

# **bidim<sup>®</sup> Eco**

STORAGE & INSTALLATION  
GUIDE

 **RECYCLED GEOTEXTILE**

 **RECYCLED WRAP**

 **RECYCLED CORE**



**GEOFABRICS<sup>®</sup>**  
Smarter Infrastructure

# bidim® STORAGE & INSTALLATION GUIDE

## HANDLING AND STORAGE

bidim® geotextile rolls are packaged in a UV stabilised, tight plastic wrapping. Each roll has a label on the ends identifying the grade, width, length and unique roll number.

bidim® geotextile rolls may contain a join over the roll length. Such rolls will be identified by a 'JOIN' sticker on the packaging. The roll dispensing direction is indicated by an arrow sticker on the packaging.

Site handling and storage practices should be such that exposure to conditions which may reduce or alter the geotextile properties are minimised.

Rolls are supplied in small despatches on a utility with racks and larger consignments are transported to site on a flat bed truck or semi trailer. Rolls can be unloaded using a forklift, spreader bar or end 'carpet' prong.

## PLACEMENT

Placement procedures should be in accordance with the project specifications. This will include compliance with stripping, grubbing and final trim, grading requirements, cover material specifications, lift thicknesses and equipment requirements. Other considerations including placement in wind and underwater should be addressed in construction or site specific specifications.

Performance considerations such as removal of wrinkles and folds should be addressed as specified. Seams should be exposed with the seamed joint facing upwards, such that the seam can be inspected and repairs easily made should faults be encountered. For placement of larger 4m and 6m rolls, a Geofabrics spreader bar is recommended.

## INSTALLATION ON SLOPES

Stability of the geotextile on slopes should be assessed by the design engineer. Installation of rolls on slopes with a Geofabrics spreader bar is recommended.

Geotextiles should be deployed down the slope with overlaps in the slope direction (refer to Figure 1). If unavoidable, geotextile panels should be placed according to the roof tile principle with intermediate joints anchored using suitable pins.

Care should be taken when deploying geotextile rolls identified with a 'Join' sticker.

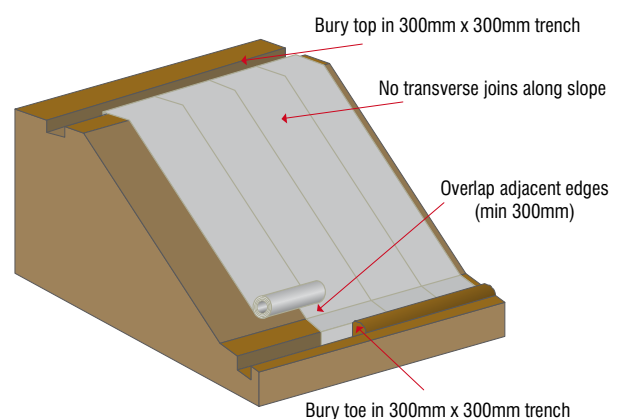


Figure 1. Correct roll deployment

## ANCHOR TRENCHES

Geotextile installed on slopes may require securing by placement in an anchor trench at the top of the slope. Generally, geotextiles should be secured in an anchor trench on slopes steeper than 3 horizontal to 1 vertical.

## JOINING

Seam and overlap requirements should be specified by the design engineer, for both factory and field seams.

Design of seam strengths should meet specified levels of seam efficiency proportionate with the geotextile strength. Hence the geotextile design strength may be greater in order to provide seam strength efficiency equal to the required geotextile tensile strength.

Several types of seams and sewing techniques may be used to meet requirements for specified seam efficiencies. A “lock-type” stitch that is not easily unravelled is preferred to a “chain stitch” that can be unravelled when pulling the thread line from the terminal end of the seam. If single-thread chain-type stitches are used, double seams should be sewn and a careful field observation program established to ensure seam integrity.

## OVERLAPPING

Overlap joints provide continuity between adjacent geotextile rolls through frictional resistance between the geotextile layers. Sufficient overlap width is required to prevent soil squeezing into cover material at the geotextile overlap. The amount of overlap depends primarily on the soil conditions and the potential for equipment to rut the subgrade.

As the potential for rutting and squeezing of soil increases, the required overlap increases. Rutting potential can be related to subgrade strength and the CBR value can be used as a guideline for the minimum overlap required:

Recommended Minimum Overlap Requirements	
CBR	MINIMUM OVERLAP
>2	300 - 450mm
1 - 2	600 - 900mm
0.5 - 1	900mm
<0.5	Sewn
All roll ends on subgrade	as above
Roll ends on slopes	900mm or Sewn

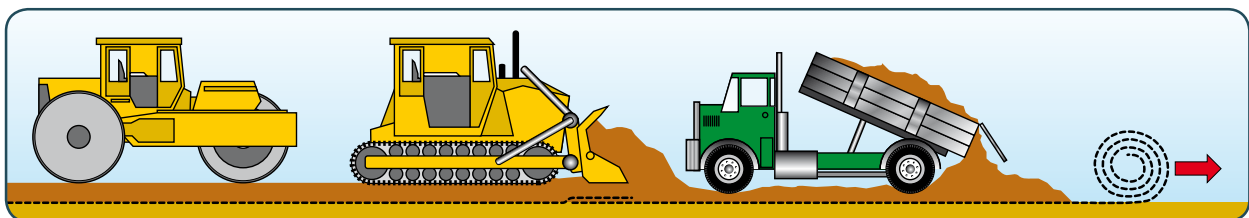
Reference; Austroads, Guide to Geotextiles – Technical report January 1990.

## SEWING

Site sewn geotextile joining requires a portable sewing machine. Ideally, thread used in the sewing machine should be of sufficient strength to provide a sewn seam strength equal to specified seam efficiency. Seam tensile strength is approximately two-thirds of the geotextile strength when high-strength thread and double-sewn overlap ‘J’ seams are used. Seam efficiencies of between 50% - 60% are achievable with standard threads available for portable sewing machines. All field seams should be double sewn, with the thread tied off at the end of each sewing pass and in other locations where thread ends are produced. Sewing machines are generally powered by electric motors and a portable electrical generator may be required on site.

## FILL PLACEMENT

Fill over a geotextile should be placed in such a way that the integrity of the joints is maintained. Driving vehicles or machinery directly over the geotextile can cause damage and must be avoided. Use only light construction equipment initially over weak soils.



Adequate cover material should be in place before construction plant is allowed to traffic the geotextile. A recommended guide is 150mm minimum for firm foundations and 300mm minimum of soft foundations.

## OUTDOOR EXPOSURE

bidim® polyester geotextiles are manufactured to withstand exposure for periods of up to 1 month with limited strength loss and are tested annually under simulated outdoor exposure conditions in accordance with AS3706.11 (results can be provided upon request).

Recommended exposure on site is 14 days prior to cover material placement on road pavements, trenches and slopes. Geofabrics supplies bidim® geotextiles wrapped in UV stabilised PE wrapping to protect it from damage in transit and provide prolonged exposure protection on site.

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