproof Coating around the outlet and at least 60 mm down the inside surface of the outlet
- 6 Place the solid section of Reinforcing Fabric (which will be at least 50 mm wide) into the base coat on the inside surface of the outlet and the 'finger cuts' of Reinforcing Fabric into the base coat around the outlet as shown.
- 7 Make sure the fabric is 'tight' at the vertical and horizontal junction and that there is a layer of liquid between the fabric overlap.
- 8 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.



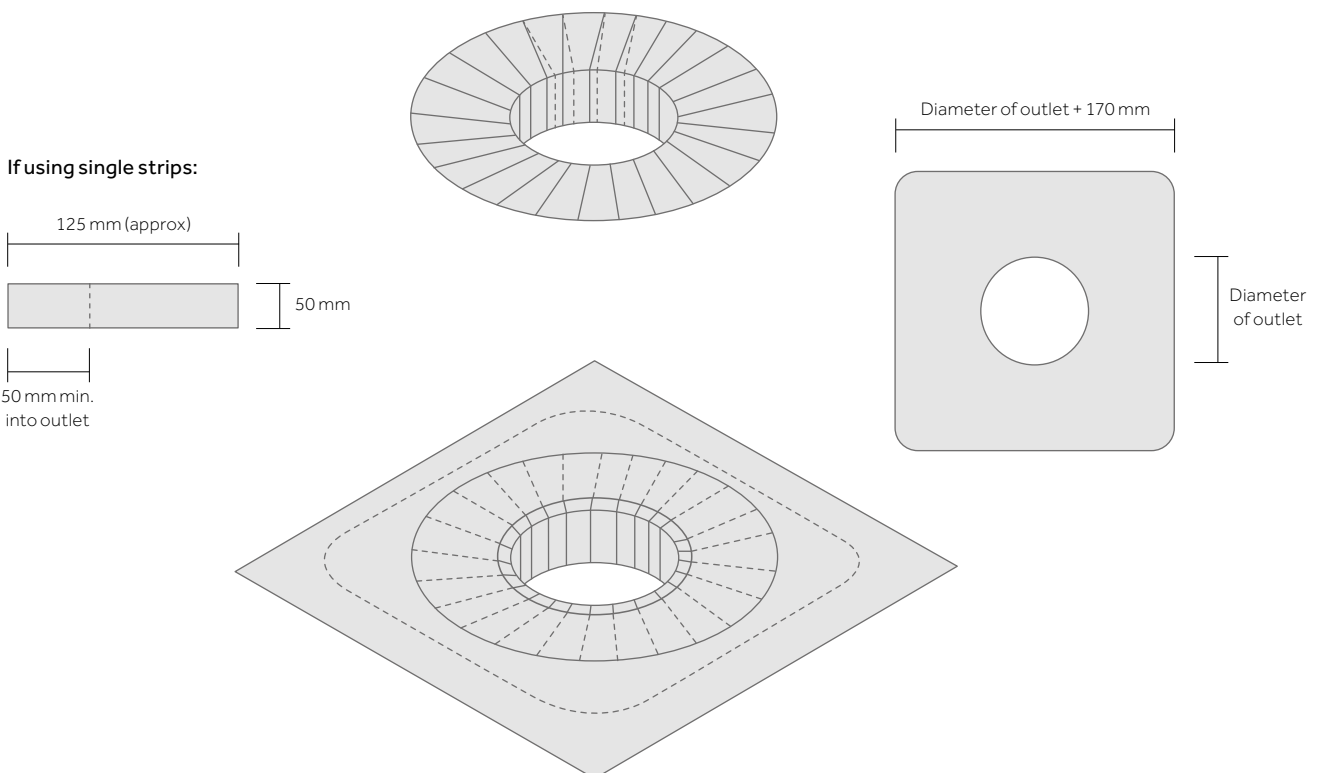
The second piece of fabric should be cut to a square with sides equal in length to the diameter of the outlet + the length of the 'finger cuts' + 10 mm.

- 1 Place the fabric over the centre of the outlet and draw a circle around the circumference.
- 2 Fold the fabric circle in half and make a series of 'star cuts' from the centre of the diameter to the marked line as shown.
- 3 Apply a coat of Sealoflex Ultima Waterproofing Coating onto the saturated Reinforcing Fabric on the inside surface of the outlet and around the outlet over the saturated 'finger cuts'.
- 4 Place the fabric over the outlet and press the 'star cuts' down onto the saturate fabric on the inside surface of the outlet.
- 5 Using a roller or a brush embed the fabric into the coating making sure there are no creases in the fabric and that no air is trapped beneath it.

- 6 Apply the top coat of Sealoflex Ultima Waterproof Coating to the saturated fabric around the whole detail area.
- 7 Remove the tape before the System cures.
- 8 Once the System fully cures reinstate any leaf grates or covers.



Fabric Cuts for Outlet

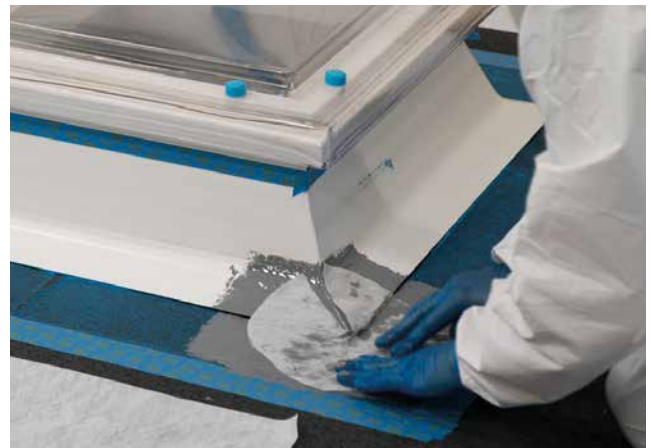


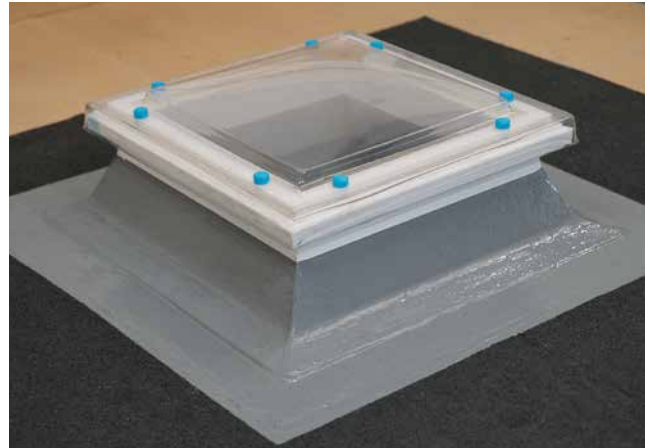
ROOF LIGHTS

All roof light corners must be double reinforced with Sealoflex Ultima Reinforcing Fabric.

- 1 Tape around the roof light upstand at least 160 mm from the roof light base and tape around the whole roof light at least 120 mm from the roof light edge.
- 2 Cut circles approximately 150 mm in diameter from the Reinforcing Fabric.
- 3 Fold twice and cut along one fold into the centre.
- 4 Apply a base coat of Sealoflex Ultima Waterproof Coating to the area around each corner and place the circles into the base coat as shown.
- 5 Using a roller or a brush embed the pieces of fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath them.
- 6 Cut two pieces of Reinforcing Fabric so that they extend 75 mm around each corner as shown.
- 7 Apply a base coat of Sealoflex Ultima Waterproof Coating to the vertical and horizontal areas around the front side of the roof light and around each corner, covering the saturated Reinforcing Fabric circles already installed.
- 8 Make cuts 100 mm long that are 75 mm from the edge of the fabric as shown.
- 9 Place the Reinforcing Fabric 10 mm below the tape on the front side of the roof light upstand, press into the angle at the base and 'return' the fabric around each corner as shown.
- 10 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 11 Repeat the process on the back side of the roof light.
- 12 Cut two more pieces of Reinforcing Fabric the exact length of the roof light upstand on either side.
- 13 Apply a base coat of Sealoflex Ultima Waterproof Coating to the vertical and horizontal areas around one side of the roof light, covering the saturated Reinforcing Fabric already installed.

- 14 Place the Reinforcing Fabric 10 mm below the tape on the roof light upstand, press into the angle at the base and onto the roof deck.
- 15 Using a roller or a brush embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 16 Apply the top coat of Sealoflex Ultima Waterproofing Coating to the saturated Reinforcing Fabric.
- 17 Repeat the process on the other side of the roof light.
- 18 Remove the tape before the System cures.



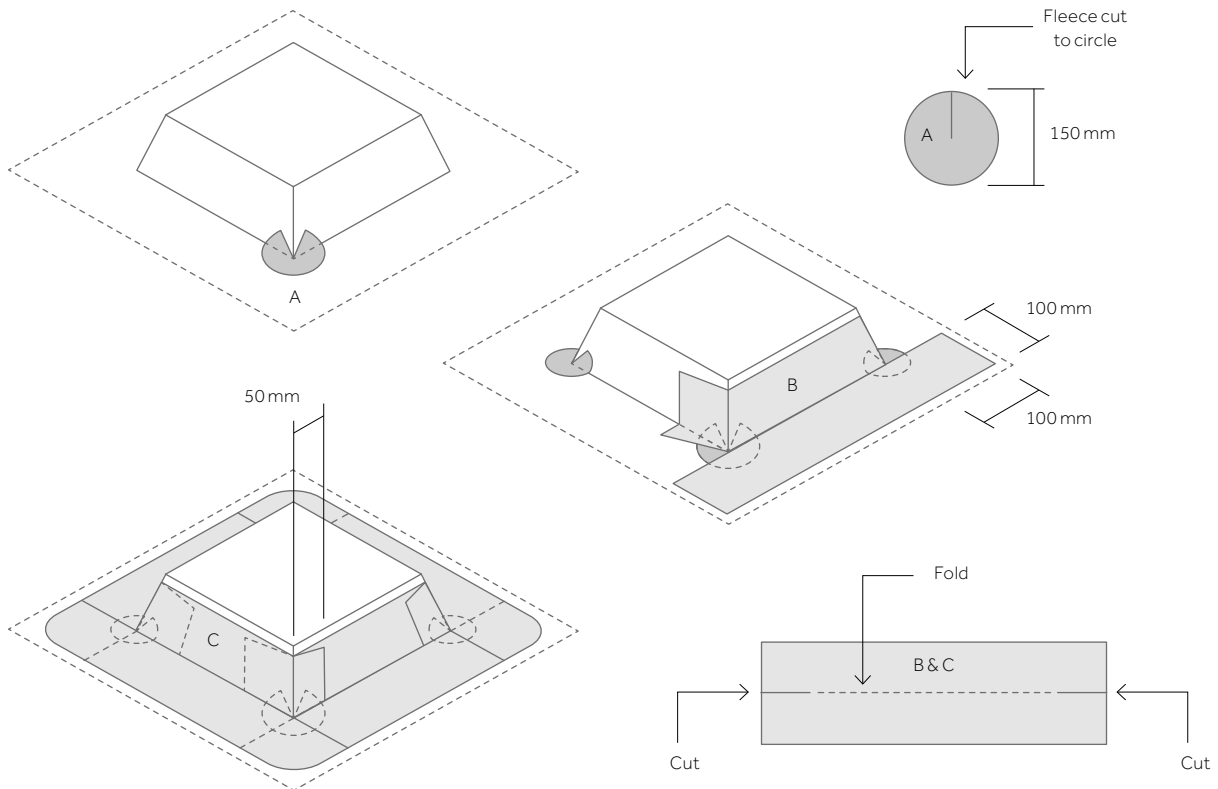


Please Note

- On roof lights with bevelled bases it is necessary to make two cuts at the ends of the front and back pieces of Reinforcing Fabric to accommodate the upstand angles as shown

- When measuring the side pieces of Reinforcing Fabric their length should be that of the roof light base. Once placed into the base coat of the Sealoflex Ultima Waterproof Coating, these pieces can be cut along a line from the corner's base edge to the corner's upstand edge as shown.

Fabric Cuts for Roof Light



COVER FLASHINGS

Existing Flashings

Depending on the condition of existing lead flashings, these should be lifted to expose the upstand surface beneath.

The Sealoflex Ultima System is installed to the upstand detail.

Ensure that the System has completely cured before reinstating the upturned cover flashings.

New Flashings

Pre-cut 25 mm deep chases in all upstands before applying the Sealoflex Ultima System.

Chases must be a minimum of 150 mm above the surface of the roof.

If an existing damp proof course (DPC) exists which is less than 150 mm above the surface of the roof, it is advised that a new DPC be installed to the required height.

The Sealoflex Ultima System is installed to the upstand detail and must finish flush with the bottom edge of the chase.

Install a lead or lead replacement cover flashing into the chases.

Cut, joint and dress the new flashing as per the manufacturer's instructions.

FIELD AREA

Apply 'wet-on-wet' allowing full membrane application in a single process.

- 1 Set the roll of Sealoflex Ultima Reinforcing Fabric at the beginning of the flat area taking care to align it properly.
- 2 Apply a base coat of Sealoflex Ultima Waterproof Coating to the area in front of the roll.
- 3 Pull the roll towards you over the base coat.
- 4 Using a roller, embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 5 Apply a top coat of Sealoflex Ultima Waterproofing Coating to the saturated Reinforcing Fabric ensuring even coverage.
- 6 Apply a base coat to the area in front of the roll.
- 7 Pull the roll towards you and repeat the process above.
- 8 When you reach the end of the flat area carefully cut the Reinforcing Fabric in a straight line and make sure the fabric is fully saturated with base coat and top coat.
- 9 Set the roll of fabric adjacent to the installed area with a minimum overlap of 75 mm taking care to align it properly.
- 10 Apply a base coat of Sealoflex Ultima Waterproof Coating to the area in front of the roll.
- 11 Pull the roll of fabric towards you over the base coat.
- 12 Using a roller, embed the fabric into the base coat making sure there are no creases in the fabric and that no air is trapped beneath it.
- 13 Apply a top coat of Sealoflex Ultima Waterproofing Coating to the saturated Reinforcing Fabric and 'feather in' the overlap.
- 14 Apply a base coat to the area in front of the roll.
- 15 Pull the roll towards you and repeat the process above.
- 16 When the whole area is completed, leave the System to cure.



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BMI Group was born out of a recognition that customers now expect a single point of expertise to help them find their ideal roof. Bringing together some of the industries most trusted brands to become the largest supplier of both flat and pitched roofing and waterproofing solutions throughout Europe, BMI Group has over 165 years of experience and innovation to offer its clients.

As a Standard Industries company, BMI Group, headquartered in Reading, U.K., has the support, reach and resources of a global enterprise. With over 120 production facilities across Europe, Africa and Asia, and more than 9,500 employees worldwide, the business is well positioned to provide an unparalleled level of service to homeowners, specifiers, contractors, property owners and developers.

Find out more at www.bmigroup.com.