



## TRITON BENTOFIX BFG 5000

**BBA Certificated as Bentofix BFG 5000 waterproofing system 05/4256**

### Description

**Triton BENTOFIX BFG 5000** is a waterproofing membrane for use over horizontal or vertical surfaces, to waterproof and protect reinforced concrete slabs and retaining structures. The **Triton BENTOFIX BFG 5000** membrane sheet is a composite of sodium bentonite powder, a woven polypropylene geotextile on the underside and a non-woven polypropylene fibre layer on the topside (facing the concrete to be waterproofed). The upper, non-woven layer has been impregnated with an additional loading of bentonite powder. The two geotextiles are mechanically joined by a needle punching process, pushing the fibres of the upper non-woven geotextile through the bentonite and securing them in the retaining lower layer. The membrane is heat sealed to securely link the two layers and to contain and, importantly, confine the bentonite. The non-woven geotextile side is in general placed against the concrete structure, either in a pre or post applied application.

For situations where ground gases are also of concern, Bentofix BFG 5300 is available.

### Uses include:

- Waterproofing protection to grades 1,2 and 3 of BS8102:2009
- Provides protection in either post-applied or pre-applied situations
- Either horizontal or vertical application
- RC and masonry walls
- Service reservoirs

### Typical Properties @ 20°C

- Tensile Strength 20 kN/m / 11 kN/m
- Puncture Force 2500N
- Peel Strength >360N/m
- Water Permeability <5 x 10<sup>-9</sup>
- Thickness 7.0mm

### Advantages

- Unique impermeable lap joints derived from the additional bentonite powder impregnation into the nonwoven geotextile layer as part of the manufacturing process.
- Full surface contact between the Bentonite impregnated cover layer and the concrete ensures that small cracks and surface imperfections are sealed.
- Self-healing bentonite properties
- Quick and easy installation in most weather conditions
- Forms a tenacious mechanical bond to poured concrete when cast in-situ (pre-applied application), remaining in place if settlement of the substrate occurs.
- No requirement for priming systems, joint taping or protection systems.
- BBA Accredited, Certificate No. 05/4256



## Specification Outline

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Waterproofing shall be carried out using **Triton BENTOFIX BFG 5000** sodium bentonite membrane as supplied by Triton Systems. The product must be stored, handled and used strictly in accordance with the data sheets.

## Standards

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**Triton BENTOFIX BFG 5000** has been tested in accordance with the appropriate parts of the following standards:

- ASTM D5887, CSN 73 0601, ISO 10913

## INSTALLATION INSTRUCTIONS

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### Horizontal Floor Slab Application

For installation of horizontal concrete slabs following the required groundwork preparation, a 50mm blinding layer of lean concrete or sand/gravel is placed, compacted and levelled. This layer should be free from debris and have a smooth surface. All standing water shall be removed before the Bentofix membrane is unrolled on site.

Alternatively, well compacted hardcore or clay base may be suitable, please contact Triton Systems for more information.

Roll out the Bentofix membrane so that the nonwoven geotextile face is upper most and trim the edges to fit the formwork. To obtain a watertight seal the membrane edges must be overlapped a minimum of 100mm in the centre and 150mm at edges. Avoid wrinkles, folds and uneven overlaps. The concrete must be poured following the direction of overlaps to minimise the chances of a break in the waterproofing. In all applications it is essential that the vibrating poker used to compact any immediate concrete **does not** come into contact with the Bentofix membrane.

### Vertical Casting Application

In most cases the Bentofix membrane shall be secured in vertical wall applications to the concrete with the bentonite impregnated nonwoven geotextile side facing the concrete. Floor to wall joints must be overlapped a minimum of 400mm. Avoid wrinkles, folds and uneven overlaps. Ensure all overlaps are aligned so that concrete does not come through during the pour and as the depth of concrete increases.

### Pre-Applied Application

Apply the Bentofix to timber formwork, 'tacking' by nail or staple either horizontally or vertically, following general application guidelines for lapping all adjacent edges 100mm, and staggering adjacent roll ends no less than 150mm, ensuring that laps face downwards. The woven geotextile side should be against the formwork, and the nonwoven/spun geotextile side should face the concrete to be waterproofed. Extend Bentofix the full depth of the formwork, so that the Bentofix laps 400mm over the Bentofix already cast into the slab edge and wall kicker, allow no less than 300mm at the top of the form work, to provide ground slab continuity later if required. Position formwork and penetrate the Bentofix with tie bolts as necessary. Usual concrete good practice is applied in terms of striking times for formwork, but due care should be taken to ensure that the Bentofix remains bonded to green concrete. Where slab 'toe' exists, and underslab Bentofix has terminated at the top edge of slab, additional Bentofix may be required to ensure continuity and to link underslab/edge of slab Bentofix with the vertical Bentofix. Apply a 40 x 40mm fillet of Bentonite paste (powder and water) at the internal wall/slab corner, and place additional Bentofix over the slab 'toe' lapping 100mm over the edge of slab Bentofix, continue over the 'toe' terminating under the unbonded wall Bentofix 'flap' at the back of the kicker.

### Post Applied Application

When post applied to the concrete the Bentofix membrane shall be secured to the concrete using proprietary soft washer pins (30mm length min.) at 300mm centres along the 20mm outside edges and at 300mm centres within the area of the membrane if required to hold it in place.



## Typical Detail Drawings

A number of typical details are available to download from our website, they include methods of sealing service penetrations, slab edge detailing and continuity of protection with ground level cavity trays and damp-courses.

## PRECAUTIONS:

### Health and Safety

Bentofix rolls are heavy and may need mechanical lifting to be moved. Full health and safety data are given in the Product Safety Data Sheet.

### Fire

**Triton BENTOFIX BFG 5000** is non-flammable.

## Storage and Shelf Life

**Triton BENTOFIX BFG 5000** will have a shelf-life of 12 months when kept in dry conditions at a temperature of 5°C to 45°C. Storage at higher temperatures and high humidity may reduce the shelf life.

## Packaging and ordering

**Triton BENTOFIX BFG 5000** is available in 4.5m x 1.2m rolls.

## Related Products

Bentonite Powder (25kg), mixed with water to make a paste used to form fillets and seals.

Termination Strap (10m long) used at the top of the retaining wall to hold the Bentofix in place.

Platon Double Drain, a drainage layer and protection board, used vertically against the Bentofix just prior to back-filling.

Triton TT-Super, crystallizing waterproof slurry for use on pile caps.

Triton Bentofix BFG 5300 Gas Resistant bentonite waterproof membrane ( Radon and Methane).

For further information and sales please contact Triton Systems. Triton Systems products are guaranteed against defective materials and manufacture. Products are sold subject to the Triton Systems terms and conditions of Sale, copies of which are forwarded on invoice and are available on request. Triton Systems endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.

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For further information please contact:

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