

# INSTALLATION MANUAL

Tiptex nonwovens



## Tiptex nonwovens in a groundwork construction application

Tiptex nonwovens are used in various applications including site access roads, hard standings, road and railways, drainage blankets, car parks, landfills and coastal engineering.

## Description of application

Tiptex nonwoven geotextiles lend valuable qualities to numerous groundwork construction applications. The hydraulic properties of the product stimulates the build-up of a natural soil filter in the adjoining soil to ensure long term filtration stability. It is a perfect choice for the protection of sensible layers or separation of different soils ranging from clay to coarse granular fill.

## Areas of application, foreword

To achieve maximum performance and avoid damage of the Tiptex nonwoven materials, basic installation procedures should be respected. Correct handling of the product on site and during installation is of great importance. This manual gives guidance and recommendations to the installer of this product to ensure that long term performance is secured. Please inform your contact from BontexGeo directly to get technical assistance in case any deviations are required to the described steps below.

The information in this instruction reflects the experience gathered over time by BontexGeo. The actual installation procedure must be aligned to fit to site-specific circumstances and the available working equipment.

## Storage advice

The product should be stacked safely in a secure location until ready for use. The protective packing should not be removed until the product is required for use. For goods delivered with no outer packing, a sacrificial layer of product should be removed and disposed of. Should product then be left uncovered, then temporary exposure shall not exceed the declared time in the declaration of performance and/or technical datasheet of the product, acc. to the EN 12224 standard.

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### Subgrade preparation

It is possible to lay the geotextile directly on undisturbed vegetation e.g. grasses and reeds should levels so permit. Any plant vegetation such as bushes or shrubs, as well as large rocks or other similar obstacles must first be removed. All voids, wheel ruts or other deep depressions require to be either filled or leveled out to provide a smooth surface.

### Product installation

The geotextile should be rolled out and allowed to follow the contours of the land. It should be kept as taut as possible in an effort to minimise folds but not stretched so that it spans over any hollows. Small deposits of fill material may be required across the geotextile surface to hold it in place until fill placement commences. No vehicle should traffic directly on the geotextile surface at any time.

### Product continuity

The simplest and quickest method of ensuring product continuity is to overlap adjacent layers. Rolls placed side by side should have a minimum overlap of 300 mm whilst length on length should have a minimum overlap of 600 mm (this requirement can be defined to an even stricter degree acc. to existing local legislations). Over soft or uneven soils these overlaps may need to be increased. Please contact our office for further advice. Should special circumstances identify a need for a mechanical joint then further details may be obtained from our office.

### Cutting to length

Product may be cut to length using either a sharp blade or scissors.

### Cutting to width

Should the geotextile width have to be reduced then the product may be cut down whilst still in a roll format. Nonwoven products may be cut with a hand or power saw. This latter method will to a small degree fuse the roll end making the product slightly more difficult to unwind.

### Placement of cover fill

Fill material should be end tipped at either the edge of the geotextile or on top of already placed fill before being spread to the required depth using a tracked machine. A minimum fill layer thickness over the geotextile of 150 mm is recommended prior to any trafficking or compaction.

### Fill restrictions

The choice of fill placed directly on the geotextile's surface can greatly affect the amount of damage caused to it during installation. A simple piece of guidance to help minimise this damage is to use a maximum stone size no greater than half the fill layer thickness e.g. if fill is being placed and compacted in 150 mm layers then the maximum stone size should be no greater than 75 mm. This prevents any stone in direct contact with the compactor at the surface also coming into contact with the geotextile. Another option is to place a 50 mm thick sacrificial sand blanket on the geotextile prior to main fill placement.

### Installation damage & repair

Should the geotextile be damaged during fill placement or due to the use of heavy material, the following repair methods can be used. First, the surrounding fill material should be removed.

In case of major damage (> 50 cm) to the non-woven (punctures/holes/tears/...), the damage must be removed over the full width of the geotextile. The two ends must then be joined either with a double seam (PET yarn) or with an overlap of at least 150 cm.

Smaller damages (< 50 cm) can be repaired by placing a piece of the same non-woven of 100 x 100 cm in that place under the existing geotextile. Under no circumstances should weak or open spots remain visible, because in those places there can be a subsidence and/or mixing of the two layers.

### Disposal of waste product

A small quantity of waste is generated with each roll of geotextile product used. This can include packing, a plastic or cardboard tubes and possibly product offcuts (see labels for type of raw material). We would ask that you please give consideration to the environment when disposing of this material.

### Summary

Improvement of groundwork construction abilities using geotextiles is a well-accepted, economic and ecological alternative to traditional construction solutions. In some areas, it has even become a standard construction method. However, one must not neglect the fact that the installation of geotextiles requires a certain care and that the standards and regulations for earthwork must be adhered to. These installation instructions can only cover the most important points. In case of questions regarding the above or related items, we will be pleased to be of assistance at any time.

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### Product picture



#### Tiptex nonwovens

Needle-punched geotextile for protection, separation and filtration

The information set forth in this data sheet reflects the best knowledge at the time of publication. The document is subject to change pursuant to new developments and findings. The same reservation applies to the properties of the products described. No liability is undertaken for results obtained by usage of the products and information.

