Geomat 20 Z 500 Installation Guidelines

Delivery and storage

GeoMat 20 Z 500 is supplied in rolls without outer packaging. Standard rolls weigh 30-35kg, comprise 2.5m x 25m of GeoMat, and can be cut with a sharp knife. Although the products are resistant to UV light, they must be covered if stored for long periods. Store on a firm, flat surface and do not stack more than 5 rolls high. Roll or carry (but do not drag) the GeoMat to the place of work.

Installation Method

Step 1 – Prepare Slope and Excavate Anchor Trenches.

The slope should be properly compacted, free from existing vegetation, roots and stones and able to sustain vegetative growth. Voids, where possible, should be filled to offer a flat and even profile (Fig 1). Excavate anchor trenches (Fig 2) at the toe, crest and sides (if specified on the drawings) of the slope not less than 200mm deep or as specified on the drawings (see alternative trench details overleaf).

Step 2 – Place GeoMat in Anchor Trench.

Place GeoMat down the side and along the base of the anchor trench at the top of the slope, pin at 1m centres or as specified on the drawings (Fig 3).

Step 3 – Lay GeoMat on Slope.

Unroll GeoMat down the slope. To prevent down-drag, intermediate pins

should be placed at no less than 1m centres (Fig 4, see overleaf for details of pinning frequency). Ensure that the GeoMat is in intimate contact with the ground IN ALL PLACES by adding additional pins in any hollows or

undulating ground (Fig 5). Avoid walking on the surface unnecessarily.

Step 4 – Place GeoMat in Toe Trench.

Cut GeoMat to length and pin to bottom trench (and side trench where required) as per the top trench or as specified on the drawings. Backfill trenches with excavated material or as specified on the drawings.

Step 5 – Place Topsoil and Seed.

The GeoMat should be filled and covered, from the bottom to the top of the embankment, to a depth of 10mm of friable topsoil (Fig 6, approx. 75-100kg/m2). Seed should be spread over the surface and raked into the topsoil, or placed in accordance with the seed supplier's instructions.

Alternatively, the bare mat may be hydroseeded. In either case it is essential to ensure that vegetation growth does not inhibit the intimate contact between the ground and the GeoMat. Watering is essential if the slope is likely to dry out.

Fig 2: Excavate anchor Trenches

Fig 3: Pin GeoMat into Anchor Trench

Fig 5: Ensure GeoMat is in intimate contact with the ground IN ALL PLACES

Fig 4: Pin GeoMat to slope

Fig 6: Rake in 10mm cover of friable topsoil

Application Categories: Ground Engineering

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Further Details

Alternative Anchorage Details. Shown in Fig 7 are alternative options for anchoring the top, bottom or sides of the GeoMat for various applications.

Overlaps – Cross-slope Overlaps. A minimum of 300mm 'roof tile' overlap should be provided. Pins should be placed at the top and bottom of the overlap at 500mm centres or as shown on the drawings (Fig 8).

Overlaps – Down-slope Overlaps. A minimum of 100mm overlap should be provided with pins placed in a single line at 500mm centres (or as shown on the drawings (see Fig 9). Where cross-slope water flows are expected the upstream mat should be placed over the downstream mat.

Fixing Pin Details. Fixing pins are "J" or "U" shaped and are specified dependant on ground conditions , slope and loadings with "U" pins typically required on watercourses.

Intermediate Pinning. Shown in Fig 11 is a general guide to intermediate pinning frequency depending on the slope angle. In areas of high turbulence or increased velocities, extra pinning should be used.

Submerged Areas. The use of 2-5mm stone chippings should be considered where GeoMat is to be permanently submerged (chippings to be placed prior to topsoil fill in non-submerged areas).

Planting. Shrubs and plants can be planted through GeoMat by cuttng an 'X' shape. Once planted, the GeoMat must be pinned locally around the plant. Full erosion protection cannot be guaranteed until all planted vegetation has taken hold.

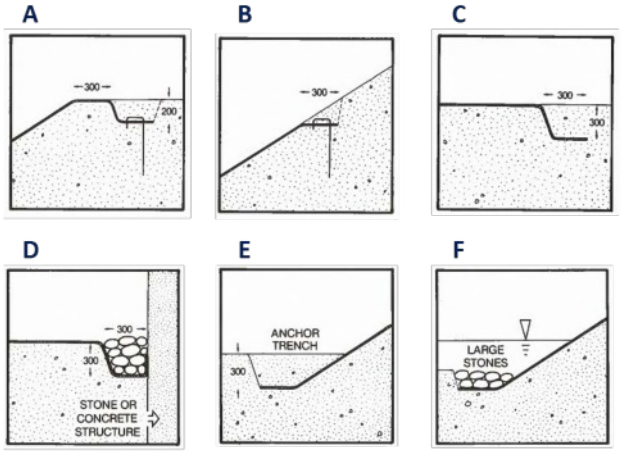

Fig 7: Alternative anchorage

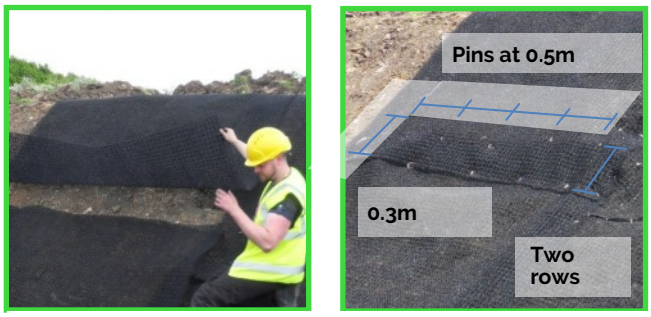

Fig 8: Cross-slope overlaps and

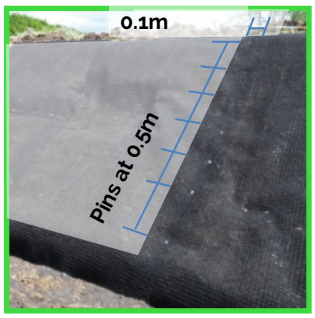

Fig 9: Down-slope over-laps and pinning

Fig 10: Completed Slope

Equipment and materials required

Materials: GeoMat, pins, friable topsoil.

Tools: Excavator, dumper, sharp knife, hammer, rake.

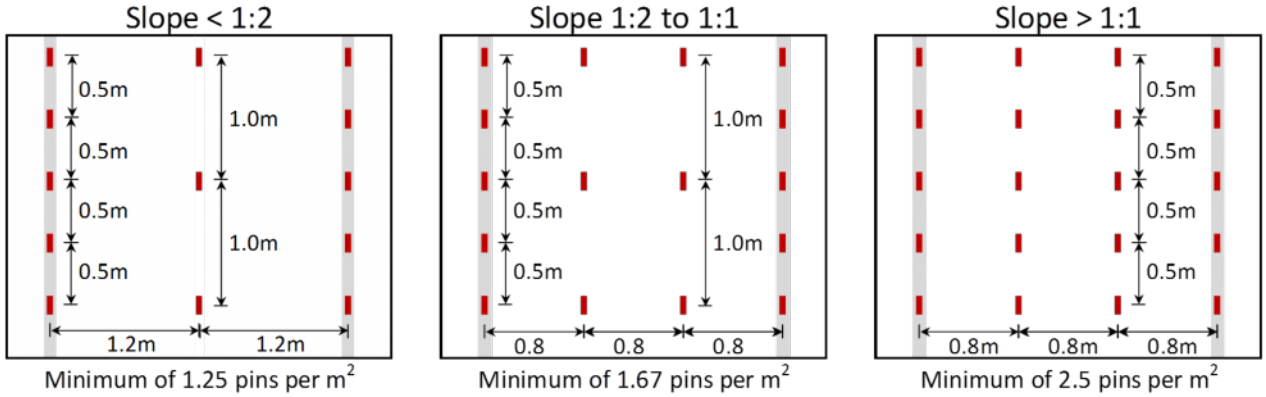

Fig 11: General Guide to GeoMat intermediate pinning frequency

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