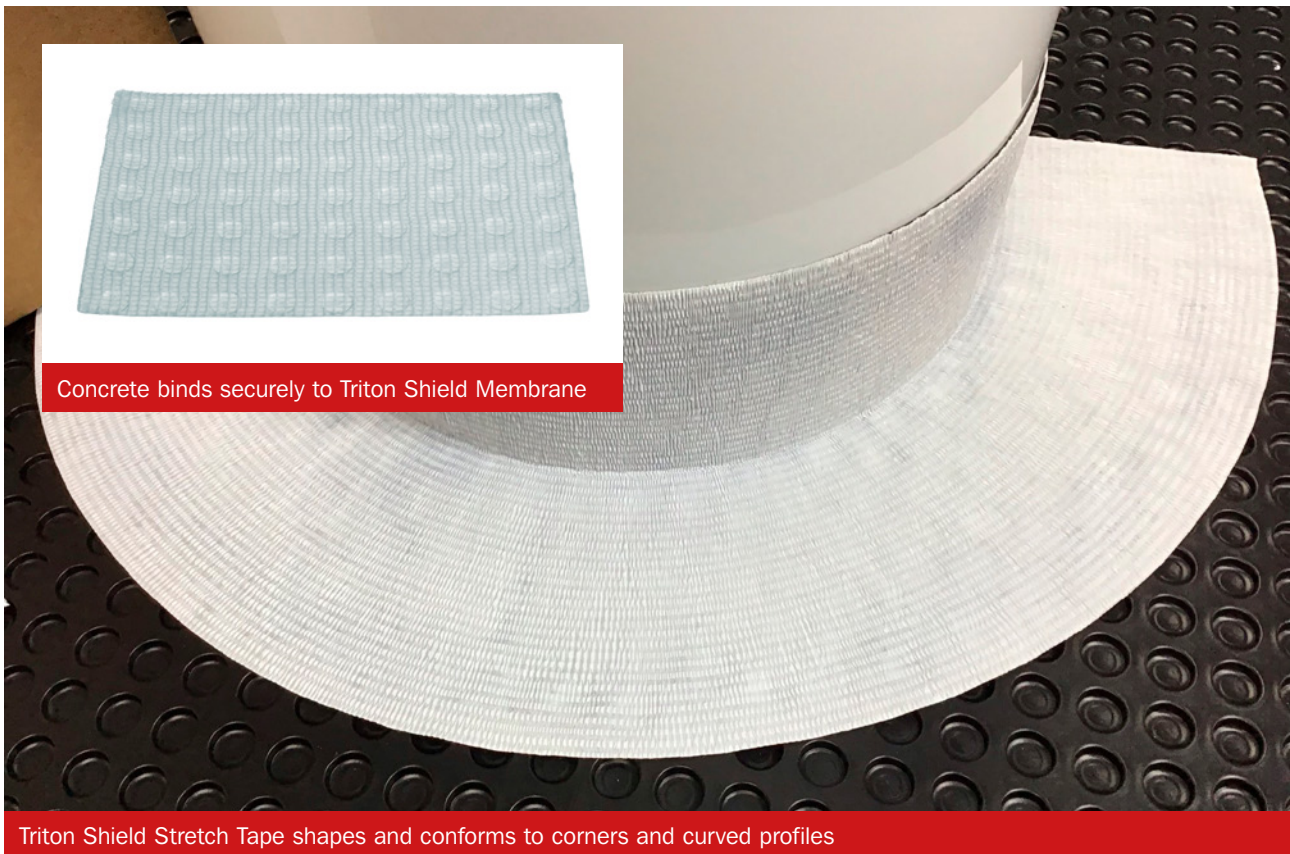


### Triton Shield Membrane System

A premium, pre-applied concrete waterproofing system incorporating a mesh membrane and stretchable sealing tape.



#### Description

A fully-bonded, pre-applied (applied prior to pouring concrete) waterproofing system comprising the unique Triton Shield Membrane and Triton Shield Stretch Tape that, when used in combination, offer a cost effective, fast to install, very lightweight and durable solution for waterproofing protection.

Using the innovative fully bonded membrane and stretchable tape means that coping with non-straight or non-linear jointing applications is made simpler. The need for cutting and joining small sections of tape around curves is minimised, as the tape can be applied in single stretched sections around curved or irregular profiles such as floor slab blinding, concrete piles and arches etc.

#### Component 1 – Triton Shield Membrane

**Triton Shield Membrane** is a pre-applied waterproofing membrane for use on the outside of a poured concrete structure such as a basement slab and retaining walls. Triton Shield Membrane is lightly moulded with a dimple pattern and faced with a polymer filament mesh which allows the concrete to bind to it securely, reducing the risk of de-bonding and water tracking should the ground fall away at some time in the future. Triton Shield Membrane is flexible, robust, and well suited to the conditions and requirements for use on a building site.

Unlike many other types of pre-applied waterproofing membrane, Triton Shield Membrane is sealed together on the side facing the installer, not on the reverse or underside, this means that forming the joints is easier and more reliable. A combination of laminated butyl adhesive tapes (Triton Cornerstrip Tape and Triton Overtape) are used for straight runs and 'square' corners whilst our innovative Triton Shield Stretch Tape is used to detail joints around convoluted shapes such as the faces of secant piles or around pile tops. The unique 'creped' HDPE facing of the Triton Shield Stretch Tape and the butyl adhesive backing allow it to be shaped and moulded around curves and contours, reducing the need to flush-up pile facings to straighten them.

The laminated tapes and Triton Shield Membrane have excellent resistance to water and ground gases such as Radon, Methane etc.

### Usage

Used as part of the system, Triton Shield Membrane is a 'Type A' pre-applied membrane (as defined in BS 8102:2009), suitable for use as a waterproofing barrier against secant piles, grouted contiguous piles, conventional formwork, or a prepared oversite. The polypropylene membrane and butyl adhesive laminated tapes are industry standard materials and offer reliable and robust protection combined with a practical and flexible method of application and sealing.

Triton Shield Membrane would be used as a primary barrier in combination with integral waterproof protection of the concrete, e.g Triton TT Admix (Type B) or Triton Cavity Drain Membranes (Type C) where dual or combined systems are required as part of a BS 8102:2009 assessed specification.

When used as a combined gas and waterproofing barrier the guidance laid out in BS 8485 should be considered, which may include a requirement for third party independent verification of the installation.

### Technical data

Membrane material:	Polypropylene
Sheet thickness:	Nominal 0.50mm
Stud height:	Approx. 2.0mm
Construction height:	Approx. 2.5mm
Unit weight:	0.505 kg/m <sup>2</sup>
Working temperature:	Max. +60°C
Softening temperature:	+160°C
Linear coefficient of thermal expansion:	0.18mm/m°C
Water vapour resistance:	250 M equivalent air layer
Life expectancy:	At least 50 years for defined applications
Colour:	Clear translucent membrane with white mesh
Storage:	Rolls to be stored upright and under cover if possible

### Roll sizes and ancillaries

Triton Shield Membrane:	2m x 20m roll
Delivery unit:	16 rolls per pallet
Plaster Plugs:	500 per box
Plaster Plug Seals:	100 per bag
Butyl Rope:	5m roll (one roll per 100 Plaster Plugs)
Triton Cornerstrip Tape:	10m x 150mm roll
Triton Overtape:	25m x 115mm roll
Triton Shield Stretch Tape:	10m x 200mm roll

### Chemical resistance

Triton Shield Membrane is unaffected by moisture, ground gas (Radon, Methane, Carbon Dioxide), chemical salts or cement/concrete.

## Component 2 – Triton Shield Stretch Tape

A laminated high-performance HDPE and butyl adhesive formed as a 'creped' strip with unique extension and stretch properties. Triton Shield Stretch Tape is used as part of the Triton Shield Membrane System as well as for the installation of most waterproofing, damp proofing and gas proofing membranes, including standard DPMs and cavity membrane systems. It is especially useful where curved, convex or concave profiles are needed without having to cut the tape into sectional pieces to shape around the area – such as when installing around the curved profiles of a vaulted ceiling. The tape is also ideal for use at the floor/wall junction around the profile of concrete piles etc. Triton Shield Stretch Tape stretches and conforms to 90 degree or curved corners at the wall floor junction.

The foundation layer of the tape is a robust, very tough, stretchable material, with a bonded, self-adhesive butyl layer which makes the tape waterproof and resistant to puncturing or tearing on site.

The tape is particularly useful for quick and easy sealing against unequal planes, as it will stretch and conform to the shape of the structure beneath.

### Technical Data

Elongation:	Typically around 60% in practical use (up to 300% in laboratory conditions)
Peel adhesion:	5N/cm at full stretch at 90° angle from surface
Nominal thickness:	2.9mm
Methane transmission rate (ml.mm/m <sup>2</sup> .day.atm):	14 (23°C/0%RH)
Roll dimensions:	10m long x 195mm wide
Roll weight:	6.85kg per roll
Packaging:	1 box containing 2 x rolls
Linear coefficient of thermal expansion:	0.18mm/m°C

### System installation

Vertical installation to formwork or piles: Hang the membrane in vertical strips following the contours of the substrate. Limit the number of fixings to the minimum required to hold the membrane closely to the substrate. Use Triton Plaster Plugs with pre-formed or butyl rope seal. Apply a patch of Triton Cornerstrip Tape or Triton Shield Stretch Tape over the head of each plug. Butt together joint edges and cover with Triton Cornerstrip Tape or Triton Shield Stretch Tape. Use Triton Overtape to cover the Triton Cornerstrip Tape, to ensure that the concrete pour bonds correctly. Triton Shield Stretch Tape does not require anything additional.

Horizontal installation: Oversite must be smooth and free from stones or sharp objects. Lay out the Triton Shield Membrane, butting edges and roll-ends together and over-sealing as described above. At the floor to wall junction butt the horizontal sheet against the wall sheet and seal together using Triton Cornerstrip Tape with Triton Overtape as final coverage. If the vertical substrate is contoured or undulating, cut the horizontal sheet to match the vertical profile as best as possible and seal the two edges together with Triton Shield Stretch Tape. Fix the tape to either the vertical OR horizontal surface first, stretching it out as required, then the other. The release paper is in two halves to assist in this type of application. Shorter lengths of Triton Shield Stretch Tape are easier to handle. Overlap the tape edges by 50mm or so as work progresses.

Press the tapes firmly in place, using a seam roller to iron out wrinkles etc.

Refer to our typical detail drawings TSM-1 (piled wall to floor joint), TSM-2 (formwork wall to floor joint) and TSM-3 (butt joint).

Triton Shield Membrane must be tightly fitted prior to pouring concrete, to avoid disturbing joints.

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