# Eco-Seal 100
# Technical Application Manual

ABEP Ltd
60 Thames Street
Pandora, Napier
Office: +64 6 843 1881
Email : sales@abep.co.nz
Web : www.abep.co.nz

# Table of contents

# Table of contents

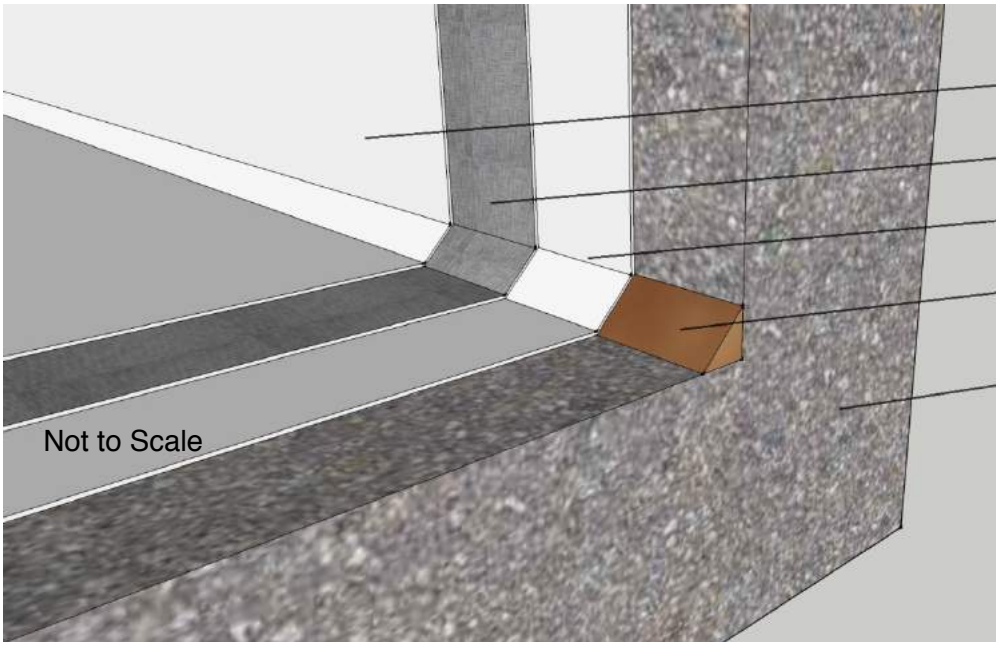
# 1. New Zealand Building Code Compliance

### 1.1 Clause B2 - Durability
The Eco-Seal 100 Waterproof Membrane System when installed according to the manufacturer's instructions, will meet Performance B2.3.1(b) 15 years of the New Zealand Building Code.

### 1.2 Clause E2 - External Moisture
The Eco-Seal 100 Waterproof Membrane System complies with clause E2.3.2 of the NZ Building Code, when installed in accordance to the manufacturer's instructions.

### 1.3 Clause F2 - Hazardous Building Materials
The Eco-Seal 100 Waterproof Membrane System complies with clause F2.3.1 of the NZ Building Code, when installed in accordance to the manufacturer's instructions.

# 2. System Build Up - Diagrams for New Build




Eco-Seal 100

Reinforcing Scrim

Eco-Seal 100

Fillet

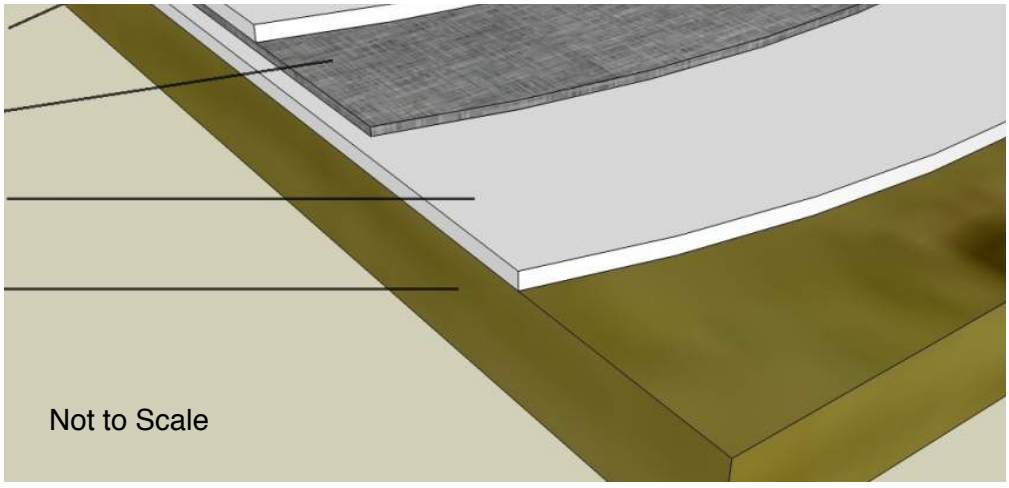
Substrate

Eco-Seal 100

Reinforcing Scrim

Eco-Seal 100

19mm (3/4 inch) Ply



# 3. Product Description

Eco-Seal 100 is a two pot, highly flexible, multi-purpose Poly-aspartic Liquid Applied Membrane. It is designed for the seamless water-proofing and long term protection of roofing and deck substrates from harsh environments.

## 3.1 Eco-Seal 100 Uses:

**The use and application of Eco-Seal 100 Liquid Membrane is reserved for Eco-Seal 100 Accredited & Fully Trained Applicators only.**

Designed to protect a variety of roofing system surfaces including:
Concrete and Cementitious materials , Traffic guard, Wood , Metal, Bitumen, TPO & Butyl Rubber. (Substrate suitability must meet all requirements under section 7 of this Technical Manual).

Highly suitable for water-proofing solutions in both new construction and refurbishment projects.

Excellent for applications over single or multi-layer sheet membranes.

Ideal for complex roofing details with limited accessibility.

Eco-Seal 100 is especially suited to applications where surface movement may defeat protection of a rigid, non-reinforced coating.

## 3.2 Eco-Seal 100 Advantages and Characteristics:

Waterproof from two hours of initial application.

Can be used on drinking water catchment surfaces.
Permanently withstands ponded water.

Does not yellow when exposed to the UV and atmosphere.

The flexibility retained by Eco-Seal 100 allows for an acceptable degree of surface movement caused by the thermal shock sustained by most structures.

Eco-Seal 100 is a self-terminating material, therefore reducing the requirement for flashing details in many areas.

# 4. Product Data and Information

### Manufacture Details

**is Exclusively Produced and Supplied by Ideals Hub Ltd**

+64-03-688-5508
email: idealslab64@gmail.com

### Packaging

Supplied in Part A Resin and Part B hardner/13 Litre Units (15Kg Approx.)

Smaller unit sizes are available on request

### Appearance

Medium Gloss/ Concrete Grey or Titanium Off White – Liquid

### Odour

Very little odour if any

### Mixing

Mixing is required : Mix Base and Hardener separately and then add Base to Hardener and mix with powered mixer for 2 minutes.

### Storage & Shelf Life

When stored at temperatures between 2°C & 36°C Eco- Seal 100 is fit for use for up to 6 Months from the date of production when stored in the original unopened & undamaged packaging. Higher storage temperatures may reduce the shelf life of Eco- Seal 100. Opened units may begin to solidify within a few weeks.

### Curing Times –

Pot Life – 1 hour @ 27°C (80°F)

Set to touch time – 3 hours @ 27°C (80°F)

Tack Free – 5 hours @ 27°C (80°F)

Open To Light Traffic – 48 hours @ 27°C (80°F)

Complete System Cure – Between 1 to 2 Days @ 27°C (80°F)

### Shore Hardness ASTM C661

102 Shore A after 10,000 hrs

### Solids Content

100% Solids

### Specific Gravity

1.30 – 1.50

**Viscosity**

Thixotropic - 95,000 cps

**Flexible Coatings and Membranes** (ASTM G53) after 10,000 hrs TUV SUD PSB Singapore
No chalking or discolour (ASTM C510)
No Bond Failure (ASTM C719)
No Cohesive Failure (ASTM C719)
No Cracks after UV exposure and bend test

**Water Vapour Transmission** (ASTM E-96)

Nil

**VOC** (ASTM E1826-11)

Nil

**Chemical Resistance**

Eco-Seal 100 is highly resistant to many chemicals.
Please contact Eco-Seal 100 Technical Services for specific information.

**Reflectance** 86 % (ASTM C1549,ASTM E1918,ASTM E903)

**Emissivity** 83% (ASTM C1371)

**Mould/Fungal Resistance** (ASTM D3273/D3274)

Highly resistant

**Boiling Point**

N/A

**Vapour Pressure**

N/A

**Sol. In Water**

Nil

**Substrate Adhesion Tests ASTM D4541-05 ASTM D4541-09**

**Concrete**
**Coil coated Steel**
**Butyl Rubber**
**Bitumen**
**Plywood**
**Galvanised Steel**
**MS Sealer**
**Silicone Sealer**

# 5. ABEP Reinforcing Scrim Technical Data

ABEP Reinforcing Scrim is a 5x5 strands-per-inch polyester scrim with a thin layer of spun bonded polyester bonded to the top side. The woven strands of the scrim give very high tensile strength to the fabric. This is the only specified fabric for the  system.

**Technical Features:**
High tensile and tear strength
Wets out well with full product embedment
Moisture, rot and mildew resistant

| Physical Properties | |
|---|---|
| Strip Tensile Strength | |
| Machine Direction | 45 (PSI) |
| Cross Machine Direction | 40 (PSI) |
| | |
| Strip Elongation at break (%) | |
| Machine Direction | 53 |
| Cross Machine Direction | 53 |
| | |
| Trapezoid Tear Strength* (lbs) (Median load) | |
| Machine Direction | 12 (lbs) (Median load) |
| Cross Machine Direction | 11 (lbs) (Median load) |
| *ASTM D1117 | |

### 5.1 ABEP  Mule Hide Fabric Tape

Description : A grey synthetic and resin tape with a grey woven cloth face.

ABEP Fabric tape is a non-butyl synthetic rubber and resin adhesive tape which remains flexible even in cold temperatures. The fabric facer is designed to be coated to match the surrounding roofing surface. NOTE : Fabric Tape must be coated

Can be used on most external substrates to strip in side laps, end laps, bridge transitions and penetrations prior to the application of a Eco-Seal 100 coating.

It will adhere to wood, glass, plastics, HDPE, butyl rubber ,bitumen ,concrete and metals. This product may be used to repair gutters, chimney flashings, metal roofs on mobile homes and transport vehicles. ABEP Fabric Tape makes a permanent watertight seal and has an elongation of >300%

# 6. Substrate Inspection & Testing Procedure

Whenever Eco-Seal 100 is to be applied over an old or exiting substrate, it is essential to carry out a survey that includes an inspection and testing procedure.

The inspection needs to include all substrates intended to be coated. The inspection will uncover the need for:
a) repair work
b) cleaning and preparation work as described in following section (Section 8).
All instances of repair work needs to be recorded and photographed so that they can be used in developing a scope of work.

If during the inspection of the substrates it is noted that there are potential or existing structural deficiencies, such as weak timber framing under the substrate, a record with photographs should be taken, so that all relevant information may be passed on to a consultant engineer for an opinion of the area of concern. This may require the consultant engineer to carry out their own site inspection to verify the condition of the structure under the substrate.

Included in the survey, is the need to verify the condition of the uppermost substrate, over which the Eco-Seal 100 is to be applied. This will require the testing of:
Existing substrate adhesion
The presence of residual moisture contained within, or below the sub-substrates. Substrate moisture values are to be compared to the, (where possible), original manufacturers material specifications for applicable moisture content.
For this reason, it is recommended that a qualified trade professional is utilised to carry out the required inspection prior to any major scope of work being created.

For further information and recommendations of testing procedures, please contact ABEP Technical Services.

# 7. Substrate Cleaning & Preparation

For all existing roofing substrates the following cleaning process steps must be followed to ensure that a high quality application is obtained:

## 7.1 General Roof Preparation

**Step 1**

Inspect the roofing system to determine condition of roofing materials and roof sub-structure. Specifically note the following:

1. Roof deck structural integrity and viability. Any structural areas to be repaired.

2. Type and condition of roofing substrates and materials. Identify original roofing materials manufacturer if possible.
3. Areas affected by foreign materials.
4. Areas to be removed, repaired, or capped prior to applying Eco-Seal 100 coating.
5. Items to be removed.
6. Cleaning to be carried out.

**Step 2**

Perform initial roof cleaning and prepare the surface appropriately for coating.
Preparation may require sweeping, power broom, scraping, vacuuming, etc.

All surfaces should be pressure washed or steam cleaned where possible to remove any barrier films. A pressure of approximately 2000 psi is required to ensure a consistent surface is prepared and all loose/friable materials are removed.
With Bitumen or a Butyl rubber substrate there must be no black residue coming off the substrate surface once cleaned as this can mix with the Eco-Seal 100 and could interfere with UV performance and adhesion .
All surface areas to be coated with Eco-Seal 100 must be wiped over with DMF activator and left for 10 minutes prior to the application of Eco-Seal 100
Single coat with scrim embedded and allowed to dry and then apply the final top coat .
The use of a biodegradable cleaner/wash solution may be used to enhance the quality of the cleaning process on roofing systems that are heavily soiled, but this must be thoroughly rinsed off prior to the application process to avoid potential adhesion issues. (Contact Eco-Seal 100 Technical Services for further information).

Surface preparation shall always be in accordance with the highest standards of good trade practices.

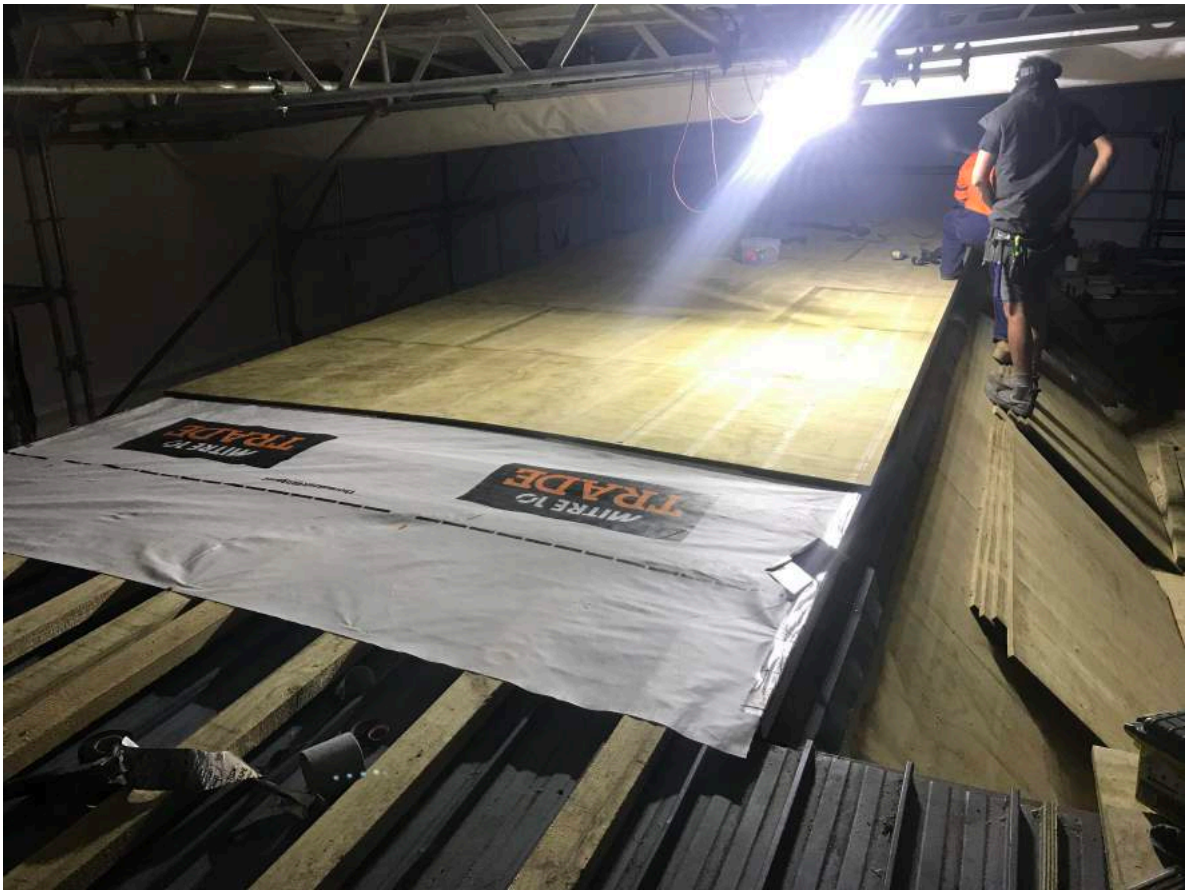
# 8. Substrate Condition Inspection

Where any inspection raises concern regarding the structural soundness of a particular roofing system or substrate, an opinion from a qualified engineer should be sought prior to further works being carried out.

## 8.1 Wooden Substrates

All wooden based panel roof decks are to be in structurally sound condition. Plywood and all panel/sheeted wooden materials must be firmly adhered or mechanically fixed prior to application.
The aim with a membrane roofing system is to ensure water is effectively drained from the roof and the roof remains durable.
Roof slopes are usually low, so installing the substrate accurately is critical to achieving the design fall. E2/AS1 considers that the minimum slope for a flat roof when completed should be 1.5° (1:40). We recommend using a minimum slope of 1.5 ° or what is pertinent to the building code of the state or country to ensure efficient water drainage from the roof, particularly when:
- construction accuracy to achieve the minimum permitted falls may be difficult
- the roof area or supporting structure is large
- creep or settlement of the supporting structure may occur
- snow loads are likely
- the area is known for high rainfall intensities
- lapped joints create a damming effect.

To maintain this minimum fall, a prudent designer will:
- make allowance for deflection, sagging or settlement – maximising spans increases the risk of deflection under gravity loads, which can be sufficient to negate the fall provided




▮ allow a safety margin – achieving a 1.5° fall on site is difficult, so specifying an increase in slope will give the installer a safety margin
▮ identify the location of and detail the outlets and water drainage systems
▮ design falls into the framing – falls cannot readily be added later
▮ specify kiln dried framing (H3.1 treatment is required where the slope is 10° or less) and that it must be protected to keep it dry during construction
▮ specify the spacing of the framing – typically, most membrane suppliers require the plywood to be supported at 400 mm centres in each direction (framing that deflects when walked over is not rigid enough).

Figure 1: Getting falls correct before the membrane is laid is critical.

Plywood substrate installation

There are specific construction requirements for framing supporting plywood. Install any bowed timber framing with the bow facing up and reject any dodgy framing member. After framing installation, check that the upper surfaces are level or even across the joists, that all necessary blocking has been installed and that, when installed, the completed substrate will be at the specified slope. Finally, make sure the framing is protected from rain wetting.

Plywood choice:

The specified minimum thickness for plywood is 19 mm – anything thinner is too flexible for the membrane. Plywood should be sanded and plugged, to a minimum standard of C-D.

CCA-treated (or other waterborne treatment types) plywood is typically recommended where H3 preservative-treated material is required with an adhesive-fixed membrane. Plywood substrates that have been treated with a light organic solvent preservative (LOSP) or oil-based preservatives are suitable for use with Eco-seal 100 membranes as long as the link coat primer is applied before application of Eco-Seal 100.

When installing the plywood:
▮ lay sheets in a running bond (brick pattern) with the face grain at right angles to the main supporting framing

Fix with countersunk stainless steel screws (10 × 50 mm for 19 mm plywood fixed to timber).
New Zealand Building Code Clause B2 Durability requires a fixing durability of not less than 15 years, but a durability not less than 50 years is required where the plywood is a structural element such as a diaphragm.
Plywood manufacturers typically recommend screwing at 150 mm centres for wind speeds up to 44 m/sec . Fixings for roofs with a wind speed over 44 m/sec must be specifically designed.
Staple or nail fixing is not recommended because of the risk of fastener back-out due to timber movement.
The maximum moisture content when the Link coat is applied needs to be not more than 18% for timber and plywood. E2/AS1 allows membrane to be laid at 20% moisture content, but the drier the substrate is at time of laying the better, hence the 18% recommended maximum moisture content.
Once the plywood is dry enough, begin applying link coat as soon as possible to minimise the risk of wetting. Where rain is likely before the membrane can be laid, cover the plywood with tarpaulins . Plywood that has dew on it can be dried with a hot air gun or a gas blow drier. Forced drying is not recommended for wet sheets.
Coating with Eco Seal 100 and 150 mm ( 6 inch) detailing scrim to all joints before applying full 15 year membrane system is crucial .Remember a fillet is required on all right angle corners where possible. ABEP Mule Hide fabric backed tape may be used in difficult application area where scrim is not achievable .
Note. **Eco Seal 100 is not permeable so roof vents are required .**

## 8.2 Metal Substrates

Metals must be free of mill-scale, oils, surface impurities and any loose/friable materials.
All joints and over laps must have ABEP Mule Hide fabric backed tape applied with an overlap to sound substrate of at least 25mm from the joint or over lap.Then a coat of Link coat and Eco-Seal100 is applied over the tape before full application of system.

## 8.3 Cementitious Substrates

For new concrete slabs, designers should specify how falls are to be achieved. Options are for falls to be formed in the structural slab, or in a bonded topping slab (20–40 mm thick) or a lightweight concrete slab laid over the structural slab.
New concrete shall have a minimum of 28 days curing time. Any visible cracks must be filled.
All concrete (new or old), including up-stands, should be inspected & tested for suitability by either hammer testing or pull off adhesion testing.
Concrete must be suitably finished by means of wood float or steel pan. The surface finish must be uniform and free from defects such as voids or honeycombing. Any defects should be repaired using acceptable materials and trade practices.
**Protect the slab before the membrane is applied to prevent it being contaminated by dirt, rust stains, oils and so on. This surface contamination can affect the bond of the membrane.**

## 8.4 Hard-finished Concrete

This should be etched to provide profile or “tooth” for optimal adhesion.

### 8.5 Brick, Stone, Slates And Tiles

Mortar joints must be dry, sound and preferably flush pointed. Ensure all slates/tiles are sound and securely fastened, with any broken or missing items being replaced. All tiles must have surface grinding to have create mechanical bond, prior to application of the Eco-Seal 100 system.

### 8.6 Asphalt Substrates

Asphalt should be carefully assessed for moisture and/or air entrapment, grade, and surface finish prior to any application being carried out. Glue any loss asphalt substrate back down prior to full application

***Always use the specified Link Coat 1900 primer on this type of substrate.**

### 8.7 Bituminous Felt Substrates

Ensure that Bituminous felt is firmly adhered or mechanically fixed to the substrate.
Areas of Bituminous felt that are badly worn should be repaired prior to any applications.
Use the specified link coat primer on this type of substrate.

### 8.8 Butyl Rubber, EPDM Rubber / TPO, PVC Membrane Substrates

All materials must be fully inspected for any de-lamination from the parent substrate. Seams, laps and material joints need to be inspected to ensure no separation of the material has occurred along the length of the existing system. Areas found to be lacking in adhesion and/or cohesive bond are to be repaired by means of mechanical fixing or re-adhesion prior to Link Coat application.

ABEP Fabric tape can be used in strips to bridge side laps, end laps, bridge substrate transitions and penetrations prior to the application of a Eco Seal 100 coating.The substrate must first be cleaned with Isopropyl Alcohol before ABEP Mule-Hide tape is applied.

With these substrates there must be no black residue coming off the substrate surface once the substrate is cleaned . Wipe down substrate with DMF on a cloth then apply the specified link coat primer on to substrate.Once Link coat has dried then you can apply a coat of Eco Seal 100 and allowed to dry and then apply the final top coat of Eco Seal 100.

### 8.9 Paints and Existing Coatings

Any coatings must be clean and free from loose, degraded materials. Painted surfaces should be inspected for any delaminated materials, ensuring that any loose/chalking materials are removed prior to application.

***Adhesion of existing paints or coatings must be tested prior to any application of Eco-Seal 100 Membrane system.**

### 8.10 Existing Eco-Seal 100 Coatings

Check the condition of the system prior to re-coating. Ensure the surface to be coated is clean and free from any foreign material.
Depending on the time between system applications, closer inspection of the roofing system may need to be carrying out following the outline in Sections 7 and 8 of this Technical Manual.

# 9. Substrate Priming Requirements

| Priming and Cleaning | Primer/Cleaner Required | Specific Notes |
|---|---|---|
| **Metals** : Stainless steel, Aluminium, Brass, Copper, Ferrous & Non Ferrous, Galvanised & Lad. | Clean with power washer. Prime using Link Coat 1900 | Sand with 120 grit paper |
| **Cementitious Substrates** : Concrete, Cement block, Compressed sheet, etc… | Power washer or Steam Clean Surface Prime using Link Coat-1900 | Biodegradable wash if heavily degraded or soiled. |
| **Wooden/Timber Substrates** : Plywood, Laminated board, Treated timber etc… | Link Coat 1900 primer | Biodegradable wash if heavily degraded or soiled. |
| **Bricks/Stone/Tiles/Slate** | Application specific | Contact ABEP Technical Services for relative information. |
| **Bituminous Materials/Asphalt Substrates** | Steam Clean / Link coat-1900 | Biodegradable wash if heavily degraded or soiled. |
| **TPO/PVC Membranes** | Not required /DMF and Prime using Link coat 1900 | Biodegradable wash if heavily degraded or soiled. |
| **Butyl rubber/EPDM rubber** | Steam Clean / Wipe surface with DMF prior to application of Link Coat 1900 primer. | Substrate must be older than 5 years to be able to apply ABEP Contact ABEP Technical Services for relative information. |

Note: DMF supplied by ABEP sales and Distribution

# 10. Application Preparation

## 10.1 Repairs and Preparation

Using ABEP products, repair all cracks and imperfections, including apertures, cracks, voids or stress points. Repair minor imperfections with an appropriate product (ABEP Fabric Tape, Scrim or Crack repair sealant or compound) and make flush with adjoining surfaces. Applying Link coat 1900 coating over the repaired imperfections.

The ABEP Repair System must be applied so as to adhere completely to the intended roofing surface and it must extend a minimum of 50mm (2 inches ) on either side of the imperfection, within reason and where practical.

Tighten all fastening devices (nails, screws, built-up material, wieldable seams etc.) To prevent the device from backing out of the substrate. Seal all fastening devices against moisture. Do not rely on the Eco Seal 100 system to secure fastening, sealing, or other such devices in any way .

Apply Eco Seal 100 as a seal coat to all repaired or patched surfaces with a minimum coating thickness of 1mm (1000 microns) prior to the complete Eco Seal 100 system application.

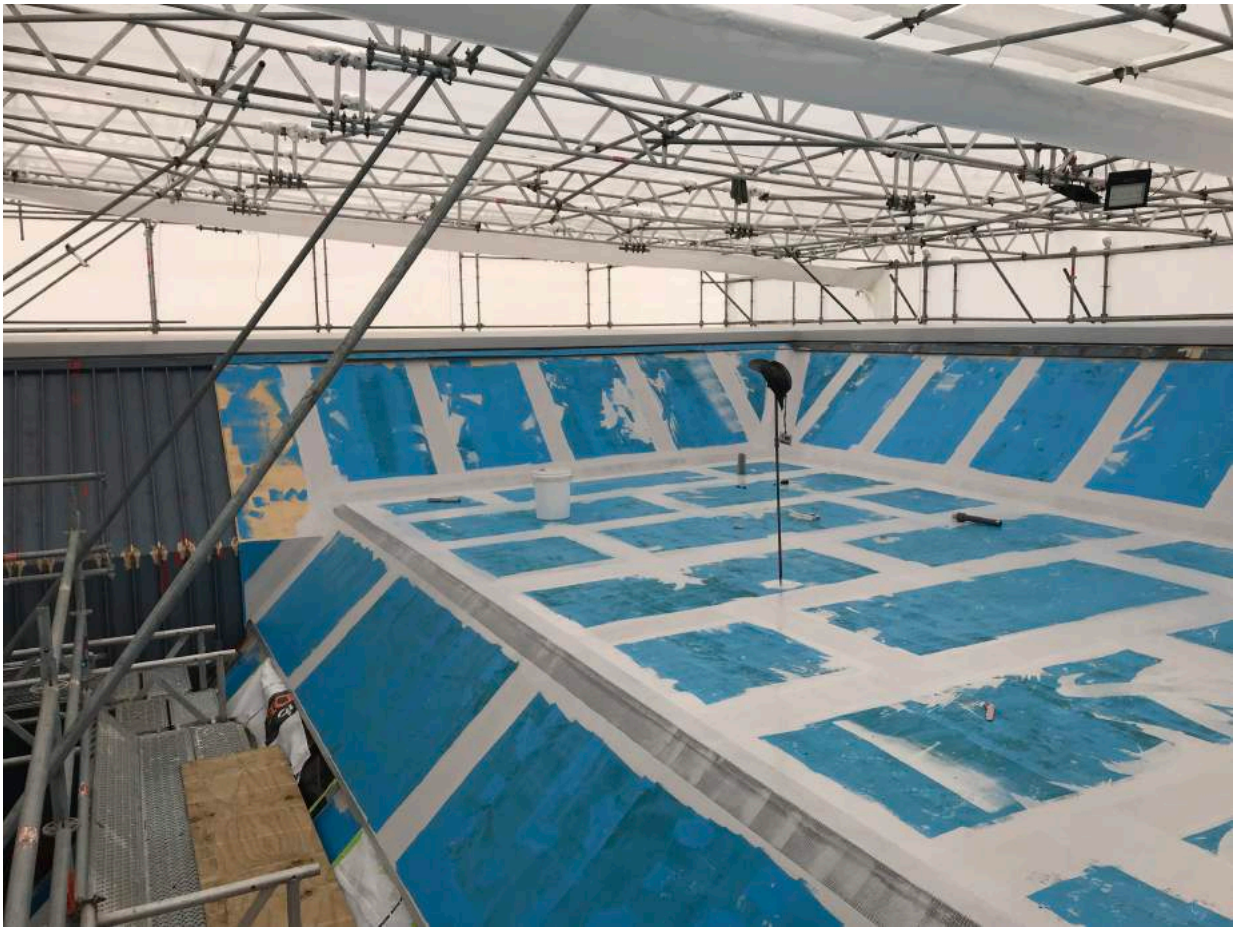
### 10.2 System Application

Before the Eco Seal 100 system is applied to the field area of the roofing system, the product should be first applied to all roof protrusions, the entire top and inside of all parapet walls and any other vertical surfaces, details, pipes, up-stands, etc.
Seal around all protrusions such as air conditioners, pipes, stands, roofing penetrations etc. With ABEP Mule Hide Fabric Tape and Eco Seal 100 where practical, otherwise use 2 – 3 coats of Eco Seal 100 to ensure that a full waterproof encasement of the protrusion is made.

Continue to apply Eco Seal 100 with a full embedment of ABEP Scrim to all sheet joins, laps and existing membrane details with a minimum coating thickness of 1mm (1000 microns).

Once all areas above are completed, the predetermined Eco Seal 100 system can be applied to the field area of the roofing system using the guidelines specified below.

# 11. Application Procedure



### 11.1 Eco Seal 100 (Without Reinforcing Scrim)

Apply the Eco Seal 100 coating in sections approximately 4.5 to 6 metres long (15 to 20 feet) at the specified coverage rate (see consumption rate chart below).
Ensure that the product is applied evenly across the surface of the substrate to provide adequate coverage of the field area.
Apply a sufficient volume of coating, compensating for absorption and irregularities of the exposed surface. To assure saturation of any surface imperfections and maximum contact with the roof's waterproofing element, roll the Eco Seal 100 coating in two directions, 90 degrees to

each other. Vigorously roll coating onto the exposed surface integrating any foreign material (dust, small aggregate, etc) into the coating.
Continue process until a monolithic coating entirely covers the roofing system.

**Apply second coat of Eco Seal 100 once first coat is dry enough for foot traffic.**

## 11.2 Eco Seal 100 (With Reinforcing Scrim)

**Step 1: Initial Coating**
Apply the Eco Seal 100 coating in sections approximately 4.5 to 6 metres long (15 to 20 feet) at the specified coverage rate (see consumption rate chart below). These sections must be 50mm (2 inches) wider than the Scrim fabric along roof edges, and 100 mm (4 inches) wider than the Scrim.
In the middle sections of the roof, allow 50mm (2 inches ) of applied product on each side of the Scrim.
Apply a sufficient volume of coating, compensating for absorption and irregularities of the exposed surface, to cover the surface and to provide a base of full embedment for the Scrim into the coating. Vigorously roll the coating to assure saturation of any surface imperfections and maximum contact with the roofs waterproofing element, roll primary coating in two directions, 90 degrees to each other.

**Step 2: Embed Scrim fabric**
Immediately, while the first coat is wet, roll out the Scrim on to the wet coating. Pull the fabric firm and embed the fabric into the wet coating. On the second and ensuing courses, overlap the Scrim at least 75-100mm (3-4 inches).

**Step 3: Apply second Eco Seal 100 Coating**
Immediately apply a second Eco Seal 100 coat on top of the Scrim at the specified coverage rate (see consumption rate chart below). Apply enough coating to saturate the Scrim and make a dried film of at least 1.5mm thick (1500 microns)

**Imperative**: Vigorously roll Eco Seal 100 coating into fabric with even strokes and remove all wrinkles, bubbles, air pockets, folds and excess coating, and ensure that full fabric penetration and embedment is achieved. Apply strokes with heavy pressure as follows:

**Horizontal Planes:** Start the strokes in the centre and pull to the edge of the Scrim fabric or seal the lapping edge and then start the strokes about 150 mm (6 inches) from sealed Scrim edge and pull at a 45 degree angle to the Scrim fabric course direction.

**Vertical Planes:** Apply at a 90 degree angle to the Scrim fabric course direction. Begin strokes within 150 mm (6 inches) of fabric edge or dissimilar plane and pull to the opposing fabric edge. Roll out air pockets, bubbles, folds, wrinkles and excess coating, and assure full fabric penetration.
The second coat of Eco Seal 100 should saturate and completely cover the fabric.

**Step 4: Finish Eco Seal 100 System**

## 12. Eco Seal 100 System Product Consumption Rates

| | Repairs | Eco Seal 100<br>10 year | Eco Seal 100<br>15 year |
|---|---|---|---|
| Build up | Eco Seal 100 | Eco Seal 100 | Eco -Seal 100 with scrim |
| Total Dry Film Thickness | ~ 1 mm (1000 microns) | 1mm DFT(1000 microns) | 1.5 mm DFT(1500 microns) |
| Total Consumption | > 1 Litre/m² | > 1 Litre/m² | 1st coat<br>> 1 Litres/m² |
| | | | 2nd coat<br>> .5 Litre/m² |

# 13. Application Tools

**Drill & Paddle –** Upon the opening of the Eco Seal 100 product. Mixing each part of the system is required to ensure that separation has not occurred. Mixing the two parts of the product together is required for duration of two minutes or more.

**Airless Sprayer** Grayco 795 1095 or 833 — Used to Spray to Link coat 1900 and Eco Seal 100 to large areas.

**Medium Pile Roller –** Used during the application of Eco Seal 100 to the initial coating and when embedding the Scrim.

**Low Pile Roller –** Used during the application of Eco Seal 100 as a final coating or to enhance the smoothness of the finished surface for a higher Reflectivity.

**Squeegee –** Used in the application of Eco Seal 100 to flat field areas. Also useful for removing air bubbles and product lumps during scrim application.

**Universal Spiky Roller –** Used to assist with embedment of the  Reinforcing Scrim material to wet product on large flat areas of roofing.

**Paint/Paste Brushes –** Used in the application of Eco Seal 100 in detailing and penetrations.

### 13.1 Clean Up Of Product & Tools

Due to the nature of the Link coat 1900 and the Eco Seal 100 material, most disposable tools cannot be cleaned or washed after application. However, any tools that need to be cleaned up can be cleaned using either PMA Thinners or DMF. Please follow the appropriate safety guidelines when handling any solvent based materials.

# 14. System Typical Detail Drawings

These detail drawings provide reference information on typical use of this product. This information is generic in nature; it does not contain the full details required for construction, nor does it constitute an express statement as to fitness for a particular purpose, professional advice is required to take into account all site specific influences.

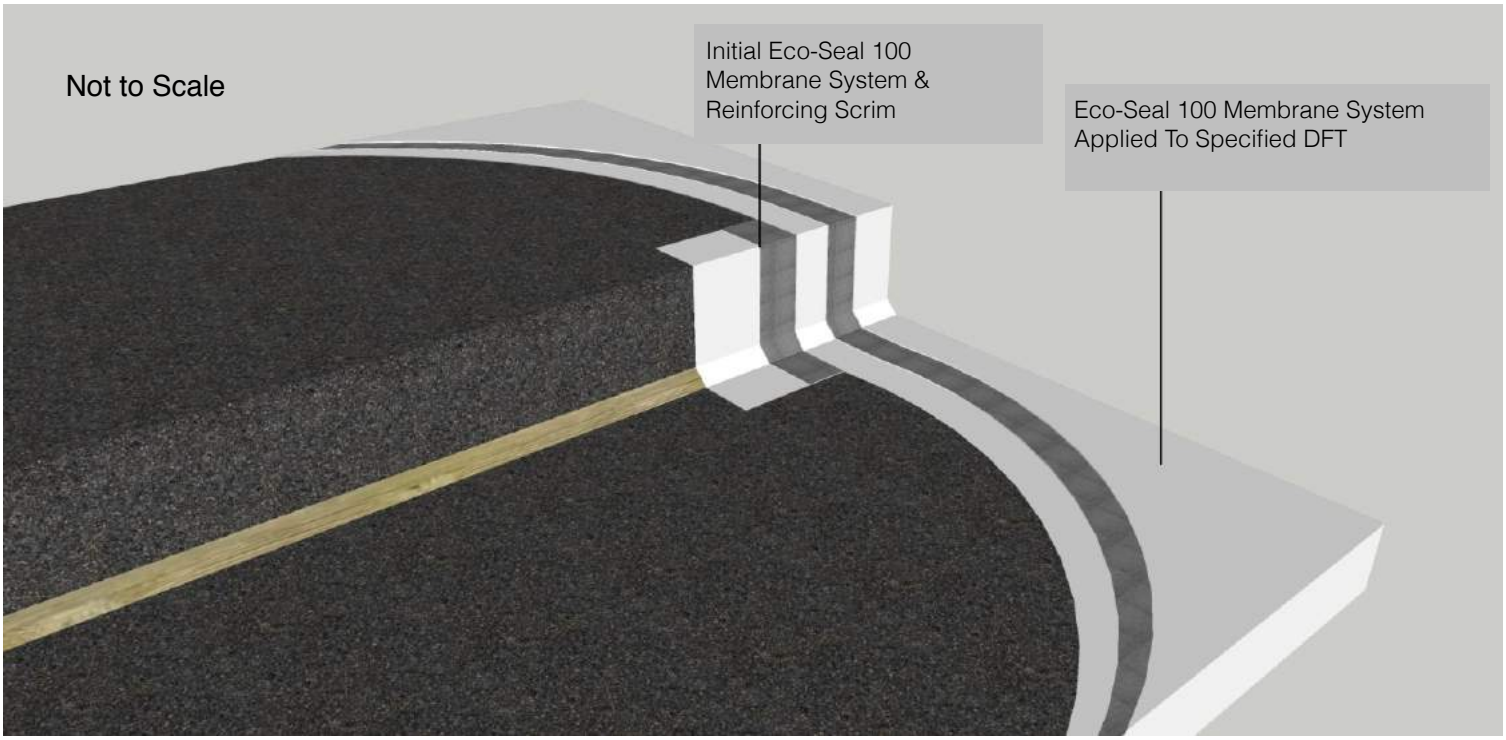
Designers and specifiers will typically provide details specific to particular projects: these should always be referred to in preference to the default system drawings

### 14.1 Change in level

The change in level is carried out in two stages:

1 – A coating of Eco Seal 100 membrane, with Reinforcing Scrim fully embedded, is installed to the change in level extending a minimum of 100mm onto the new field area.

2 – The Eco Seal 100 membrane system is then applied over the entire area in accordance with the project specification including an additional installation of ABEP specified Reinforcing Scrim.



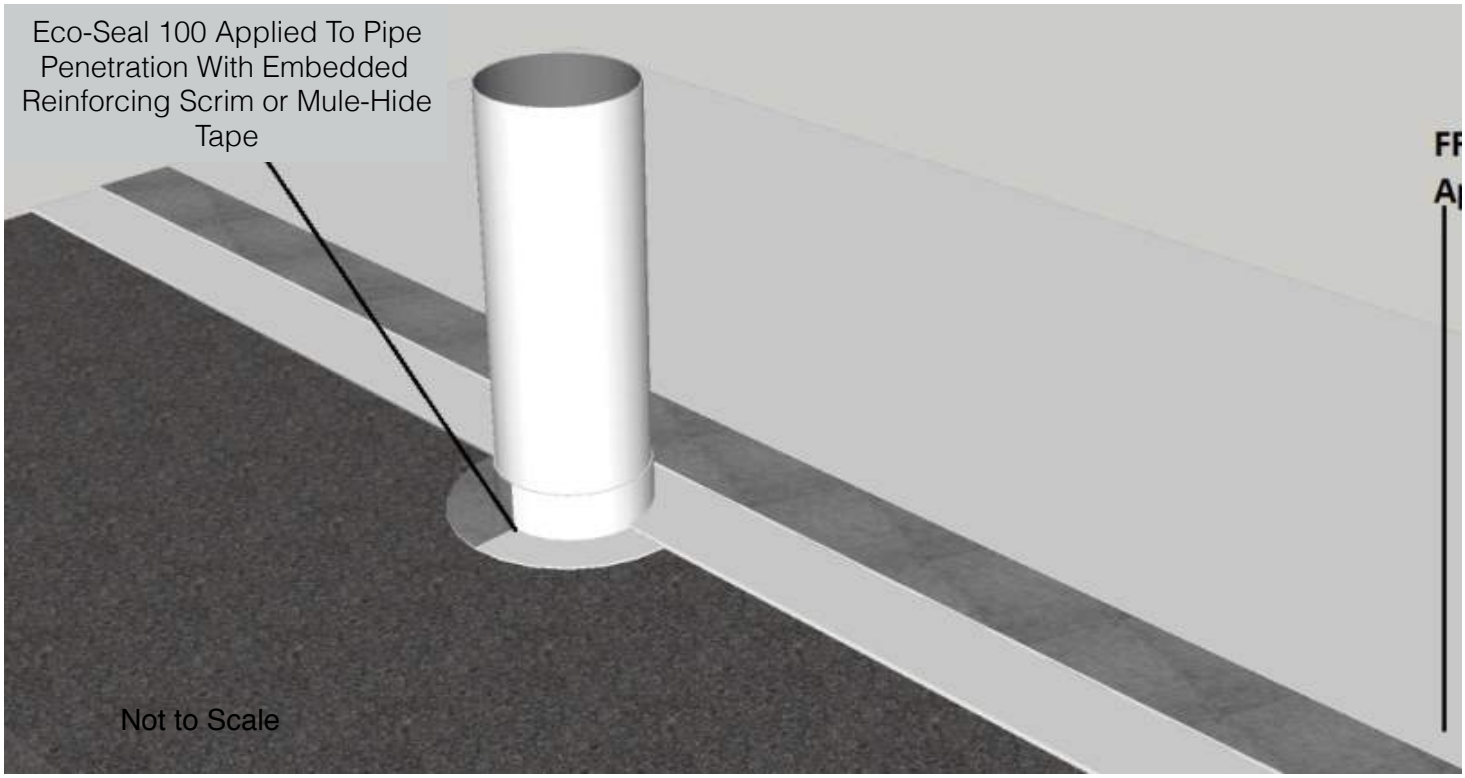

### 14.2 Pipe Penetration

The Pipe Penetration is carried out in two stages:

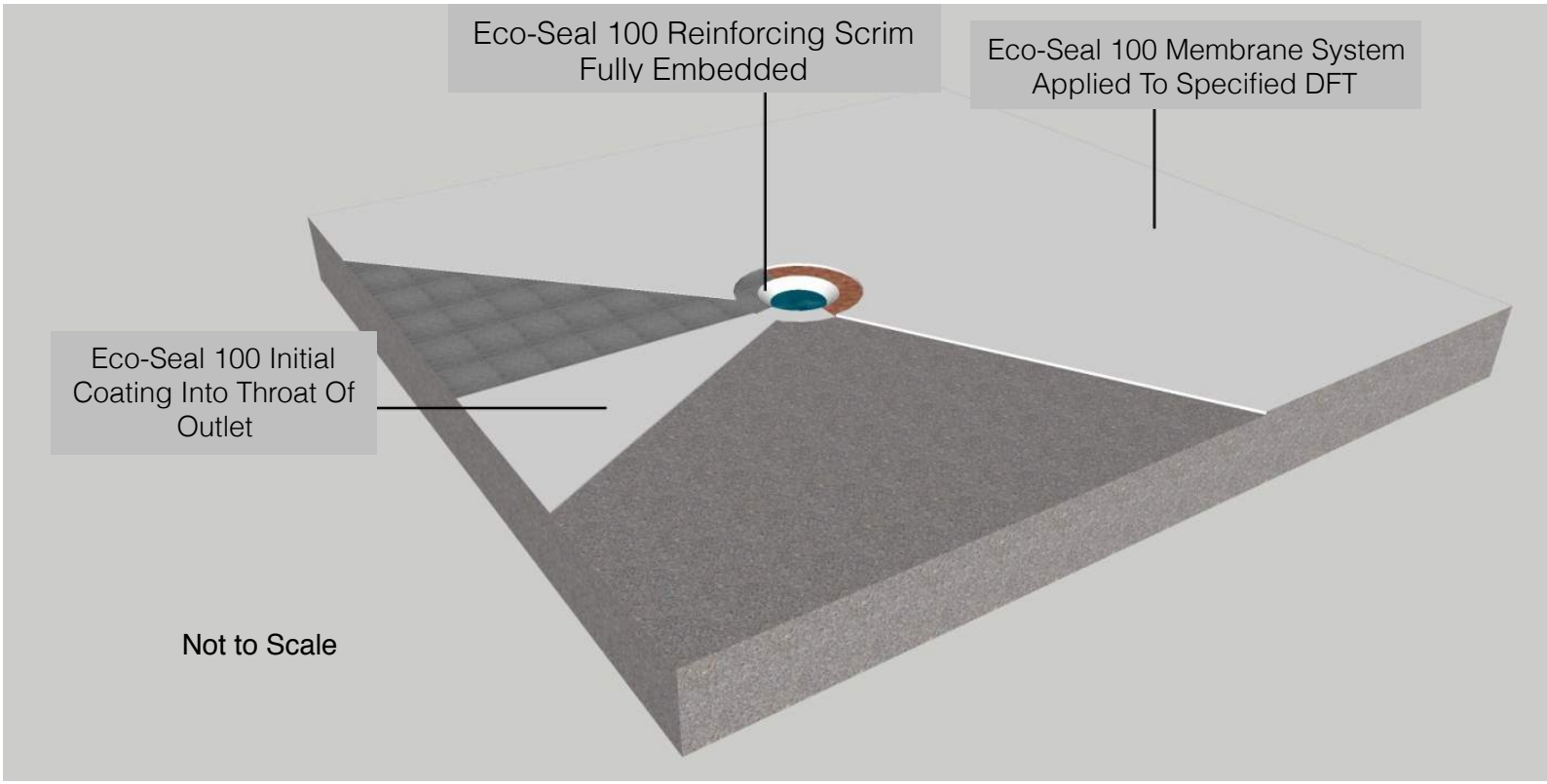
1 – A coating of Eco Seal 1001 membrane, with Reinforcing Scrim fully embedded, is installed to the base of the pipe penetration and is extended both up the pipe and a minimum of 100mm onto the new field area.

2 – The Eco Seal 100 membrane system is then applied over the entire area in accordance with the project specification including an additional installation of Reinforcing Scrim.

Note: where transition to PVC or plastic is required the use of ABEP Mule Hide Fabric tape may be applied before the Eco-Seal 100 and scrim.



## 14.3 Rain Water Outlet




The Rain Water Outlet is coated in two stages:

1 – A coating of Eco Seal 100 membrane with Reinforcing Scrim fully embedded is installed into the throat of the outlet and out to a minimum of 100mm onto the field area.

2 – The Eco Seal 100 membrane system is then applied in accordance with the project specification including an additional installation of Eco Seal 100 Reinforcing Scrim over the entire outlet and again into the throat of the outlet to ensure full embedment into the system.

Note: where transition to PVC or plastic is required the use of ABEP Fabric tape must be applied before the Eco Seal 100.

### 14.4 Repair to Damaged Substrate

The Repair To Damaged Substrate is coated in three stages:

1 – An application of Eco Seal 100 is installed in to the cracked or damaged substrate and tooled off flush with the adjacent surface area.
(Larger areas of damage may require the use of a specific repair material. Please contact ABEP Technical Services for further assistance)

2 – A coating of Eco Seal 100 membrane, with Reinforcing Scrim fully embedded, is installed over the now filled damaged are and extended out to a minimum of 100mm onto the field area.

3 – The Eco Seal 100 membrane system is then applied in accordance with the project specification including an additional installation of Eco Seal 100 and Reinforcing Scrim over the entire repair to ensure full embedment into the system.

# 15 System Warranty Information

Warranties of up to 10 to 15 years on the Eco Seal 100 system may be available, depending on the nature of the project, and strictly by system specification only. Typical terms of warranty are provided on request from ABEP Ltd, please contact your ABEP representative for details applicable to your project.

# 16 System Limitations

Eco Seal 100 has relatively few limitations; as are listed below:

- Do not apply over oil/grease saturated surfaces or substrates.
- Do not apply any coating of Eco-Seal 100 at less than a DFT 1 mm (1000 microns), except when applying to metal substrates which require a minimum of 500 microns. (all joins or seams will require reinforcing scrim or ABEP Mule Hide Tape).
- Do not apply over wet substrates or surfaces.
- Product will not fully adhere to silicon based products or sealants unless the appropriate primer (LinkCoat Primer) is used. Small areas can be bridged with a fully reinforced system of Eco Seal 100 membrane embedded into ABEP reinforcing scrim.

# 17 Safety Information

## 17.1 Safety Information - on site safety

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

The information below is put forward as a minimum requirement and should be followed in conjunction with all national & local body laws regarding safe work practices.

## 17.2 System Safety Information - Personal Protection

In addition to protective clothing, it is recommended to use a barrier cream on the skin. The use of a barrier cream is more useful and effective than often reputed, they are inexpensive, convenient, and protect well if they are not frequently flushed with solvents. However, barrier creams are only a supplement too, and not a replacement for, protective gloves, so always wear gloves. Always ensure there is no contamination inside gloves before reusing them.
If any product gets on clothing, remove the garment at once. Wash your exposed skin occasionally during the workday and immediately if any Liquid Applied Membrane product gets on it. Avoid using solvents since they can help Liquid Applied Membrane material penetrate in to the skin and the solvents themselves are aggressive and harmful to the skin.
If water is not available the or in short supply, clean the contamination with sand instead. Certain hand cleaners also work without harmful effects. Citrus skin cleaners, for example, are effective and mild. Soap and water takes time, but also eventually work for small areas. Avoiding skin contact by keeping tools and equipment clean is one of the best ways to protect oneself.
Despite safety precautions, with any instances of skin contact rinse immediately with clean water and use warm water and soap to thoroughly clean the skin.
No applications should ever proceed without sufficient water being adjacent and available for eye washing.
If adequate clean water is not provided then the project should not commence, no matter what the urgency. If a professional eyewash kit is not available, then at the very minimum one litre of clean water must be present. The water can be in a pail, plastic jug or via a hosepipe.
Safety glasses or other eye protection obviously help those doing the work, but they can also create a false sense of security. Do not take risks with health and safety!

In the event of any spillage or contact into the eyes, always seek medical advice immediately after rinsing and cleaning the eyes with the clean water
Ensure sufficient ventilation during application in closed or confined spaces. Dependent on local regulations, respiratory masks may be required. Please observe all relevant local regulations.

### 17.3 Disposal of materials

Where residual material has fully cured the material poses no threat to health, safety or the environment. Therefore, containers coated with fully cured residues do not need special disposal considerations. However, where the tins carry hazard warnings such as transport diamonds or orange squares denoting chemical hazards, these markings should be covered, removed or otherwise obliterated. If these are not removed, there may be difficulties at the disposal site as the markings indicate that the contents are hazardous.
However, where residual material has not cured or a skin has formed on the surface this must be disposed of as hazardous waste, and any markings denoting hazards must remain.

# 18 Technical Manual Information/Disclaimer

The information as set forth in the technical data contained herein has been developed based on test and evaluations made by Ideals Hub Ltd for standard coating applications. We believe this information is the best currently available on the subject. It is offered as a possible helpful suggestion. Any experimentation you may care to undertake along these lines is at your own risk. Application guidelines must be followed to receive warranty.