

STIRLING LLOYD

PERMARE[®] EPW TROPICAL

Containment Membrane for Potable Water

Stirling Lloyd is now GCP Applied Technologies

Product Description

PERMARE[®] EPW Tropical is a two component, seamless liquid system which combines the features of both epoxies and polysulphides to produce a coating with outstanding physical properties. The material cures to produce a tough, flexible coating especially suited to applications where abrasion and chemical resistance is required. PERMARE[®] EPW Tropical has been developed specifically for potable water applications.

Uses

PERMARE[®] EPW Tropical is designed to contain, exclude or protect structures from the passage of water, oils, fuels and many aggressive chemicals into structural elements. Typical applications include:

- Reservoirs - potable water
- Storage tanks and silos
- Secondary containment - bund lining or earthen containment bunds (using a fabric support carrier for the coating)
- Concrete, masonry, asphalt or steel substrates requiring a chemical and/or abrasion resistant coating
- Water & Sewerage industry construction
- Canals and culverts
- Above or below ground applications

Features

- PERMARE[®] EPW Tropical - WRAS (Water Regulations Advisory Scheme). Listed for use in contact with "wholesome" water, tested to BS6920.
- Excellent chemical, abrasion and impact resistance
- Good low temperature flexibility
- Low gas permeability
- Excellent UV and weather resistance
- Does not contain solvents
- Easy to apply
- Liquid applied - providing a seamless coating with no vulnerable joints
- Can accommodate difficult surface profiles and shapes
- High bond strength to substrate
- Two component, colour coded system to ensure homogeneous mixing on site

- Long and effective life
- On site quality assurance programme
- Applied only by authorised and trained contractors

Technical Data

PROPERTY	VALUE
Application Temperature Range ¹	25-50 °C
Maximum humidity during application	85%
Typical Working Life (Material Temperature)	
@ 50 °C	20 mins
@ 40 °C	30 mins
@ 30 °C	60 mins
@ 25 °C	100 mins
Minimum Overcoating Time ² (Ambient Temperature)	
@ 50 °C	4 hrs
@ 40 °C	6 hrs
@ 30 °C	10 hrs
@ 25 °C	13 hrs
Typical Tensile Strength (BS903: A2:1995)	
@ 23 °C	7MPa
Typical Elongation at Break (BS903: A2:1995)	
@ 23 °C	20%
Adhesion to Substrate (BS EN ISO 4624: 2003)	
Steel	>2 MPa
Concrete	>1 MPa
Hardness (Shore D) (BS2782: Pt 3: Method 365B: 1992 ISO 868: 1985)	52
Water Vapour Transmission Rate (1mm coating - ASTM E96-80)	1.1 - 1.2/m ² /day

Abrasion Resistance:

(ASTM D1044-90)

500 cycles

50 - 75mg

Low Temperature Flexibility

Pass 17mm

(0.25 mm coating)

at -10°C

(ASTM D3111-88)

For information about the chemical resistance of PERMARE®EPW Tropical please consult our Customer Services Department.

Surface Preparation

It should be stressed that the success of any waterproofing system is dependent on the thoroughness of the surface preparation.

Concrete

New concrete substrates should be a minimum of seven days old. The substrate must be clean, dry and structurally sound. It must be free from laitance, oils and all other surface contaminants. Repairs to damaged concrete can be made using METASET® ResiFilla.

Steel

On steel surfaces all rust, dirt and contamination should be removed to expose bright metal to achieve a surface finish to comply with Swedish standard Sa 2.5.

¹ This minimum temperature is a requirement of our WRAS Approval. For temperatures outside this application range please contact our Customer Services Department.

² Minimum Overcoating time is based on good air circulation. This may increase in enclosed situations.

If existing coatings are present, ensure that they are firmly adhered to the substrate. If the bond is unsatisfactory, the existing coatings should be removed back to a sound surface. It may be necessary to check the compatibility of the existing coating with PERMARE® EPW Tropical.

For compatibility with other construction materials or where additives, cement replacement or curing compounds have been used please consult our Customer Services Department.

Application

No primer is required. For excessively porous concrete substrates PERMARE® Putty is an economical and effective method of filling the imperfections and sealing the surface pores of the concrete.

Mixing

PERMARE® EPW Tropical is a two-component system, supplied in pre-weighed quantities ready for on-site mixing.

To ease application we recommend that the material is warmed to between 15 °C and 25 °C.

Settlement may occur during storage and transportation; prior to use each component should be stirred separately using a mechanical stirrer, such as an air-driven drill (400–800rpm) and paddle. The contents of each component (Part A & B) should then be combined together and stirring continued until the two components are fully mixed and a uniform colour is produced.

Membrane

The membrane is applied in two coats. For potable water applications in compliance with the requirements of EN6920 and WRAS “wholesome” water approval, curing requires an environment of 25 °C or above for a minimum of 21 days. In non-tropical locations such as the UK, this can be effected by heated enclosures as described in the Document No. GCP0082 PERMARE® EPW TROPICAL NON-TROPICAL CURING ENVIRONMENT.

PERMARE® EPW Tropical can be applied by spray, brush or short fleece roller to give a minimum measured wet film thickness of 0.25mm per coat.

When applying by brush or short fleece roller apply the mixed material to the substrate in even strokes, ensuring that an even thickness of material is applied. The direction of the application strokes should alternate from a vertical to horizontal movement during application.

When spray applying use a plural component unit with in-line heaters. For further details please contact our Customer Services Department.

Allow the first coat to become ‘tack-free’ before application of the second coat.

Please refer to Document No. GCP0082 PERMARE® EPW T RTS for the return to service conditions of PERMARE® EPW Tropical. Please contact our Customer Services Department for a copy.

Slip Resistant Membrane

Where a waterproof slip-resistant finish is required, the first coat of PERMARE® EPW Tropical should be applied to give a minimum wet film thickness of 0.75mm, which will require a minimum coverage rate of 0.9kg/m². Allow the first coat to become ‘tack-free’ before application of the second coat.

The second coat should be applied to give a minimum wet film thickness of 0.5mm which will require a minimum indicative coverage rate of 0.6kg/m². This should then be broadcast, until refusal, with a suitable aggregate before the coating cures. In heavily trafficked applications the addition of a sealer coat will enhance long-term aggregate retention.

For information on recommended aggregates and sealers please consult our Customer Services Department.

Coverage

0.3kg/m²/coat (to give a standard 0.25mm coat).

This coverage rate is based on a smooth substrate. The required coverage rate will vary with surface texture and porosity.

Colours

PERMARE® EPW Tropical is supplied in Dark Grey.

(Also available by special order in a non-WRAS approved White).

Cleaning

All tools and equipment should be cleaned with acetone before the material is allowed to cure.

Packaging & Storage

20kg kits

All components of the PERMARE® EPW Tropical system should be stored in cool, dry, protected conditions, out of direct sunlight and in accordance with the relevant site Health & Safety regulations. Long term storage temperatures must not exceed 25 °C.

Stored in unopened containers, under the correct conditions, the components have a minimum shelf life of twelve months. If your product is more than twelve months old you must contact GCP before use.

Ancillaries

GCP produces a range of products to complement the PERMARE® EPW Tropical system. These include:

- METASET® ResiFilla – a range of ESSELAC® resin based rapid curing repair and levelling compounds
- METASET® Sealants – a range of ESSELAC® resin based flexible sealants for all joints and cracks
- PERMARE® Reinforcement Scrim

Health & Safety

Please refer to our Safety datasheets for further information.

General Information

PERMARE® EPW Tropical is part of a wide range of specialist waterproofing, surfacing and repair materials manufactured and supplied by GCP. If you require any further information on this or any other of our products, please contact us or visit www.gcpat.com.



gcpat.uk | Technical Services, Manchester, UK (+44 (0) 1565 633111)

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the end user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

METASET® and PERMARE® are trademarks, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2018 GCP Applied Technologies Inc.

All rights reserved GCP Applied Technologies Inc., 62 Whittemore Avenue, Cambridge, MA 02140 USA.

GCP Applied Technologies (UK) Limited, 580-581 Ipswich Road, Slough, Berkshire, SL1 4EQ, UK

GCP0082 PERMARE® EPW Tropical Datasheet_041

This document is only current as of the last updated date stated below and is valid only for use in the United Kingdom. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.uk. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2020-01-20

gcpat.uk/solutions/products/permare-waterproofing-solutions/permare-epw-tropical