

## General Advice

These instructions should be read in conjunction with the contract specification and drawings. They are intended to provide guidance in normal installation situations and are addressed to the installer on site. If there are any questions related to the design, unusual installation challenges, or any doubt, consult ABG for further advice. In all situations, responsibility for installation remains with the Installer.

## Description

**Abweb** is a geocellular ground stabilisation system comprising HDPE cells in a honeycomb web (Fig. 1). The cells are formed from welded strips of HDPE. **Abweb** is usually supplied in 4m x 6m panels but may be manufactured to different dimensions, for example to suit a particular road width. When laid and backfilled with specified fill material **Abweb** forms a stabilising layer, typically used to strengthen the base of access roads, paved areas or footpaths.

## Supply

**Abweb** is supplied in panels which are coiled up with straps and stacked on pallets (Fig. 2). Each panel measures 4m wide x 6m long when expanded.

## Equipment Required (Fig. 3)

- Hammer
- Safety knife or disc saw
- Backfilling and compaction plant
- **Abpins** (approx. 200 per job if temporary, or 60 per panel if permanent and **Abfix Ties** (approx. 30 per panel)
- **Terrex NW9** geotextile
- **Abgrid 30/30** (if required)

## Site Preparation and Setting Out

### Step 1.1

Excavate the area to the specified depth shown on the project drawings. This depth is likely to be greater than the depth of **Abweb** to accommodate additional stone depth. Prepare the formation to a good even profile.

### Step 1.2

Lay **Terrex NW9** geotextile over the area of the installation. Adjacent sheets must be overlapped by a minimum of 150mm (Fig. 4).



Fig. 1: Abweb



Fig. 2: Abweb supplied coiled & strapped on pallets

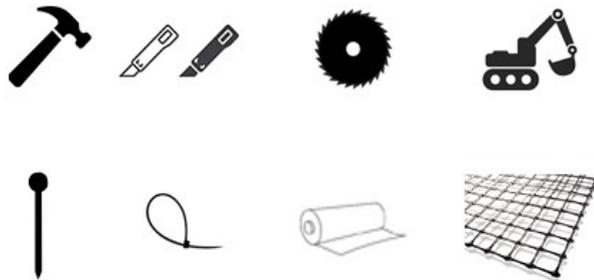


Fig. 3: Tools required

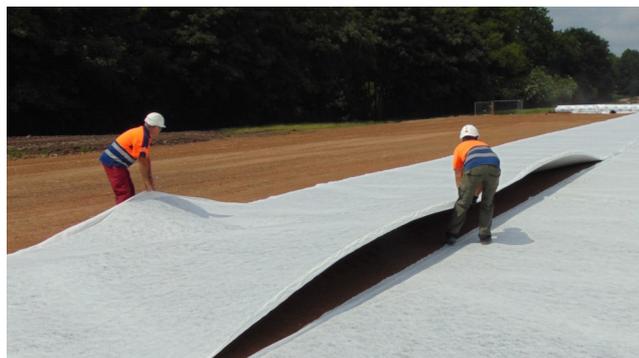


Fig. 4: Lay Terrex NW9 with minimum 150mm overlap

# Abweb

## Step 1.3

Lay **Abgrid 30/30** if the ground is particularly soft or wet (**Fig. 5**).

## Panel Placement

## Step 2.1

Carry the **Abweb** into position, remove straps and uncoil. (**Fig. 6**).

## Step 2.2

Note that the 4m end/width of the panel has rounded cells and the 6m edge/length of the panel has pointed cells (**Fig. 7**). The direction of the panels is chosen to suit the layout of the project. See **Notes 1&2** regarding pins.

## Step 2.3

Place the first corner of the **Abweb** panel into position and pin the corner in place.

## Step 2.4

Expand the panel end or edge to the length or width stated on the product label, usually 4m width x 6m length (**Fig. 7**). Pin the second corner cell and place a pin in every cell along the edge or end of the panel.

## Step 2.5

Expand the panel end or edge to the length or width stated on the label (usually 4m width x 6m length), and pin the third corner of the **Abweb** panel into position.

## Step 2.6

Expand the panel to the fourth corner and pin into position.

## Step 2.7

Place pins in every cell along all edges and ends of the panel. When expanded, the cells should be approximately symmetrical and not distorted (**Fig. 8**).

## Step 2.8

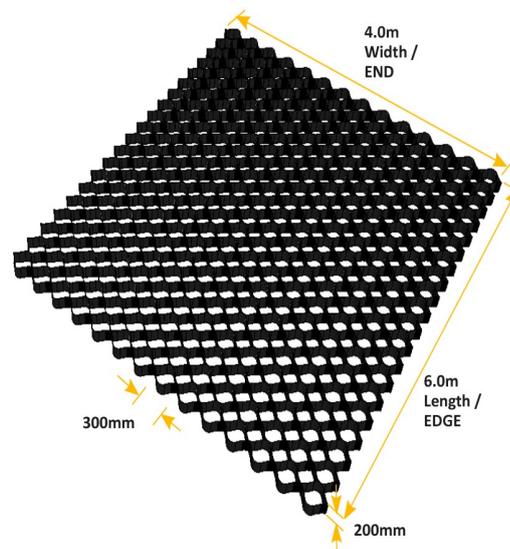
For areas smaller than the standard 4m x 6m panel (24m<sup>2</sup>), the **Abweb** can be cut to size either before or after expansion. See **Note 3**. Place all discarded plastic into a bag for recycling.



**Fig. 5: Abgrid 30/30 required for soft or wet ground**



**Fig. 6: Carrying & uncoiling Abweb into place**



**Fig. 7: Expand panels to dimensions required**



**Fig. 8: Abweb fully pinned into position**

# Abweb

## Step 2.9

Place adjacent **Abweb** panels in a similar manner, noting the alignment of cells as shown in (Fig. 9 & 10).

## Step 2.10

Tie all adjacent cells of each panel together using **Abfix** Ties, noting the alignment of cells as in (Fig. 9 & 10).

## Backfilling and compaction

### Step 3.1

Place the backfill into the **Abweb** using an excavator bucket or by end tipping from a dumper. Plant and machinery cannot travel over **Abweb** until it has been filled (Fig. 11).

### Step 3.2

The backfill is usually specified and detailed to be slightly above the top of the **Abweb** (Fig. 11).

### Step 3.3

Remove temporary pins and compact the backfill (Fig. 11). See Note 5.

### Step 3.4

The filled **Abweb** is typically the base layer on which the final surface is installed (Fig 12).

## Notes

1. The pin length will depend on the firmness of the ground. Permanently installed pins must be hammered fully below the top of the web. Temporary pins will be removed after backfilling the **Abweb**.
2. The primary function of the pins is to ensure that the cells remain open during the backfilling process.
3. Cuts must be at least 25mm from the welds. When cutting through a cell, a width or length equal to the diameter of that cell is effectively lost.
4. For optimum strength the cells should be expanded symmetrically and not over stretched so as to become distorted. Each panel normally covers an area 4m wide x 6m long when expanded. During installation the panels have to be expanded to their full width as stated on the label.
5. Due to the cell confinement, the compactive effort required maybe greater than is usually expected for the layer thickness.
6. **Abweb** contains a UV stabiliser which means that it can be exposed to sunlight for up to 28 days in temperate climates. In climates with extreme sun then exposure should be limited to 7 days. Contact ABG's technical department for more specific advice.

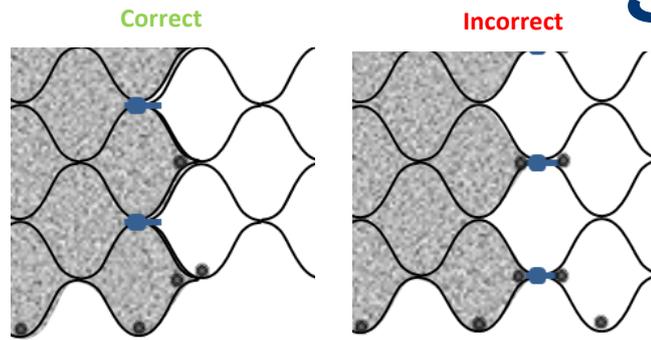


Fig. 9: Correct alignment of edge to edge panels



Fig. 10: Abfix tie detail and correct alignment of end to end panels



Fig. 11: Abwebs being backfilled & compacted



Fig. 12: Example of Abweb as base layer for final surface

## Terms and Conditions

Site specific engineering design should be carried out after site investigation has provided all the necessary information.

The assessment of suitable safety factors in relation to each particular project must always remain the responsibility of the design engineer.

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