TerraMat®

Reinforced Erosion Control Mat

INSTALLATION

Correct installation of erosion control TerraMat® is critical for a successful project.
Erosion control TerraMat® is typically laid by beginning at the top of the slope and rolling the TerraMat® down slope. However, TerraMat® can be orientated in different directions to achieve maximum erosion protection depending on site conditions such as direction of river flow and foreshore erosion. For example, the installation requirements will differ when installing the erosion control TerraMat® on slopes as opposed to channels and allow for horizontal installation on short slopes to avoid extra handling and cutting. The number of joins in the TerraMat® should be minimised to increase the integrity and provide the strongest structure.

As a general rule, if the degree of slope is greater than 1V:3H it is recommended TerraMat® is rolled down the slope. For a degree of slope less than 1V:3H the TerraMat® should be rolled across the slope.
Regardless of direction, to ensure effectiveness of the TerraMat® it is recommended that the upper edges on top of the embankment are secured in an anchor trench to resist lift and provide direct contact with the soil.
If more than one width is required it should overlap the TerraMat® previously installed.
Digging should be avoided on slopes to prevent further destabilisation. If the degree of slope is greater than 1V:3H it is recommended the anchor trench be installed at least 1m from the crest of the embankment.

INSTALLATION ON MODERATE (1V:3H-1V:2H) TO STEEP SLOPES (>1V:2H)

1. Prepare the site by grading and shaping to a relatively smooth profile that is free of weeds, rocks, roots and sticks to ensure the TerraMat® will have complete contact with the soil. Some remaining debris/litter is acceptable to be covered and large rocks should only be removed if this does not cause excessive disturbance. Removal of root structures from any existing native vegetation may further destabilise the site and lead to erosion, therefore the roots of surviving trees should not be damaged or disturbed. All native vegetation present on the slope should also be retained where possible and TerraMat® installed around the vegetation.

2. Begin at the top of the slope and prepare an anchor trench 150-200mm deep by 150mm wide along the length of the area to be protected by TerraMat®. It is recommended the TerraMat® be anchored to a minimum of 1m beyond the crest of the slope or as far beyond the crest as site conditions allow. In situations where this is not possible, the Terra-Mat® should be anchored above the high water mark at a minimum.

3. Roll the TerraMat® over the prepared anchor trench securing it to the bottom of the trench with pins approximately 300mm apart ensuring the pins are flush with the surface. Be sure to leave enough TerraMat® on the landward side of the anchor trench to cover it once it has been backfilled. Refer to anchor trench detail.

4. Backfill the anchor trench, compact the soil and cover the backfilled trench with the remaining end of the TerraMat® and secure with pins 300mm apart.

5. Unroll the TerraMat® down the slope and gently pull theTerraMat® to take out any slack every 5-6m being careful not to stretch it. Ensure the TerraMat® has direct contact with the soil surface.

6. Secure the TerraMat® in place with pins at 0.5-1m intervals along the vertical edges and staggering pins horizontally approximately every 400-600mm across the TerraMat®. Note, the TerraMat® must remain taut and have sufficient contact with the soil surface as it is pinned. This should be a major consideration when determining the number of pins to use. Table provides the recommended number of pins for degrees of slope.(pg 4.)

7. TerraMat® should continue below the low water mark and appropriate toe protection considered.

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INSTALLATION ON GENTLE SLOPES (<1V:4H) OR CHANNELS

1. Prepare the site by grading and shaping to a relatively smooth profile that is free of weeds, rocks, roots and sticks to ensure the TerraMat® will have complete contact with the soil. Some remaining debris/litter is acceptable to be covered and large rocks should only be removed if this does not cause excessive disturbance. Removal of root structures from any existing native vegetation may further destabilise the site and lead to erosion, therefore the roots of surviving trees should not be damaged or disturbed. All native vegetation present on the slope should also be retained where possible and TerraMat® installed around the vegetation.

2. Beginning at the upstream edge of the project site, prepare anchor trench for the TerraMat® perpendicular to the water or across the channel 150-200mm deep by 150mm wide. When installing TerraMat® in a channel or waterway, to prevent a seam going down the centre of the channel or in areas of concentrated water or wave action, it is recommended the centre of the roll of TerraMat® be positioned in the centre of the channel or area of concentrated water flow or wave action.

3. Roll the TerraMat® over the prepared anchor trench securing it to the bottom of the trench with pins approximately 300mm apart ensuring the pins are flush with the surface. Be sure to leave enough TerraMat® on the landward side of the anchor trench to cover it once it has been backfilled.

4. Backfill the anchor trench, compact the soil and cover the backfilled trench with the remaining end of the TerraMat® and secure with pins 300mm apart.

5. Unroll the TerraMat® in the direction of the water flow and gently pull the TerraMat® to take out any slack every 5-6m. Ensure the TerraMat® has direct contact with the soil surface.

6. Secure the TerraMat® in place with pins at 0.5-1m intervals along the length of the TerraMat® and staggering pins 400-600mm across theTerraMat®. Table provides the recommended number of pins for degrees of slope. Table provides the recommended number of pins for degrees of slope.

7. In areas with high flow velocity, it is recommended to install “check slots” perpendicular to flow to resist hydraulic lift. Such check slots can be prepared 150mm deep by 150mm wide every 8-10m along the length of the channel or project site (refer to Figure).

8. Secure the terminal end and edge of the TerraMat® at the top of the channel/slope in a pre-prepared anchor trench using the same methods detailed in steps 3 and 4 above.

Minimum recommended quantity of pins/staples for different slopes

Type of slope	Gradient (v:h)	Minimum pins/m²
Steep slopes	1:1 – 1:2 or greater	6 to 8
Moderate slopes	1:2 – 1:3	4 to 6
Gentle slopes	1:4 or less	4

Consult Polyfabrics Australasia or a certified Engineer for site specific installation instructions. Polyfabrics Australasia reserves the right to change its product specification at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.