ENVIRO TRAFFICABLE

APPLICATION METHOD STATEMENT

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Introduction

The Enviro HP1200/ 950TC system is a combination of a waterproofing membrane and UV topcoat, specifically designed for applications where the membrane will be exposed to UV.

Enviro HP1200 is a two-component, spray-applied, solvent-free, flexible polyurethane waterproofing membrane that is 100% solids.

It is specially designed to offer exceptional elasticity, tensile strength, and tear resistance, along with outstanding abrasion durability. Enviro HP1200 has been independently tested by CSIRO and meets all the requirements of AS4654.1:2012 for external area waterproofing.

Enviro HP1200 can be used alone as a waterproofing membrane or in combination with Envirosystems Enviro 950TC.

Enviro 900 is a two-pack rapid curing, flexible polyurethane, high build coating, designed to provide an anti-slip and durable surface for areas of extreme traffic and wear. Enviro 900 is thixotropic and suitable for use on ramps, and an integral component of the Enviro Vehicular Trafficable System.

Enviro 950TC is a two-component 100% solids Aliphatic Polyurethane, UV coating, designed using the latest generation polyurethane technologies. Enviro 950TC is designed to provide a durable, tough, topcoat for systems over concrete, and for areas of high wear. Enviro 950TC is an integral component of the Enviro Trafficable Systems, where structures require waterproofing and experience vehicular traffic or Enviro HP1200 requires UV protection.

The following pages contain detailed instructions for the proper preparation and installation of Enviro HP1200, Enviro 900 and Enviro 950TC on suitably prepared substrates, as outlined in the individual product data sheet.

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General Information

This installation manual has been prepared by Envirosystems Technologies and is intended to assist in the systematic application of Envirosystems products to ensure a reliable level of product quality and performance.

The design and application of the waterproofing membrane should be done in compliance with EPA requirements and relevant government legislation.

Parameters outlined in this manual should be used as a guide for application reference. This manual does not override any project specific operation standards.

Envirosystems Technologies is not liable for any damage to the installed products, by any party.

Product Specification

Component	Details
Substrate	Enviro HP1200 can be applied over the following suitably prepared substrates: • Concrete • Renders • Masonry Walls • Cementitious Sheeting • Plywood (marine grade only) • Steel • Enviro HP1200 (Repair methodology available upon request)
Primer	<u>Enviro Prime P2</u> • Fast cure, Polyurethane primer. • Applied at a rate of 5-8m²/L to a dry film thickness (DFT) of 125 microns. *Or if Moisture Content >15%* <u>Enviro Epoxy B-LV</u> • Solvent Free, Low Viscosity Epoxy. • Applied at a rate of 0.16L/m² to a dry film thickness (DFT) of 150 microns.
Waterproofing Membrane	<u>Enviro HP1200</u> • High Performance, Solvent Free, Plural Component Sprayed Elastomer Waterproofing Membrane. • Applied at a rate of 2kg /m² to a minimum dry film thickness (DFT) of 2.0mm.

Wear Coat	<u>Enviro 900</u> • High Build Wear Coat for vehicular traffic. • Applied at a rate of 1.5m²/litre and broadcast to refusal with 30/60 aggregate.
UV Topcoat	<u>Enviro 950TC</u> • UV Resistant Polyurethane Coating. • Applied in 2 coats at a rate of 0.23L/m² per coat to a dry film thickness (DFT) of 440 microns (total of 2 coats).

Application Procedure

Application is to be done by accredited applicators only and strictly in accordance with the product data sheet. The appropriate product data sheets should be read and understood thoroughly before the application.

SUBSTRATE PREPARATION

Concrete

- Ensure that the concrete substrate is free from contaminants. Optimum surface preparation includes, mechanical profiling, such as captive shot blast cleaning or vacuum grinding.
- Fill all bug holes and defects in concrete with a suitable and approved repair product, such as the Enviro Epoxy B range of concrete repair products and allow curing.
- Grind out cracks and fill with a polyurethane joint sealant such as Enviro Flex Pro, or Enviro Flex FC.
- All construction joints shall be treated with an appropriate detail, depending on the anticipated level of substrate movement. Please consult Envirosystems for clarification, where required.
- Wall/ floor joints shall be treated with a 15mm (min) fillet of Enviro Flex Pro, or Enviro Flex FC. Alternatively, Enviro Joint Band can be used as a compliant bond breaker.

Cementitious Renders

- Ensure that the render has been appropriately cured and has properly adhered to the structural substrate.
- The surface of the render should be free from all loose particles, sharp edges, and contaminants.
- All construction joints shall be treated with an appropriate detail, depending on the anticipated level of substrate movement. Please consult Envirosystems for clarification, where required.
- Wall/ floor joints shall be treated with a 15mm (min) fillet of Enviro Flex Pro, or Enviro Flex FC. Alternatively, Enviro Joint Band can be used as a compliant bond breaker.
- Consult Envirosystems for membrane compatibility with proprietary render products.

Masonry

- The surface of the masonry should be free from all loose particles, sharp edges, and contaminants.
- Where the membrane is to be applied above core filled blockwork, the blockwork shall be core filled and allowed to cure prior to membrane application.
- All construction joints shall be treated with an appropriate detail, depending on the anticipated level of substrate movement. Please consult Envirosystems for clarification, where required.
- Wall/ floor joints shall be treated with a 15mm (min) fillet of Enviro Flex Pro, or Enviro Flex FC. Alternatively, Enviro Joint Band can be used as a compliant bond breaker.
- Consult Envirosystems, where there is expected to be a high degree of differential movement within the masonry wall structure.

Cementitious Sheeting

- Ensure that the substrate is free from contaminants (including any pre-applied water-resistant coatings) and has a sufficiently rough surface texture; this is best achieved by sanding the surface with coarse sandpaper.
- Ensure that the sheeting is installed in accordance with manufacturer's recommendation and relevant Australian standards, to provide a stable substrate with appropriate falls to a drainage point.
- Joints between adjacent sheets should be supported for the entirety of their span to avoid excessive, differential movement.
- All joints between sheets shall be treated with an appropriate detail, depending on the anticipated level of substrate movement. Please consult Envirosystems for clarification, where required.
- Wall/ floor joints shall be treated with a 15mm (min) fillet of Enviro Flex Pro, or Enviro Flex FC. Alternatively, Enviro Joint Band can be used as a compliant bond breaker.

Plywood (Marine Grade Only)

- Ensure that the substrate is free from contaminants (including any pre-applied water-resistant coatings) and has a sufficiently rough surface texture; this is best achieved by sanding the surface with coarse sandpaper.
- Ensure that the timber is installed in accordance with manufacturer's recommendation and relevant Australian standards, to provide a stable substrate with appropriate falls to a drainage point.

- Joints between adjacent sheets should be supported for the entirety of their span to avoid excessive, differential movement.
- All joints between sheets shall be treated with an appropriate detail, depending on the anticipated level of substrate movement. Please consult Envirosystems for clarification, where required.
- Wall/ floor joints shall be treated with a 15mm (min) fillet of Enviro Flex Pro, or Enviro Flex FC. Alternatively, Enviro Joint Band can be used as a compliant bond breaker.

Steel

- Ensure that the substrate is free from contaminants, by blast cleaning (or similar).
- Ensure that the substrate has a suitably rough surface texture, providing a key for the mechanical adhesion of subsequent coatings.

Enviro HP1200 (Repair)

- Cut out of the damaged patch of Enviro HP1200, preferably in a circular shape.
- Lightly abrade the patch area, lapping 150mm onto intact HP1200, ensuring that all contaminants are removed and providing a mechanical key for the adhesion of subsequent coatings.
- Solvent wipe the prepared Enviro HP1200 membrane prior to the application of Enviro HP1200 or Enviro 700X.

PRIMING

Enviro Prime P2

- Enviro Prime P2 is supplied in pre-weighed packages, of Part A- 7.2 Litres and Part B- 2.8L. It is essential that all the hardener (Part B) is added to the entire resin component (Part A) to ensure that the correct mixing proportions are maintained (2.2 to 1, A: B, by weight).
- Combined components should then be thoroughly mixed using a mechanical stirrer with a paddle attachment for a minimum of thirty seconds.
- Once fully mixed, Enviro Prime P2 should be immediately applied by squeegee, roller or brush, to the prepared substrate. It should then be back rolled, with a medium nap roller to fill voids in the substrate.
- Enviro Prime P2, has a pot life of 15 minutes at 250C and 50% RH, mixed product should not be used after this time.
- Enviro Prime P2 can be over coated after a minimum of 8 hours, assuming 250C and 50% RH

- Do not exceed 48-hour cure time before over coating, assuming 250C and 50% RH.
- Do not apply Enviro Prime P2, where:
    - Moisture content of the substrate exceeds 15%
    - Substrate temperature falls below 50C, or exceeds 450C
    - Rain is anticipated within 8 hours of application.

Enviro Epoxy B-LV

- Add Part B (liquid hardener) to the Enviro Epoxy B-LV Part A (base). Correct mix proportions are 2 to 1, A:B, by volume.
- Combined components should then be mixed using slow speed mechanical mixing equipment with suitable mixing paddle attached, mix for a minimum of 5 minutes or until uniform.
- Allow to stand 5 minutes after mixing and then mix again for a minute, prior to application.
- Enviro Epoxy B-LV can only be applied using a brush or roller, ensuring uniform coverage over the prepared substrate.
- Enviro Epoxy B-LV has a pot life of 40 minutes at 250C and 50% RH, mixed product should not be used after this time.
- Enviro Epoxy B-LV can be over coated after a minimum of 16 hours, assuming 250C and 50% RH.
- Do not exceed 24-hour cure time before over coating, assuming 250C and 50% RH.
- Do not apply Enviro Epoxy B-LV, where:
    - Moisture content of the substrate exceeds 20%
    - Substrate temperature falls below 50C, or exceeds 450C
    - Rain is anticipated within 8 hours of application.

ENVIRO HP1200 APPLICATION

Mixing

- Enviro HP1200 is supplied in pre-weighed packages, of Part A- 23kg and Part B- 20kg. Mixing is by way of 1:1 mix ratio (by volume) in heated plural component spray equipment such as Graco E-10 or EXP-2.

Application

- Enviro HP1200 application is by equipment referenced in section 4.3.1 and by accredited / trained applicators only.

- Minimum application thickness is to be 1.5mm DFT.
- Application is to be by accredited applicators only and strictly in accordance with the technical data sheet
- HP1200 is to be finished to a taped day joint termination at the required thickness and not feather edged. All terminations, penetrations and joints are to be in accordance with Envirosystems waterproofing details.
- Do not apply Enviro HP1200, where:
    - Substrate temperature falls below 50C, or exceeds 450C
    - Rain is anticipated within 2 hours of application.

Re-Coating

- Enviro HP1200 can be directly re-coated within <4 minutes and 3 hours of application, assuming 250C and 50% RH.
- If 24 hours cure is allowed before re-coating (assuming 250C and 50% RH), contact Envirosystems for recommended methodology.

ENVIRO 900TC APPLICATION

Mixing

- Enviro 900 is supplied in pre-weighed packages, of Part A- 7.2 Litres and Part B- 2.8L. It is essential that all the hardener (Part B) is added to the entire resin component (Part A) to ensure that the correct mixing proportions are maintained (2.2 to 1, A: B, by weight).
- Combined components should then be thoroughly mixed using a mechanical stirrer with a paddle attachment for a minimum of thirty seconds.

Application

- Once fully mixed, Enviro 900 should be immediately applied by squeegee, roller or brush, to the prepared substrate. It should then be back rolled, with a medium nap roller to fill voids in the substrate.
- Enviro 900 has a pot life of 15 minutes at 250C and 50% RH, mixed product should not be used after this time.
- Enviro 900 can be over coated after a minimum of 8 hours, assuming 250C and 50% RH

- Do not exceed 48-hour cure time before over coating, assuming 250C and 50% RH.
- Do not apply Enviro 900, where:
    - Moisture content of the substrate exceeds 15%
    - Substrate temperature falls below 50C, or exceeds 450C
    - Rain is anticipated within 8 hours of application.

ENVIRO 950TC APPLICATION

Mixing

- Begin by pouring the Enviro 950 TC colour pack into Enviro 950 TC Part B. Mix for 3 minutes at 300 rpm. Then, add Part A to the mixture and continue mixing for another 3 minutes at 300 rpm. Allow the mixture to rest for 1 minute before use for optimal results.
- The pot life of Enviro 950TC is approximately 30 minutes at 25°C.

Application

- Ensure the application of Enviro 950TC over Enviro HP1200 is within the overcoat window specified on the Enviro 950TC product data sheet (i.e. 10 minutes to 3 hours at 25°C and 55%RH). If this overcoat window is missed, the Enviro HP1200 is required to be solvent wiped and a coat of Enviro Prime P2 applied prior to Enviro 950TC application.
- Ensure the Enviro HP1200 surface to be coated with Enviro 950TC is free of all contaminants such as dust, grease, water etc.
- Use short nap (5-6 mm) mohair roller lint free. Do not apply in damp or wet conditions. Do not apply at low temperatures <5°C, as curing will be delayed. NOTE: Allow each coat to sufficiently dry before proceeding to the next coat. A thicker coat will take longer to dry.

- Shade the work area, and keep product stored in cool conditions out of direct sunlight. In cold weather, keep all products stored out of the cold, especially products not intended to be frozen. Warming materials to around 30°C can help but products may react to the substrate temperature rapidly when applied
- Apply each coat (2 coats required) at 0.23L/m² per coat to a DFT of 220 microns per coat.
- Refer to the below table for the minimum and maximum recoating of Enviro 950TC over Enviro 950TC.

Temperature	Minimum recoat	Maximum recoat
10°C @ 50%RH	4 hours	48 hours
15°C @ 50%RH	3 hours	24 hours
25°C @ 50%RH	2 hours	24 hours

If maximum recoat time between coats of 950TC is exceeded, abrade and reactivate with Enviro Thinner No. 1, apply Enviro Prime 789 then Enviro 950 TC topcoat.

Basic Requirements

Materials

- All Envirosystems products delivered to a construction site shall be equipped with the correct original with the following information:
    - Product name.
    - Supplier information.
- All Envirosystems materials should be inspected upon its delivery to the construction site, the material can only be used after ensuring no damage or contamination.
- When transporting and storing Envirosystems products:
    - Stack the products separately according to product type and specifications.
    - Avoid exposure to sun and rain.
    - Keep well ventilated.
    - Control temperature, so as not to exceed 45°C.

Application

- All applicators shall obtain sufficient and relevant training in waterproofing and the application of waterproofing membranes.
- All scaffolding and installation infrastructure shall be installed in accordance with the relevant Australian Standard.
- The preparation and maintenance of the substrate shall be undertaken observing the design and standard requirements.
- All embedded pipe fittings shall be embedded in advance in accordance with the design and standard specifications. All embedded pipe fittings should be sufficiently sealed prior to installation of the membrane.
- Application of Envirosystems products should not occur during any form of precipitation, whilst experiencing winds greater than 40 km/h, whilst the temperature is below 5°C.
- A quality control assessment shall be completed, with full inspection and completed records indicating that the various installation procedures have been completed to a satisfactory level.
- Ensure that all installation contractors are wearing the correct Personal Protective Equipment (PPE), as per product and site requirements.
- Contractor ITP’s to be adhered to and hold points signed off.

Quality Inspection & Assurance

General Requirements

The approved waterproofing applicators Inspection Test Plan is to be followed and all hold points, and inspections, are to be recorded and sign off prior to subsequent works commencing.

Contact Envirosystems

NEW SOUTH WALES - HEAD OFFICE

Ground Floor, 295 Princes Highway, St Peters NSW 2044 | info@envirosystems.com.au

QUEENSLAND

Unit 3, 28 Burnside Road, Yatala QLD 4207 | info@envirosystems.com.au

VICTORIA

49 Wood Street, Thomastown VIC 3074 | info@envirosystems.com.au

WESTERN AUSTRALIA

78 Discovery Drive, Bibra Lake WA 6163 | perth@envirosyetms.com.au PHONE 1300 WATERPROOF (928 377)

HEALTH & SAFETY ADVICE

When using Enviro 700X always provides adequate ventilation and wear appropriate personal protection equipment (PPE) during use. Avoid contact with skin. Avoid breathing vapours. Wear protective eyewear. If inhalation effects occur, move to fresh air. If discomfort persists, any breathing difficulties occur or if swallowed, seek medical attention. Refer to Safety Data Sheet for full details.

NOTE: Safety Data Sheets are available upon request.

KEEP OUT OF REACH OF CHILDREN STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this publication is based on the present state of our best knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use of application and no warranty as to accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

NOTE: Field service where provided, does not constitute supervisory responsibility. Suggestions made by Envirosystems either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Envirosystems are responsible for carrying out procedures appropriate to a specific.

NOTE: All products manufactured by Envirosystems comply with the description and properties indicated in the technical data sheet that was current at the date of manufacture.