GROUND GAS PROTECTION
GP® EPOXY BARRIER TECHNICAL DATA SHEET

JUTA | TITANTECH®

GP® EPOXY BARRIER

TITANTECH®
For developers of brownfield and contaminated sites the TITANTECH® family of products represent a major step forward in safeguarding projects against gaseous and chemical contamination.

GP® EPOXY BARRIER is a low-VOC, solvent-free, Novolac-based epoxy coating formulated for professional use. It is supplied as a two-pack system and can be applied by trowel (in 1 coat), or brush/ roller (in 2 coats). It cures to give an ultra-chemically resistant, extremely durable and fully waterproof coating. This product can be specified with confidence into the most demanding of industrial applications and can be applied to concrete, masonry or metal.

The product is suitable for almost any domestic, commercial, light industrial and heavy industrial application; typical use cases include specification as a high performance floor coating, a liquid tanking membrane (subterranean applications), a bund coating where chemicals are routinely stored or handled, or as a general liquid damp proof membrane (DPM) (above ground applications) for walls and floors. It exhibits class-leading substrate adhesion, an excellent range of chemical resistance, and a Class 1 fire rating.

Features

- Solvent-free
- Seamless finish
- Imparts toughness and surface level abrasion-resistance
- Excellent tensile strength
- One or two coat application
- Low permeability
- Quick return to service (as early as 24 hours)
- High chemical resistance.

Density	~1.15g/cm^3 mixed at 20˚C
Form Supplied	VMobile, thixo-tropic liquid
Appearance	Coloured as per supply.
Pack Size	5k & 20kg. Other bespoke pack sizes are available on request.

Named accessory in

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 20/5728
BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 18/5561

Certifications

CE UKCA

NSAI

GROUND GAS PROTECTION
GP® EPOXY BARRIER
TECHNICAL DATA
SHEET

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Feature	Characteristics	Test Method	GP® EPOXY BARRIER
Physical Properties	Density at 20˚C		~1.15g/cm^3 mixed
	Appearance (Base + Hardener)		Mobile, thixotropic liquid. Coloured as per supply.
	Coverage		1 coat application: 2.8m^2/kg 2 coat application: 1.4m^2/kg per coat
Properties	Compressive Strength	BS EN 12190	Class III 61.4 MPa
	Adhesion Strength	BS EN 1542	10.1 MPa
	Liquid Water Transmission Rate	BS EN 1062-3	Class III (Low) 0.050 kg/m^2.h$^{0.5}$
	Water Vapour Transmission Rate	BS EN 1062-1	Class III (Low) 1.85g/m^2/day
	Non-Volatile Contents		> 99.90%
	Dry Film Thickness (DFT)		1 coat = 250 microns approx. 2 coats = 500 micron approx.
	Pot Life at 20˚C		Av. 75 mins
	Tack free Cure		*6-24 hours (Drying time is highly dependent on temperature/humidity)
	Full Cure Time (Full Chemical Resistance)		7 Days
	Application Temperature range		+5°C to +35°C
	Flash point		Non-flammable

***A second coat can be applied as soon as the first coat is tack-free**

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For additional information or assistance, please contact JUTA UK directly.

About

GP® EPOXY BARRIER is ideally suited to inhibit vapour transmissions, liquid water ingress and to simultaneously provide chemical protection against brine, salts, acids, alkalis, hydrocarbon solvents, vegetable oils and more. A non-exhaustive list of chemical resistance is provided within this Data Sheet, for specific chemicals, contact the Technical department for advice.

Dependent on need, the product can be blinded with aggregate to provide a slip resistant surface or a key for rendering etc. The product can also be paired with an epoxy primer for applications that require enhanced flexibility.

Uses

- Domestic, commercial & industrial floors
- Ground floor DPM
- Wet rooms
- Subterranean structures
- Basements
- Tank bunding (please verify compatibility with Technical Department prior to specification)
- Plant rooms
- Marine facilities
- Swimming pools/spas.

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TECHNICAL DATA
SHEET

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Chemical Resistance List

The below list describes commonly encountered chemicals. If you have an application with expected exposure to a non-listed chemical, a sample can be provided to our Technical Team and we can advise chemical resistance prior to specification.

Chemical/Chemical Type (at ambient temperature)

- Soap solutions
- Hydrocarbon solvents
- Alcohols - Methanol, Ethanol, Propanol (Rubbing Alcohol)
- Vegetable Oil
- Heated Water (60 °C)
- Acetone
- Phenol
- Formaldehyde (1-40%)
- Acetic Acid (1-50%)
- Adipic Acid (1-25%)
- Citric Acid (All strengths)
- Ethanoic Acid (1-50%
- Hydrochloric Acid (1-37%)
- Hydrofluoric Acid (1-20%)
- Nitric Acid (1-25%)
- Phosphoric (1-60%)
- Sulfuric Acid (1-70%)
- Amines
- Butyl Amine, Triethanolamine, n-butylamine, N, N-dimethylaniline, Aniline
- Ammonia (1-25%)
- Aqueous solution of Sodium Chloride (30 %)
- Calcium Hydroxide (1-25%)
- Ammonium Hydroxide (1-25%)
- Hydrogen Peroxide (1-30%))
- Potassium Hydroxide (1-30%)
- Sodium Hydroxide (1-50%)
- Sodium Hypochlorite (Bleach) (1-9%)

Preparation

Surfaces should be smooth, clean, dry (free from surface water), sound and free from frost, oils, grease and other contamination. Any surface defects (holes, cracks etc.) should be filled with a suitable filler. For optimum results, grit blasting is recommended prior to application.

For masonry applications, joints should be flush pointed with a cementitious filler prior to application. Where existing surfaces are very rough, a sand/cement render coat may be required.

For metal applications, prepare the surface by wire brushing or sand blasting. Treat the surface with an anti-corrosive primer for best results. Epoxy-based steel primer primers are compatible.

For concrete applications, surfaces should be smooth. Mildly tamped, brushed and floated surfaces are also acceptable.

The minimum ambient temperature for application is 5°C, do not apply the product at temperatures below this as curing will be compromised. Ensure reasonable ventilation to obtain best cure.

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Priming

For routine applications a primer is not required. Priming is necessary where specified into applications with anticipated differential movement, substrate movement or where the substrate has appreciable surface defects that need to be bridged, in those applications Proflex Primer (a flexible epoxy primer) shall be applied in a single coat before overcoating with this product.

Mixing

This is a 2-pack system, the Part A and Part B components must be thoroughly mixed prior to use.

Stir the Part A component (larger tin) for a minimum of 2 minutes, add the full measure of the Part B component (smaller tin) to the Part A tin and continue to stir for a further 2 minutes until uniform in colour. It is advised to stir using a slow speed high torque drill fitted with a paddle mixer attachment for best results. Note that all mixed material must be used ***immediately*** and cannot be stored, it will cure hard in the tin if unapplied once mixed.

Application

Over the prepared surface, apply GP® EPOXY BARRIER in one or two coats. For a one coat application, in order to achieve the required coating thickness it is necessary to use a trowel, contact the Technical Department for specific application details. Two (thinner) coats are recommended for ease of application and these coats can be applied by brush or roller (medium pile). The recommended application rate is 3.5m²/kg. A 5kg pack will cover approx. 8.75m². A 20kg pack will cover approx. 35m².

At room temperature GP® EPOXY BARRIER will cure in 6-8 hours. Allow longer cure times at lower temperatures. The second coat must be applied within 3 days of the first coat. If the coating is tacky to the touch, wait until fully dry before over-coating.

Where specified into walkways or regularly pedestrian trafficked areas a second coat can be blinded to provide slip resistance and additional grip. Apply the system as described above, for the second coat blind with a fine/medium aggregate (0.25 – 0.5mm) at 1m²/kg.

Where specified behind screeds, render or tiles it is also recommended the second coat is blinded to provide a mechanical key. Apply the system as described above, for the second coat blind with a coarse Aggregate (1mm) at 1m²/kg.

In all applications, full chemical resistance of the system will require a 7-day period following the last coat.

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Cleaning Tools

Use Xylene Thinners or a cleaning product specifically marketed for use with epoxy resins.

Limitations

- Concrete must be a minimum of 28 days old prior to application of this coating
- Temperature (low) and humidity (high) will lengthen quoted curing times
- Strong acids such as Sulfuric/ Nitric will discolour the coating. This will not affect underlying performance, washing after exposure may remove some staining
- If the product is being used to provide a decorative surface finish it should be applied by a competent operative familiar with the application of epoxy coatings to decorative standards. To ensure an even finish, special care should be paid to:
  - Ensuring that the product is applied at an even layer of thickness
  - Blending in of brushed and rollered areas
  - Verifying that all product used is from the same batch

Regulatory

UKCA Marked (compliant to EN 1504-2:2004: Products and systems for the protection and repair of concrete structures).

Class 1 (BS 476-7:1997: Fire tests on building materials and structures).

NBS: Clause J30 10, 130 – Liquid Applied Damp Proofing.

Type A Barrier Protection in Accordance with BS8102(2009).

NBS: Clause J31 – Liquid Applied Waterproof Roof Coatings.

For Type A structures (BS 8102: 2009), the product can provide the protection level for Grades 1, 2 & 3 basements.

All components are REACH (Reg. (EC) No 1907/2006) registered. The product does not contain any Substances of Very High Concern (SVHC).

Toxicity and Safety

Product is classified as hazardous according to the CLP Regulation (Reg. (EC) No 1272/2008). Refer to the Product Safety Data Sheet for recommended safety precautions. It is recommend the end user wear safety glasses, protective gloves and arms/legs are covered during application. If working in enclosed areas, it is recommend to keep doors and windows open during application to help with natural ventilation.

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Handling and Storage

The Product has a 12-month shelf life subject to storing in a cool, dry, well-ventilated area. Keep containers tightly closed. Store in the original manufacturer supplied containers. Protect from frost and direct sunlight. Product cannot be resealed once opened, it must be used when first opened.

Pack Size Availability

5kg and 20kg. Other bespoke pack sizes are available on request.