STIRLING LLOYD

ELIMINATOR® Waterproofing Membrane

Cold, Liquid, Spray Applied Bridge Deck Waterproofing

Product Description

ELIMINATOR® Waterproofing Membrane is a GCP Applied Technologies ("GCP") high performance system for the protection of concrete and steel decks. ELIMINATOR Membrane is based on GCP's (formerly Stirling Lloyd's), unique ESSELAC® advanced resin technology and extensive experience in the development of coatings for specialist waterproofing. ELIMINATOR Membrane cures rapidly to provide a tough, flexible seamless coating and has an unparalleled track record with thousands of structures waterproofed successfully throughout the world.

Product Uses

ELIMINATOR Membrane protects concrete and steel structures from the corrosive effects of water and chloride ions. Typical applications include:

- Concrete Bridge Decks
- Steel Bridge Decks
- Bridge Piers
- Bridge Service Ducts
- Culverts

Advantages and Features

- Single source system. High performance GCP (formerly Stirling Lloyd) proprietary primers and tack coats promote secure adhesion between substrate and surfacings on highway bridges, piers and other critical highway components
- ELIMINATOR Membrane can be applied at temperatures between -10°C and + 50°C without any loss in performance
- Unparalleled track record of success
- Unaffected by high humidity, cures rapidly even at low temperatures, enabling year-round application
- Rapid application rates. Outputs in excess of 2,000m² per day
- No critical overcoating time between coats
- Crack bridging capability over wide temperature range
- Excellent chemical and abrasion resistance
- Excellent intercoat adhesion
- High bond strength to substrate
- High bond to asphalt surfacing
- Range of Bond/Tack Coats available to suit asphalt mix design

- Withstands 250°C pavement placement on the cured membrane
- High resistance to ballast and backfill materials
- Rapid cure allows for early ability to carry load
- BBA HAPAS-approved on-site quality assurance programme, including Wet Film Thickness testing during application
- Applied only by authorised and trained contractors

Approvals

ELIMINATOR Membrane has been approved and used on road and rail bridges by agencies worldwide. Specific approvals and countries where ELIMINATOR Membrane has been successfully used include:

- European Technical Assessment: ETA - 22/0897 issued in accordance with EAD 030675-00-0107: Liquid Applied Bridge Deck Waterproofing Kits.
- BBA HAPAS (UK) - Road bridges
- Network Rail (UK) - Railway bridges
- CEREMA (France) – Road bridges
- SNCF (France) - Rail bridges
- Belgian Board of Agreement (UBATC-ATG)
- Czech Republic, Road, Rail & Highway Approval
- India- Indian Road Congress Accreditation (since 2011)
- China
- Australia - Transport for NSW
- Poland (IBDM)
- USA (including AREMA)
- Canada
- Sweden
- Finland (SILKO)

Technical Data: ELIMINATOR Membrane Properties

ELIMINATOR®is CE Marked under EAD 030675-00-0107 and EN 1504-2 Declaration of Performance is available on request.

PROPERTY	VALUE
Complete Application Temperature Range	-10°C to 50°C
Application Temperature Range Standard Grade	0°C to +30°C
Application Temperature Range Standard Grade with Arctic Additives	-10°C to 0°C
Application Temperature Range Tropical Grade	15°C to 50°C
Typical Membrane Tensile Strength (BS903: A2: 1995, ISO37 Type 1: 1994; ASTM D412 Die C)	> 10Mpa

Tensile Bond Strength to concrete ASTM D4541-89	0.7Mpa
Typical Elongation at Break (BS 903: A2: 1995, ISO 37 Type 1: 1994; ASTM - D412 Die C)	100-170%
Low Temperature Flexibility (Mandrel Test MOAT 27: 5.4.2 1983) Unaged	Pass at -25°C
Low Temperature Flexibility (Mandrel Test MOAT 27: 5.4.2 1983) 56 days heated at 70°C	Pass at -20°C
Low Temperature Flexibility (Mandrel Test MOAT 27: 5.4.2 1983) 28 days water soak at 23°C	Pass at -25°C
Dynamic Crack Bridging @ -26°C ASTM C836, ASTM C1305, 50 cycles	Pass
Dynamic Crack Bridging @ -10°C, 23°C, & 40°C (UK Highways Agency: BD47 Tested to 1mm)	Pass
Dynamic Crack Bridging @ -20°C, EN 14224	Pass
Tear Strength, ISO 34-1, Method C, w/nick	>50N/mm
Heat Ageing: Tensile Strength & Elongation at Break, 36 months @ 80°C, BS 903: A2: 1995, BS2782 equivalent	Excellent resistance to thermo-oxidative ageing
Hardness (2mm) Shore D, BS EN ISO 868:2003	>45
Resistance to Aggregate Indentation (UK Highways Agency: BD47)	Recovered thickness: 99.3% (avg.) Increase in chloride ions: 0%
Chisel Impact at 23° and 0°C (UK Highways Agency: BD47)	No damage
Dynamic Ballast Resistance (Parts of Railtrack Specification RT/CE/S/041, Issue 2, 2 million cycles)	Pressure remained constant, without loss of water
Resistance to Asphalt Compaction (EN 14692)	Pass
Wear (Taber Abrasion, EN ISO 5470-1)	<800mg
Wear (Wheel Tracking, EN 12697-22)	0.5mm/million passes

1 Property values range in accordance with normal statistical test variation. Please consult the relevant standard or contact our Technical Services Department for further advice.
Data is also available on the tensile bond strength and the shear bond strength of ELIMINATOR to a variety of surfacing specifications from our Technical Services Department.

System Components

Membrane

- ELIMINATOR Membrane is a two component spray-applied system that forms a heavy duty, durable and continuous joint free waterproofing membrane.

Ancillary Components

- SENTINEL® Expansion Joints – a range of compatible expansion joint details
- METASET® ResiFilla- Rapid Cure, High Performance Non-Structural Repair & Levelling Compounds
- METASET Sealants – a range of flexible sealants for all joints and cracks
- PA1 Primer is a single component air drying primer for application to concrete and Portland cement based screeds. PA1 Primer is specifically formulated to allow application in temperatures between 5ºC and 50ºC
- PAR1 Primer - a two component, fast curing, high strength methyl methacrylate reactive resin. It is formulated for use on concrete substrates to seal surfaces and to form a very strong adhesive bond. Application temperature (-10ºC to+30ºC)
- MR6 Primer - two component, fast curing, high strength acrylic reactive resin. It is formulated for use on metal substrates to form an adhesive bond
- ZED S94 is a single-component, anti-corrosive air-drying metal primer. The hand application grade is supplied as the standard grade. ZED S94 can also be applied by spray. Contact Technical Services for more information
- Tack Coat No.2 is a co-polymer, hot melt adhesive that is formulated to be applied over ELIMINATOR waterproofing membrane to provide a bond between the membrane and the bituminous road surfacing. It is recommended specifically for applications with Sand Carpet asphalt complying with BS 594987:2015+A1:2017, or mastic asphalt/Gussasphalt
- Tack Coat SA1030 is a polymer-modified bituminous bond coat, designed for application over GCP ELIMINATOR Waterproofing Membrane. Tack Coat SA1030 is formulated to provide a strong bond between the membrane and hot bituminous road surfacing
- Bond Coat 3 is a reactive, heat activated bond coat which is solvent free. Bond Coat 3 is formulated to provide superior adhesion between ELIMINATOR Membrane and a wide range of asphalt surfacing mix designs
- Hybrid two coat system of Bond Coat 3 and Tack Coat SA1030 – a fit-for-purpose system for unique asphalt pavement design and material composition e.g. thin toppings of dense graded asphalt, with relatively lower binder content and angular shape aggregate

Special note: GCP produces a range of products to compliment the ELIMINATOR system. Complete product information for these products can be found on your local GCP website or by contacting your local GCP representative. Specific offerings for Primers, Joint Compounds and repair products may vary based on geography. Please check with your local GCP representative for local recommendations and availability.

Limitations of Use

- Approved uses only include those uses specifically detailed in this product data sheet and other current product data sheets that can be found at gcpat.com
- ELIMINATOR Membrane is not intended for any other use. Contact GCP Technical Services where any other use is anticipated or intended
- Shelf life of ELIMINATOR Membrane components when stored as recommended is 12 months from date of manufacture
- The max application temp is 50 °C

Safety and Handling

Users must read and understand the product label and safety data sheet (SDS) for each system component. All users should acquaint themselves with this information prior to working with the products and follow the precautionary statements. SDSs can be obtained by contacting your local GCP representative or office, and in some cases from our web site at gcpat.com.

Storage and Shelf Life

- Observe shelf life and use on a first in, first out basis
- Store in cool, dry, protected conditions, out of direct sunlight
- Storage temperature must not exceed 25 °C
- Do not store near naked flames or foodstuffs
- See Technical Letter #TL-0030(AP) Shelf Life/Storage and Handling of GCP Waterproofing
- Stored in unopened containers, under the correct conditions, the ELIMINATOR membrane components have a shelf life of 12 months. If your product is more than twelve months old contact Technical Service before use. Any extension of shelf life by GCP must be documented in writing

Installation

Temperature Requirements

ELIMINATOR membrane can be applied at temperatures of -10 °C to +50ºC
Asphalt overlay up to 250ºC
Maximum application temperature +50ºC

Surface Preparation

The success of any waterproofing system is dependent on the thoroughness of the surface preparation.

Primer Application

All substrates must be primed with an appropriate GCP primer prior to application of the ELIMINATOR Membrane. A choice of primers is available depending on the type of substrate and weather conditions. Primers are usually applied by spray brush or roller. Please consult the appropriate product datasheets.

Concrete substrates

New concrete decks should be a minimum of seven days old. A minimum concrete compressive strength of 3000 psi (20 N/mm^2) is required prior to application ELIMINATOR Membrane. Where compression testing is not available, a tensile bond test with a minimum bond value of the membrane to the concrete of 0.7Mpa is required prior to membrane application. The substrate must be clean, dry and structurally sound. It must be free from laitance, oils and all other surface contaminants. Where the use of a non-structural screed or a lightweight concrete substrate is proposed, contact GCP Technical Services. These materials often have low cohesive strength or retain water in open pores. For rapid repairs to damaged concrete use METASET ResiFilla Levelling & Repair compound.

Steel Substrates

On steel surfaces all rust, dirt and contamination must be removed by blast-cleaning to expose bright metal to achieve a surface cleanliness meeting ISO 8501-1:2007, Sa 2.5.

Other Substrates

For compatibility with other construction materials or where additives, cement replacement or curing compounds have been used please consult our GCP Customer Services Department. ELIMINATOR Membrane Application: (Please contact your local GCP representative for complete and detailed application instructions). ELIMINATOR Membrane is typically spray applied. The membrane is applied when the primer has cured, typically within 20 minutes. ELIMINATOR membrane is spray applied to give a minimum dry film thickness of 2mm. It can be applied in either one coat or 2 colour-coded coats depending on the application requirements and local standards. Wet film thickness of 1.2mm wet equals 1mm dry, 2.4mm wet equals 2mm dry. The coverage rate will vary with surface texture.

Tack Coat/Bond Coat

A tack coat or bond coat must be applied to ELIMINATOR Membrane when it is being used as a waterproofing membrane on road bridges underneath asphalt or macadam surfacing. A range of tack coats and bond coats are available depending upon the pavement specification. Contact your local GCP representative for more detailed information.

For technical assistance with detailing and problem solving, please contact your local GCP representative.

Cleaning

All tools and equipment should be cleaned with acetone before the material is allowed to cure. Review the supplier's Safety Data Sheet (SDS) prior to use and follow all precautions.

Packaging

- ELIMINATOR Membrane Components: (standard and tropical grades)

	47.04 Kg KIT size		392 Kg KIT size	
	Pail size	Pails per pallet	Drum size	Drums per pallet
Eliminator Part A	24 Kg	24	200 Kg	4
Eliminator Part B*	23.04 Kg	24	192 Kg	4
BPO Powder Catalyst (not included in KIT)	960 g	N/A	8 Kg	N/A

*Eliminator Part B is supplied in Yellow and either White or Mid Grey for 2 coat, color-coded application. Please refer to application guideline or consult your GCP representative.

- Primer/Tack Coat/Bond Coats: for details please refer to separate product data sheets

Certificate Number 15174
ISO 9001, ISO 14001

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

GCP Vietnam Company Ltd, Lot B14, Section B, Street No. 12, Xuan Thoi Son Small Scale Arts & Crafts Group, National Road 22Xuan Thoi Son Village, Hoc Mon District, Ho Chi Minh City

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