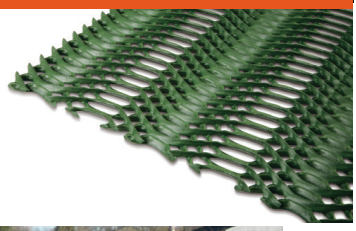
GRASSPROTECTA™ Plastic Mesh

SPECIFICATION, DESIGN & INSTALLATION GUIDANCE

For Grass reinforcement



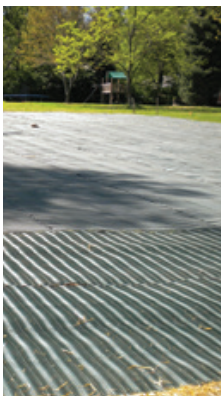


Installation method for GRASSPROTECTA



EXISTING GRASSED AREA

1. The surface must be reasonably flat, level, firm and free-draining enough to sustain the proposed traffic. Fill shallow depressions with free-draining sandy soil. Level and consolidate. Apply seed before or after mesh installation as preferred. Alternatively, lift turf locally, fill the low area with sandy soil, consolidate and replace turf to level.



MESH UNROLLED

2. Prior to permanent fixing of the mesh, it is advisable to unroll it and pin loosely at each corner to allow the mesh to relax and regain its natural flatness for a minimum of 1 hour prior to permanent fixing. Ambient temperature variations will influence the time period required for the mesh to relax and lay flat.

3. Fixing Pins (50 per bag) – For the most effective pinning, of 1 single roll (2m x 20m) will require a minimum 4 bags (200 pins). Installations of 2 or more rolls will require a minimum of 3 bags (150 pins) per roll plus 1 extra bag more than the total roll quantity ordered.



SECURED WITH PINS

4. All outer edges of mesh will require pins at 300-350mm maximum centres. Pins in the middle of the roll will be in 3 equally off-set rows in a chevron type pattern at 500mm apart (roll width) and at maximum 750mm centres (roll length). On multi-roll installations the edge pins will overlap and fix 2 adjacent butted edges. Pins should be inserted parallel to the mesh and flush within the structure to avoid exposure at the surface. Try to avoid inserting pins across and above the top strand of the mesh. Refer to diagram for suggested pinning layout.

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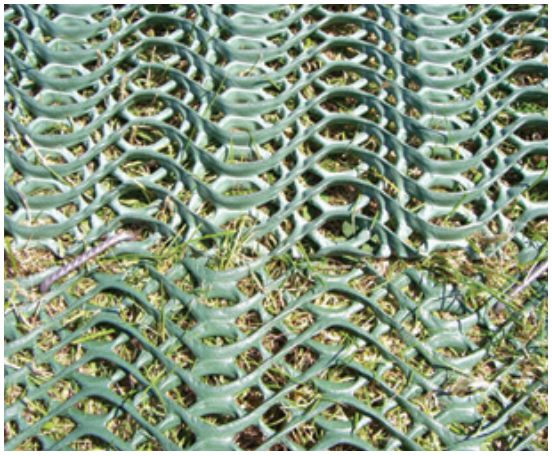
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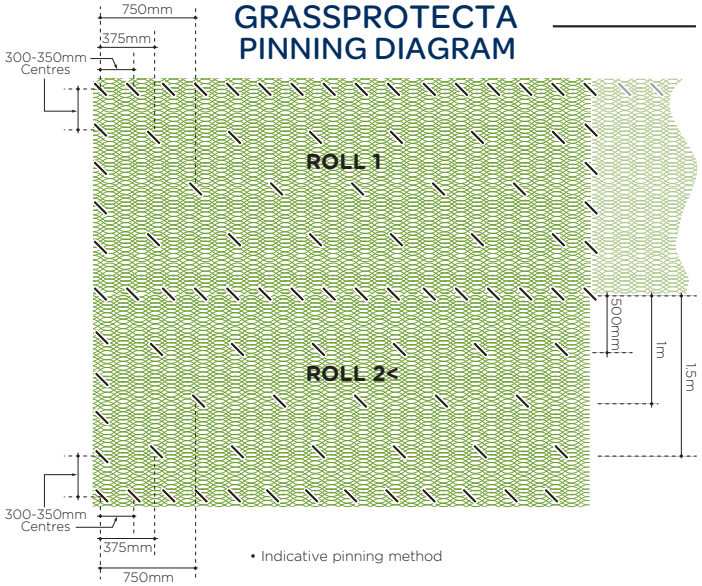
GRASSPROTECTA™ Plastic Mesh

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MESH "BUTT" JOINTED USING U-PINS





5. Position the mesh where required on the prepared surface. Starting from a corner of the roll and maintaining the mesh as taut and straight as possible at all times, fix the first edge (length) and then go back to the start and fix one end of the roll using the metal U-Pins (300 - 350mm centres). Do not fix both ends or both edges at this stage. Always work in the same direction along the mesh length to keep the mesh taut and to avoid ripples.

6. Working progressively along and across the mesh and away from the first pinned corner, insert 3 more rows of pins down the centre of the roll in the chevron type layout as described (3 rows at 500mm apart & at 750mm centres down the length). Continue this until all pins are in place except for the leading edge and the roll end.

7. For 1 roll installations, fix the leading edge (length) and the final roll end (300 – 350mm centres) to complete the operation.

8. For multi-roll installations, position the next roll for fixing. Adjacent rolls must be butt jointed and not overlapped. 1 row of pins will secure the two adjacent roll edges and/or ends. Continue across the site using this method until fully installed. Additional pins may be required as determined by specific site and weather conditions and to secure any bridged or raised/tented sections of mesh where evident. Installation in cold weather conditions may benefit from fixing adjacent rolls approximately 1cm apart to allow for thermal expansion in hot weather.

9.When you are satisfied that the mesh is laid flat and fixed securely, a brushing of free-draining sandy topsoil may assist in levelling any minor low spots, but is not essential. It is not advisable to completely fill or cover the mesh with soil. A dressing of seasonal fertiliser and any appropriate irrigation will encourage new grass growth to be made more rapidly through the mesh.

10. Best results are obtained by restricting trafficking until after the grass has thoroughly established through the mesh and the grass has been cut several times. This process will normally take 6 – 8 weeks during the growing season and early use will affect grass establishment. The area can be trafficked immediately if necessary, but exposed mesh may present reduced traction in wet or frosty conditions and advisory signage to this effect may be required.

12. After installation and establishment, warm weather conditions may cause some localised raised 'tented' mesh areas to become apparent through expansion. These localised raised areas can be further secured by placing additional U-pins as required.



MESH AFTER INSTALLATION

11. Mowing can be carried out as normal, but blades should be set higher for the first 3 – 4 cuts to enable the grass to grow through and fully intertwine with the structure.

B. NEWLY SOWN LANDSCAPED AREAS



1. A seeded surface will require significantly longer for the grass to establish through the Grassprotecta mesh. Grassprotecta can be installed directly onto newly installed turf.
2. The site must be clear of debris, reasonably flat and level, well consolidated and free-draining enough to enable it to sustain the proposed traffic.
3. Having prepared the seedbed, grass seed can be sown before or after the mesh installation. Turfed areas are prepared and installed as normal.
4. Continue with points 2 – 12 above.

AFTER INSTALLATION – GRASS GROWS QUICKLY THROUGH

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GENERAL OVERVIEW FOR TERRAM GRASSPROTECTA GRASS REINFORCEMENT MESH

GRASSPROTECTA is a tough, flexible and long lasting extruded polyethylene mesh that reinforces grassed surfaces prone to wear and smearing. The oscillated mesh structure provides tensile reinforcement to the root network and improves surface bearing capacity. GRASSPROTECTA mesh is available in three thicknesses: 10mm, 13mm and 14.5mm. GRASSPROTECTA can be effectively employed onto stable ground by simply unrolling and pinning adjacent and successive lengths using metal U-pins. After a suitable period of time the grass will grow through the mesh and reach a convenient height to be mown. The area quickly adopts a natural appearance with the grass plants intertwined with the mesh to provide permanent protection against wear. Installation is best carried out during the growing season to allow a strong interlock between the mesh and the grass sward, although GRASSPROTECTA can be installed throughout the year as appropriate.

DESIGN NOTES:

1. Where weak and / or water logged ground conditions exist, these must be improved prior to placement of GRASSPROTECTA to provide a firm and well-drained surface. For occasional use by HGV's a sub-base may be required.
2. GRASSPROTECTA can become slippery when wet, particularly before the grass sward/root network has enveloped the mesh. TERRAM strongly recommends that new installations are cordoned off and signage erected to advise of the potential slip hazard.
3. Expansion & contraction in hot climates. For installations where there may be wide variations in day and night time temperatures it is recommended that a 15mm gap is left between adjacent rolls and that rolls are pinned individually.
4. Advice on suitability for specific applications is available from TERRAM.

Table 1 - TERRAM GRASSPROTECTA grade selection for grass reinforcement

GRADE	THICKNESS (mm)	TYPICAL APPLICATIONS	FIXING PINS	
				Perimeter (300-350mm c/c)
LITE	10	Pedestrians, bikes and infrequent cars Grass paths Wheelchair access Lawn parking	3/m^2	3/Lm
MEDIUM	13	Overflow car parks Occasional cars and vans Golf buggy paths Verge stabilisation	3/m^2	3/Lm
HEAVY	14.5	Regular cars and vans Event grass parking Caravan park/holiday areas Grass car parks	3/m^2	3/Lm

* These figures are an initial preliminary guide for the selection of a suitable grade of TERRAM GRASSPROTECTA based on firm and well-drained ground conditions. There are numerous other parameters to consider including the type of topsoil, variety of grass seed, gradient, amount of sunshine/shade, intensity and frequency of traffic. Please contact TERRAM for further guidance on selection of the appropriate grade of TERRAM GRASSPROTECTA.

Table 2 - TERRAM GRASSPROTECTA SPECIFICATIONS

GRASSPROTECTA GRADE	COLOUR	STRUCTURE	ROLL WIDTH (MM)	ROLL LENGTH (MM)	ROLL WEIGHT (KG)	THICKNESS (MM)	WEIGHT ($KG/^2M$)	MATERIAL	TEXTILE STRENGTH	YIELD POINT ELONGATION (%) 15	RESIDUAL THICKNESS @500KPA (%)	SLIP RISK PTV (DRY)
LITE	Green	Oscillated	1 2 2	10 10 20	9.5 19 38	10	0.95	Recycled/ Virgin HDPE blend	8	15	60	>40 low
MEDIUM	Green	Oscillated	1 2 2	10 10 20	16 32 64	13	1.6	Recycled/ Virgin HDPE blend	11	22	80	>40 low
HEAVY	Green	Oscillated	1 2 2	10 10 20	20 40 80	14.5	2	Recycled/ Virgin HDPE blend	14	35	80	>40 low

Manufacturing tolerances (maximum +/-) to length and width apply to the final dimensions of this product. Length +50cm. Width +5cm/-2cm. Specification data is obtained from routine production sampling, therefore figures are nominal and may not necessarily be representative of the product supplied but will be withi manufacturing tolerances.

Table 3 - SUPPLEMENTARY INFORMATION

DESCRIPTION	DATA
Fixing pins	T6 steel u-bars, typically 170mm long legs x 70mm wide
Parking bay and route markers	Black/yellow recycled HDPE 140mm long

This guide is provided to assist in the specification and installation of TERRAM Grassprotecta on grass surfaces. The document is not a design manual and should not be used as a substitute for proper design, planning and specification.

The information contained herein is, to the best of our knowledge, accurate in all material respects. However, since the circumstances and conditions in which such information and the products mentioned herein can be used may vary and are beyond our control, no representation or warranty, express or implied, of any nature whatsoever is or will be made and no responsibility or liability is or will be accepted by us, any of our affiliates or our or their respective directors, officers, employees or agents in relation to the accuracy or completeness or use of the information contained herein or of any such products and any such liability is hereby expressly excluded to the maximum extent permitted by law.