Standard Webwall

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 Technical for further advice.

The installation must be conducted under ABG approved supervision, in accordance with the construction drawings and all installation documents, and after a Webwall Installation Briefing has been completed.

Description

Webwall is an economical, flexible retaining wall system consisting of honeycomb polymer web panels that are filled with site-won soil or crushed stone, and stacked to the required height. A natural green face is created by planting the front pockets and the angle of the face of the wall is determined by the amount of step back of each layer.

Webwall may be unreinforced (generally limited to retained heights of approximately 2.5 meters), or reinforced using geogrids to achieve greater heights.

Supply

- **Webwall** panels - 600mm coiled strips, easily man-handled (Fig. 2)
- **Pins** (500mm & 750mm x 12mm Ø) 11 per panel
- **Fildrain** (drainage geocomposite)
- **Trigrid** (geogrid, where required)

Equipment Required

- Sharp knife
- Shovels
- String line
- Lump hammer
- Vibrating roller or wacker plate (Fig. 3)
- Tape measure
- Small excavator
- Laser and spirit levels
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Site Preparation and Setting Out

Step 1
Set out the line of the wall and excavate a firm, level footing to at least 0.5m wider than the base panel or as required to create a safe work environment (Fig. 4). If required by design, place geogrid and/or geotextile at the base of the excavation. The base of the excavation should be perfectly flat or with a nominal slope down towards the back of the wall.

Step 2
Place pins at the beginning and end of the section of wall you are working on. Run a string line between the two, marking out the front of the wall. Expand the Webwall panel in line with the string line and secure front cells at ~0.5m centres with 500mm long pins (Fig. 5).

Step 3
Extend the Webwall from front to rear measuring to the designed width of the base panel. Secure by driving 500mm long pins into the rear cells along the length of the panel ensuring the pins are flush with the top of the panel. The panel should now be fully expanded and supported by pins (Fig. 6).

Step 4
Ensure the panel is level with zero falls or nominal slope down towards the back of the wall (Fig. 7). Repeat the process for adjacent panels ensuring that the panels are butted together with additional pins at each end (Fig. 5).

Wall Foundation Filling and Compaction

Step 1
Fill base panel with selected granular fill such as DTp Type 1 or as specified by the design to create a stable platform. Overfill the panels by approx. 50mm (Fig. 8).

Step 2
Compact the panels with a vibrating roller or a wacker plate to create a level surface flush with the top of the panel.
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Wall Foundation Filling and Compaction (cont.)

Step 3
Backfill behind the panels with the soil as specified in the design. Compact the soil behind the panels in accordance with either the site-wide earthworks compaction specification or as specified in the design.

Step 4
Repeat process until all buried panels have been installed ensuring that cells are aligned correctly and set back as per the design. In particular, ensure that the cells are aligned vertically (Fig. 9)

Step 5
Ensure that the wall foundation is completely buried as per the design before constructing the wall above.

Wall Construction

Step 1
Install geocomposite drainage as per the design (Fig. 10) and, if required, geogrid.

Step 2
Repeat the setting out process as described earlier. In the front cells, place lightly compacted topsoil in place of granular fill and remove the 500mm long pins for reuse later in the construction. The rear cells should be backfilled as per the design NOTE 2 and compacted with a vibrating roller or wacker plate as described earlier (Fig. 11). Backfill behind the rear cells as described earlier. Repeat the process for adjacent panels ensuring that the panels are butted together with additional pins at each end. In the front cells filled with topsoil these additional pins should be 750mm long (Fig. 5).

Step 3
Repeat Step 2 as required, ensuring that cells are aligned correctly, the panels are level with zero falls, and set back is as per the design NOTE 3, until the design height is reached (Fig. 12).

Step 4
Plant / seed front cells. This is required for all designs NOTE 4.

NOTE 2

NOTE 3

NOTE 4
Notes

1. Applies to a straight **Webwall** only. When the **Webwall** is forming a curve the expansion of the cells will vary depending on the overall radius of the bend; consequently the pin spacing will also vary (Fig. 13). When the Webwall is to have a right-angle corner specific corner panels will be required (Fig. 14). If curves or corners are part of the design ABG should be contacted to provide addendum installation guides to aid with the setting out and construction.

2. For more information on recommended backfill and compaction, please see the ABG technical note "**Webwall Panel Backfill**". Contact the designer if the typical backfill and/or compaction has not been specified in the construction drawings, or varies from that specified.

3. It is recommended that panels are stepped back by a further amount during construction, in addition to the specified step back. This is because the panel has a tendency to expand or creep forward when the retained fill is being compacted within and behind the panels. The amount of extra step-back depends on site-specific conditions such as the type of fill and compaction plant, but generally an extra 25mm is a good starting point. In general the step back should be monitored post-compaction and the next panel position should be adjusted accordingly.

4. The establishment of vegetation is important for prolonging the life of the exposed polymer face, as the plants provide shading from the sun’s ultra-violet rays. Webwalls will require monitoring and maintenance over time to ensure that adequate coverage is provided by the plants.

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 project’s design engineer.

If any of the steps in this installation guide are not followed without written approval from ABG’s Technical Department this will invalidate the design and ABG will not be liable for any adverse consequences.