Grass and Ground Reinforcement Solutions

TYPAR
Geosynthetics you can trust
TYPAR Geosynthetics is a division of Polymer Group, Inc. (PGI) a leading global supplier of ground support and stabilization. The geosynthetics division utilizes a broad range of international brands in its global footprint. With a strong background and proven excellence within the civil, construction, military, horticulture and landscaping industries, PGI offers enhanced commercial opportunities, as well as adding value to existing customers through a broadening product portfolio.

All product sizes and weights are nominal figures and may vary marginally to those published. All information is offered in good faith and PGI cannot be liable for any information given. Expert advice from an appropriate competent professional should be sought before determining any product is fit for purpose.

TYPAR provides product solutions for both Grass and Gravel surfaces.

PGI is committed to developing products and processes that provide a safer, cleaner, and healthier world. For many years, TYPAR has focused on identifying and improving performance in key areas of environmental impact, which includes waste production, energy consumption, water resource management, and the use of recycled and degradable materials. All TYPAR materials contain recycled content up to 100% and are chemically inert.
TYPAR Geosynthetics is a division of Polymer Group, Inc. (PGI) a leading global supplier of ground support and stabilization. The geosynthetics division utilizes a broad range of international brands in its global footprint. With a strong background and proven excellence within the civil, construction, military, horticulture and landscaping industries, PGI offers enhanced commercial opportunities, as well as adding value to existing customers through a broadening product portfolio.

PGI is committed to developing products and processes that provide a safer, cleaner, and healthier world. For many years, TYPAR has focused on identifying and improving performance in key areas of environmental impact, which includes waste production, energy consumption, water resource management, and the use of recycled and degradable materials. All TYPAR materials contain recycled content up to 100% and are chemically inert.

TYPAR provides product solutions for both Grass and Gravel surfaces.
PRODUCT SELECTOR for vehicular applications

Choosing the correct product

TYPAR manufactures a large range of products to reinforce, stabilize and protect grass and gravel surfaces. The chart below gives an overview of which product may be best suited for your project as determined by the existing ground conditions, the application and the frequency of use.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>APPLICATION</th>
<th>MAXIMUM LOAD CAPACITY</th>
<th>LOAD INDICATOR</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURFPROTECTA Mesh</td>
<td>Permanent, grassed paths, pedestrian areas, access routes and occasional use car parking on firm, well-drained ground. Mesh is installed directly onto existing grass or an area to be seeded.</td>
<td>Pedestrian and occasional light vehicle usage</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>GRASSPROTECTA Mesh .43” thick (Standard grade)*</td>
<td>Permanent, grassed overflow car lots, wheelchair access routes, golf cart paths and heavily pedestrianized grass paths on firm, well-drained ground. Mesh is installed directly onto existing grass or an area to be seeded.</td>
<td>Light vehicle and heavy pedestrian usage</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>GRASSPROTECTA Mesh .55” thick (Heavy grade)*</td>
<td>Permanent, grassed overflow car lots, access lanes, light aircraft taxiways, RV and trailer park areas and equestrian surfaces. Mesh is laid directly onto the existing grass surface or areas to be seeded on well drained, firm ground.</td>
<td>Standard vehicle loads up to H15 and heavy pedestrian usage</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>BODPAVE 85 Pavers (Grassed) 3” thick</td>
<td>BODPAVE 85 cells can be filled with soil and seed to create a natural grass surface, ideal for permanent grassed car lots, helipads, emergency access lanes and other trafficked areas. BODPAVE 85 should be laid onto a free draining base and may be supported for improved stability.</td>
<td>Heavy vehicle loads up to H25 loading</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>BODPAVE 85 Pavers (Gravel) 3” thick</td>
<td>BODPAVE 85 cells can be filled with gravel for permanent car lots, emergency service access lanes, gravel driveways and other trafficked areas. BODPAVE 85 should be laid onto a well drained prepared base and may be supported for improved stability.</td>
<td>Heavy vehicle loads up to H25 loading</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS Cells 4”-8” thick</td>
<td>TYPAR GEOCELL GS cells can be filled with soil or aggregate material to provide slope protection and load support. Suitable for slopes up to 45 degrees (1:1 slope) and on horizontal surfaces to provide a stable base for traffic and an even load distribution.</td>
<td>Heavy vehicle loads up to H25 loading, off-road industrial machinery</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

* The suitability of a standard or heavy grade will be site specific. Please contact TYPAR to discuss with one of our technical managers.

All TYPAR grass and ground reinforcement products are suitable for use as a source control solution in LID and NPDES applications.
PRODUCT SELECTOR
for vehicular applications

Choosing the correct product
TYPAR manufactures a large range of products to reinforce, stabilize and protect grass and gravel surfaces. The chart below gives an overview of which product may be best suited for your project as determined by the existing ground conditions, the application and the frequency of use.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>APPLICATION</th>
<th>MAXIMUM LOAD CAPACITY</th>
<th>LOAD INDICATOR</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURFPROTECTA</td>
<td>Permanent, grassed paths, pedestrian areas, access routes and occasional use car parking on firm, well-drained ground. Mesh is installed directly onto existing grass or an area to be seeded.</td>
<td>Pedestrian and occasional light vehicle usage</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>*The suitability of a standard or heavy grade will be site specific. Please contact TYPAR to discuss with one of our technical managers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRASSPROTECTA</td>
<td>Permanent, grassed overflow car lots, wheelchair access routes, golf cart paths and heavily pedestrianized grass paths on firm, well-drained ground. Mesh is installed directly onto existing grass or an area to be seeded.</td>
<td>Light vehicle and heavy pedestrian usage</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>43° thick (Standard grade)* Oscillated mesh filaments to aid traction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODPAVE 85</td>
<td>BODPAVE 85 cells can be filled with soil and seed to create a natural grass surface, ideal for permanent grassed car lots, helipads, emergency access lanes and other trafficked areas. BODPAVE 85 should be laid onto a free draining base and may be supported for improved stability.</td>
<td>Heavy vehicle loads up to H25 loading</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Cells</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4°-8° thick Cellulose confinement system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOCELL GS</td>
<td>Permanent, grassed overnight grassed car lots, access lanes, light aircraft taxiways, RV and trailer park areas and equestrian surfaces. Mesh is laid directly onto the existing grass surface or areas to be seeded on well drained, firm ground.</td>
<td>Permanent, grassed overflow grassed car lots, access lanes, light aircraft taxiways, RV and trailer park areas and equestrian surfaces. Mesh is laid directly onto the existing grass surface or areas to be seeded on well drained, firm ground.</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>4°-8° thick (Heavy grade)* Oscillated mesh filaments to aid traction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODMAT</td>
<td>BODPAVE 85 cells can be filled with gravel for permanent car lots, emergency service access lanes, gravel driveways and other trafficked areas. BODPAVE 85 should be laid onto a well drained prepared base and may be supported for improved stability.</td>
<td>Heavy vehicle loads up to H25 loading</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>PATHMAT</td>
<td>BODPAVE 85 cells can be filled with soil or aggregate material to provide slope protection and load support. Suitable for slopes up to 45 degrees (1:1 slope) and on horizontal surfaces to provide a stable base for traffic and an even load distribution.</td>
<td>Heavy vehicle loads up to H25 loading</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>BIOBARRIER</td>
<td>TYPAR GEOCELL GS cells can be filled with soil or aggregate material to provide slope protection and load support. Suitable for slopes up to 45 degrees (1:1 slope) and on horizontal surfaces to provide a stable base for traffic and an even load distribution.</td>
<td>Heavy vehicle loads up to H25 loading, off-road industrial machinery</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>GEOTEXTILE</td>
<td>TYPAR GEOCELL GS cells can be filled with soil or aggregate material to provide slope protection and load support. Suitable for slopes up to 45 degrees (1:1 slope) and on horizontal surfaces to provide a stable base for traffic and an even load distribution.</td>
<td>Heavy vehicle loads up to H25 loading, off-road industrial machinery</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>
TURFPROTECTA mesh is a lightweight polyethylene mesh used to reinforce grassed surfaces. It is suitable for grassed paths, pedestrian areas and occasional-use car lots. The mesh is installed directly onto existing grass or an area to be seeded.

Manufactured from 100% recycled high density polyethylene, the mesh is UV stabilized and simple to install, after cutting the grass short, the mesh is unrolled and pinned to the surface using metal U-Pins.

By allowing plants to grow through the mesh apertures, the blade intertwines with the mesh filaments creating a strong, discreetly reinforced surface, limiting damage and reducing soil compaction. It is advisable to allow the grass to fully establish before the area is used to create a stronger reinforced surface (this may take only a few weeks to a few months depending on the grass growing season.) The grass can however be mowed, rolled and fertilized as usual during this period. TURFPROTECTA mesh can be installed onto existing grassed surfaces or newly landscaped areas, for both permanent or temporary applications.

It is strongly recommended that installation be carried out during the growing season to allow a strong interlock between the mesh and the grass roots.

Suitable applications
- Paths
- Pedestrian areas
- Lawn Maintenance
- Cart Paths
- Occasional use car lots

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>U-Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>steel</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>6.7 x 2.75 x 0.23 dia</td>
</tr>
<tr>
<td>Other</td>
<td>50 pack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade</th>
<th>Color</th>
<th>Mesh Aperture</th>
<th>Weight (lbs/ft²)</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.56 x 98.42'</td>
<td>Heavy</td>
<td>Black</td>
<td>0.86” x 1.06”</td>
<td>0.135</td>
<td>HDPE (100% Recycled)</td>
</tr>
<tr>
<td>6.56’ x 98.42’</td>
<td>Heavy</td>
<td>Green</td>
<td>0.86” x 1.06”</td>
<td>0.135</td>
<td>HDPE (100% Recycled)</td>
</tr>
</tbody>
</table>

TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)
TURFPROTECTA mesh is a lightweight polyethylene mesh used to reinforce grassed surfaces. It is suitable for grassed paths, pedestrian areas and occasional-use car lots. The mesh is installed directly onto existing grass or an area to be seeded.

By allowing plants to grow through the mesh apertures, the blade intertwines with the mesh filaments creating a strong, discreetly reinforced surface, limiting damage and reducing soil compaction. It is advisable to allow the grass to fully establish before the area is used to create a stronger reinforced surface (this may take only a few weeks to a few months depending on the grass growing season.) The grass can however be mowed, rolled and fertilized as usual during this period. TURFPROTECTA mesh can be installed onto existing grassed surfaces or newly landscaped areas, for both permanent or temporary applications.

It is strongly recommended that installation be carried out during the growing season to allow a strong interlock between the mesh and the grass roots.

Manufactured from 100% recycled high density polyethylene, the mesh is UV stabilized and simple to install; after cutting the grass short, the mesh is unrolled and pinned to the surface using metal U-Pins.

**Suitable applications**
- Paths
- Pedestrian areas
- Lawn Maintenance
- Cart Paths
- Occasional use car lots

**Fixing Pins**

<table>
<thead>
<tr>
<th>Product</th>
<th>U-Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>steel</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>6.7 x 2.75 x 0.23 dia</td>
</tr>
<tr>
<td>Other</td>
<td>50 pack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade</th>
<th>Color</th>
<th>Mesh Aperture</th>
<th>Weight (lbs/ft²)</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.56' x 98.42'</td>
<td>Heavy</td>
<td>Black</td>
<td>0.86' x 1.06&quot;</td>
<td>0.135</td>
<td>HDPE (100% Recycled)</td>
</tr>
<tr>
<td>6.56' x 98.42'</td>
<td>Heavy</td>
<td>Green</td>
<td>0.86' x 1.06&quot;</td>
<td>0.135</td>
<td>HDPE (100% Recycled)</td>
</tr>
</tbody>
</table>

TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)
GRASSPROTECTA reinforcement mesh is a heavy duty polyethylene mesh used to reinforce grassed surfaces. It is a permanent solution for overflow parking lots, pedestrian paths, light aircraft taxiways, equestrian surfaces and RV parks. The mesh is installed directly onto existing grass or an area to be seeded.

GRASSPROTECTA mesh reinforces grassed surfaces prone to wear, rutting and smearing. The oscillated mesh structure has been designed to increase traction and improve slip resistance by up to 97% compared to standard straight oriented meshes.

- High level of reinforcement – up to 8 tons per axle (imposed load)
- Ideal for permanent or temporary applications
- Fast and cost effective installation compared to plastic paving grids
- No excavation or soil removal necessarily required
- Low slip risk PTV value of >40

Installation is simple; after cutting the grass short the mesh is unrolled and pinned to the surface using metal U-Pins. When grass grows through the mesh apertures, GRASSPROTECTA mesh allows the grass to intertwine with the mesh filaments creating a strong, discreetly reinforced surface capable of withstanding vehicle loads, limiting damage and reducing soil compaction. GRASSPROTECTA mesh can also be installed onto newly landscaped areas and seeded as required.

GRASSPROTECTA is made from recycled content for sustainable, cost effective grass reinforcement.

GRASSPROTECTA mesh is supplied on 6.56’x65.6’ and 3.28’x32.8’ rolls in two thicknesses (0.45” and 0.55”) as determined by the application and manufactured from partly recycled UV stabilized polyethylene (minimum 20% recycled polymer).

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>U-Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>steel</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>6.7 x 2.75 x 0.23 dia</td>
</tr>
<tr>
<td>Other</td>
<td>50 pack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Nominal weight (lbs/ft²)</th>
<th>Thickness (inches)</th>
<th>Tensile Strength (kN/m) (MD)</th>
<th>Roll size</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>0.245</td>
<td>0.45</td>
<td>0.245</td>
<td>3.25’ x 32.8’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
<tr>
<td>Standard</td>
<td>0.245</td>
<td>0.45</td>
<td>0.245</td>
<td>6.56’ x 65.6’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
<tr>
<td>Standard</td>
<td>0.245</td>
<td>0.45</td>
<td>0.245</td>
<td>6.56’ x 65.6’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
<tr>
<td>Heavy</td>
<td>0.41</td>
<td>0.55</td>
<td>0.41</td>
<td>3.25’ x 32.8’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
<tr>
<td>Heavy</td>
<td>0.41</td>
<td>0.55</td>
<td>0.41</td>
<td>6.56’ x 65.6’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
<tr>
<td>Heavy</td>
<td>0.41</td>
<td>0.55</td>
<td>0.41</td>
<td>6.56’ x 65.6’</td>
<td>Recycled/Virgin HDPE Blend</td>
</tr>
</tbody>
</table>
GRASSPROTECTA reinforcement mesh is a heavy duty polyethylene mesh used to reinforce grassed surfaces. It is a permanent solution for overflow parking lots, pedestrian paths, light aircraft taxiways, equestrian surfaces and RV parks. The mesh is installed directly onto existing grass or an area to be seeded.

Installation is simple; after cutting the grass short the mesh is unrolled and pinned to the surface using metal U-Pins. When grass grows through the mesh apertures, GRASSPROTECTA mesh allows the grass to intertwine with the mesh filaments creating a strong, discreetly reinforced surface capable of withstanding vehicle loads, limiting damage and reducing soil compaction. GRASSPROTECTA mesh can also be installed onto newly landscaped areas and seeded as required.

TYPAR strongly advises that newly installed GRASSPROTECTA mesh areas should be left unused until the grass has grown through the mesh apertures ensuring a strong interlock with the grass and mesh filaments is achieved - normally after a few weeks during the growing season and the surface has undergone several mowing cycles. If the surface is used immediately grass growth may take a longer period of time to establish, thus limiting the effectiveness of the product.

GRASSPROTECTA mesh is made from recycled content for sustainable, cost effective grass reinforcement.

GRASSPROTECTA mesh is supplied on 6.56’x65.6’ and 3.28’x32.8’ rolls in two thicknesses (0.45” and 0.55”) as determined by the application and manufactured from partly recycled UV stabilized polyethylene (minimum 20% recycled polymer).
GRASSPROTECTA™ is your solution to replace traditional hard armour erosion control structures with high performing, naturally vegetated surfaces to reduce sediment loss and improve downstream water quality.

GRASSPROTECTA™ is composed of High Density Polyethylene, with 20% recycled content, and designed with a 50% open space structure to accommodate a lush, uniform vegetated surface when established. With proper installation, the reinforced transition zone will visually appear as a grassed or natively vegetated surface, while reinforcing the soil against erosion equivalent to Class 1 Rip-Rap stone.

APPLICATIONS
- Vegetated Erosion Control
- Stormwater Pipe Outfall
- Conveyance Channel
- Slope Stabilization
- Streambank and Shoreline Reinforcement
- Dam and Levee Overtopping Stabilization
- Detention Pond Emergency Outfall Weir
- Vegetated Shoreline Access
- Maintenance Vehicle Access Stabilization
- Canoe & Small Craft Launch

In combination with surface armament, GRASSPROTECTA™ acts as a stabilization layer for maintenance vehicle access, stabilizing the surface to prevent rutting in low lying, saturated areas when mowed or accessed.

BODPAVE®85 pavers have been manufactured to offer a high load bearing performance, providing structural integrity and a positive mechanical interlock.

APPLICATIONS
- Car/Bus Parking Lots (Grass or Gravel)
- H25 Emergency Vehicle Access Roads
- Aircraft Taxiways and Helipads
- Walkways and Handicap Paths
- Golf Cart Paths
- Driveways and Residential Parking
- Aircraft Taxiways and Helipads
- Walkways and Handicap Paths
- Golf Cart Paths
- Driveways and Residential Parking

BODPAVE®85 pavers are a cost effective solution to worn and rutted grassed areas, displaced gravel and for source control of surface water run-off.

BODPAVE®85 pavers have been manufactured to offer a high load bearing performance, providing structural integrity and a positive mechanical interlock.

TYPAR product specifications can be downloaded freely from www.typargeosynthetics.com
**GRASSPROTECTA™** is your solution to replace traditional hard armour erosion control structures with high performing, naturally vegetated surfaces to reduce sediment loss and improve downstream water quality.

**APPLICATIONS**
- Vegetated Erosion Control
- Stormwater Pipe Outfall
- Conveyance Channel
- Slope Stabilization
- Streambank and Shoreline Reinforcement
- Dam and Levee Overtopping Stabilization
- Detention Pond Emergency Outflow Weir
- Vegetated Shoreline Access
- Maintenance Vehicle Access Stabilization
- Canoe & Small Craft Launch

In combination with surface armament, **GRASSPROTECTA™** acts as a stabilization layer for maintenance vehicle access, stabilizing the surface to prevent rutting in low lying, saturated areas when mowed or accessed.

**BENEFITS**
- Multiple Product Applications and Use
- 20% Recycled Content
- 50% Open Space for Lush Vegetative Cover
- Flexible to Conform to Undulating Surfaces
- Slip Resistant Oscillated Mesh
- Roll-out for Fast Installation
- Exceeded TRI Env., Inc. testing capability
- Replace up to Class 1 Rip-Rap

**Lock-Disc Anchors**
Specially designed soil anchors are used to fix GRASSPROTECTA™ to the surface and maintain stability under high shear values (>12.3 lbs/sf) even under non vegetated soil conditions. Refer to the GRASSPROTECTA™ installation guide for Scour Application instructions.

**Scour Protection Performance**

<table>
<thead>
<tr>
<th>Shear Value with TRM</th>
<th>&gt;22.5 lbs/ft²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Velocity Value</td>
<td>&gt;25 ft/sec</td>
</tr>
</tbody>
</table>

**GRASSPROTECTA™** is composed of High Density Polyethylene, with 20% recycled content, and designed with a 50% open space to accommodate a lush, uniform vegetated surface when established. With proper installation, the reinforced transition zone will visually appear as a grassed or natively vegetated surface, while reinforcing the soil against erosion equivalent to Class 1 Rip-Rap stone.

**APPLICATIONS**
- Car/Bus Parking Lots (Grass or Gravel)
- H25 Emergency Vehicle Access Roads
- Aircraft Taxiways and Helipads
- Walkways and Handicap Paths
- Golf Cart Paths
- Driveways and Residential Parking

**BODPAVE 85 porous pavers are a modular, interlocking cellular and porous paving system for ground reinforcement. It can be installed with either a grass or gravel filled surface. Manufactured from UV stabilized 100% recycled HDPE, BODPAVE 85 pavers are strong, chemically inert and non-toxic, enabling it to provide a durable, safe and sustainable eco-friendly surface for trafficked areas.**

**APPLICATIONS**
- Permanent grassed or gravel car and coach parking, fire access routes, helipads, taxiways, cycle paths, driveways, access roads and other trafficked areas where a structurally-sound, well drained base is present or will be installed.

**BENEFITS**
- Load bearing up to 230 psi @ .25" deflection.
- Manufactured from 100% recycled polymer.
- Environmentally friendly, aesthetically pleasing and free draining natural grass or gravel surface.
- Add bullet: Contributes to 15 points under LEED projects

The unique design of BODPAVE®85 pavers resist lateral movement, improves traction and allows expansion and contraction while promoting optimum grass growth, root protection and surface stabilization.

**BODPAVE 85 pavers are a cost effective solution to worn and rutted grassed areas, displaced gravel and for source control of surface water run-off.**

**BODPAVE 85 pavers have been manufactured to offer a high load bearing performance, providing structural integrity and a positive mechanical interlock.**

**TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)**
BODPAVE®85 pavers should be installed onto a well-prepared, free draining, firm and relatively level sub-base (typically a Class 5 or reduced fines Class 7) using either a reduced-dig system or by employing a full sub-base construction.

The panels (a pre-assembly of four pavers) connect together and are then filled with either a sand-soil rootzone and seeded or turfed for a grass surface, or filled with an angular aggregate for a gravel surface as determined by the application.

Construction profiles for each application will be determined by the specific site conditions and load bearing criteria. Detailed design literature and technical support are available to download online from www.typargeosynthetics.com

All BODPAVE 85 paver applications must be provided with sufficient and adequate drainage facilities in order to function as intended. Failure to ensure this may compromise overall performance.

They can be permanently fixed in place by applying a suitable high strength plastic (HDPE) glue or an outdoor frame sealant to the underside of the marker. If required, the markers can be reduced in size to create single-cell or double-cell sized units by cutting accurately along the lines between each textured square/pyramidal section. It is recommended that these are bonded into place to resist displacement.

Plastic markers are available for marking parking bays and lines within areas of the BODPAVE 85 cellular paving system. The markers are designed to clip positively into the plaque shaped cells of the BODPAVE 85 pavers and can be fitted in various orientations to create solid or dotted lines and ‘T’ or ‘L’ shapes for parking bay heads, aisles and junctions.

The open cell structure provides high surface water infiltration and is suitable for source control within a LID/LEED profile.
BODPAVE®85 pavers should be installed onto a well prepared, free draining, firm and relatively level sub-base (typically a Class 5 or reduced fines Class 7) using either a reduced-dig system or by employing a full sub-base construction. The panels (a pre-assembly of four pavers) connect together and are then filled with either a sand:soil rootzone and seeded or turfed for a grass surface, or filled with an angular aggregate for a gravel surface as determined by the application. Construction profiles for each application will be determined by the specific site conditions and load bearing criteria. Detailed design literature and technical support are available to download online from www.typargeosynthetics.com

All BODPAVE 85 paver applications must be provided with sufficient and adequate drainage facilities in order to function as intended. Failure to ensure this may compromise overall performance.

The open cell structure provides high surface water infiltration and is suitable for source control within a LID/LEED profile.

Plastic markers are available for marking parking bays and lines within areas of the BODPAVE 85 cellular paving system. The markers are designed to clip positively into the plaque shaped cells of the BODPAVE 85 pavers and can be fitted in various orientations to create solid or dotted lines and 'T' or 'L' shapes for parking bay heads, aisles and junctions.
TYPAR GEOCELL GS is a cellular confinement system for slope protection and load support applications.

The TYPAR GEOCELL GS cellular confinement system utilizes the strength and permeability of a geotextile to create a 3-dimensional cellular confinement system. Manufactured from dark grey PP/PE bicomponent fiber geotextile, the cell walls are permeable to water, air and nutrients, increasing stability and vegetative performance. The TYPAR GEOCELL GS system ships in compacted panel form and expands into a honeycomb formation to the desired shape and dimension on-site. The unique, lightweight, flexible material conforms to surface variations to improve ease of installation while resisting impact damage. A variety of infill materials, including native soils and recycled aggregates, may be used to reduce waste material and overall construction costs.

TYPAR GEOCELL GS for Slope Protection
The cellular structure of the TYPAR GEOCELL GS system improves resistance to erosive forces on steep, unstable, or slopes exposed to severe hydraulic or mechanical stresses. Variable cell depths and diameters provide cost-effective options for protection up to 1:1 (45 deg) slopes.

TYPAR GEOCELL GS for Load Support
TYPAR GEOCELL GS cells transfer downward forces laterally, reducing loads on underlying soils. The cellular confinement system is an ideal solution for providing stabilization over poor soil conditions, reducing constructed profile depth and cost, protecting soil and roots from compaction, and providing site access for light, heavy, and industrial vehicles.

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>Fixing Pin</th>
<th>Material</th>
<th>Size (inches)</th>
<th>Application Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Steel Rod</td>
<td>22” x 4” x 0.32” dia</td>
<td></td>
</tr>
</tbody>
</table>

TYPAR GEOCELL GS for Slope Protection

<table>
<thead>
<tr>
<th>Product</th>
<th>Panel Size</th>
<th>Cell Diameter</th>
<th>Cell Depth</th>
<th>Weight</th>
<th>Material</th>
<th>Application Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPAR GEOCELL GS 250/100</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>4’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Pedestrian/Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 250/150</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>6’</td>
<td>55 lbs</td>
<td>PP/PE</td>
<td>Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/100</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>4’</td>
<td>24 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/150</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>6’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 220/200</td>
<td>20’ x 10’</td>
<td>8’</td>
<td>8’</td>
<td>44 lbs</td>
<td>PP/PE</td>
<td>Heavy Vehicles Load Support</td>
</tr>
</tbody>
</table>
TYPAR GEOCELL GS is a cellular confinement system for slope protection and load support applications.

The TYPAR GEOCELL GS cellular confinement system utilizes the strength and permeability of a geotextile to create a 3-dimensional cellular confinement system. Manufactured from dark grey PP/PE bicomponent fiber geotextile, the cell walls are permeable to water, air and nutrients, increasing stability and vegetative performance. The TYPAR GEOCELL GS system ships in compacted panel form and expands into a honeycomb formation to the desired shape and dimension on-site. The unique, lightweight, flexible material conforms to surface variations to improve ease of installation while resisting impact damage. A variety of fill materials, including native soils and recycled aggregates, may be used to reduce waste material and overall construction costs.

TYPAR GEOCELL GS for Slope Protection

The cellular structure of the TYPAR GEOCELL GS system improves resistance to erosive forces on steep, unstable, or slopes exposed to severe hydraulic or mechanical stresses. Variable cell depths and diameters provide cost-effective options for protection up to 1:1 (45 deg) slopes.

TYPAR GEOCELL GS for Load Support

TYPAR GEOCELL GS cells transfer downward forces laterally, reducing loads on underlying soils. The cellular confinement system is an ideal solution for providing stabilization over poor soil conditions, reducing constructed profile depth and cost, protecting soil and roots from compaction, and providing site access for light, heavy, and industrial vehicles.

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>Fixing Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Steel Rod</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>22” x 4” x 0.32” dia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Panel Size</th>
<th>Cell Diameter</th>
<th>Cell Depth</th>
<th>Weight</th>
<th>Material</th>
<th>Application Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPAR GEOCELL GS 250/100</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>4’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Pedestrian/Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 250/150</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>6’</td>
<td>55 lbs</td>
<td>PP/PE</td>
<td>Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/100</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>4’</td>
<td>24 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/150</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>6’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 220/200</td>
<td>20’ x 10’</td>
<td>8’</td>
<td>8’</td>
<td>44 lbs</td>
<td>PP/PE</td>
<td>Heavy Vehicles Load Support</td>
</tr>
</tbody>
</table>

A TYPAR Geocell GS with its distinctive array of interconnected cells.

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>Fixing Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Steel Rod</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>22” x 4” x 0.32” dia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Panel Size</th>
<th>Cell Diameter</th>
<th>Cell Depth</th>
<th>Weight</th>
<th>Material</th>
<th>Application Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPAR GEOCELL GS 250/100</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>4’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Pedestrian/Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 250/150</td>
<td>16.4’ x 23’</td>
<td>10’</td>
<td>6’</td>
<td>55 lbs</td>
<td>PP/PE</td>
<td>Light Vehicle Load Support and Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/100</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>4’</td>
<td>24 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 350/150</td>
<td>16.4’ x 23’</td>
<td>13’</td>
<td>6’</td>
<td>37.5 lbs</td>
<td>PP/PE</td>
<td>Slope Protection</td>
</tr>
<tr>
<td>TYPAR GEOCELL GS 220/200</td>
<td>20’ x 10’</td>
<td>8’</td>
<td>8’</td>
<td>44 lbs</td>
<td>PP/PE</td>
<td>Heavy Vehicles Load Support</td>
</tr>
</tbody>
</table>

A TYPAR Geocell GS with its distinctive array of interconnected cells.

TYPAR product specifications can be downloaded freely from www.typargeosynthetics.com
BODMAT flexible surface reinforcement matting has been developed using the proven oscillated design of GRASSPROTECTA mesh and has been tested to a 5.9’ CFH (Critical Fall Height). BODMAT matting can be installed in external applications by pinning using steel U-pins. It can also be installed in internal applications including horseboxes where a soft and flexible matting is required. Developed specifically for both animal and pedestrian traffic, BODMAT matting offers a pleasant, water pervious, enhanced-grip, under foot walking solution that is ideal for:

- Walkways and paths
- Grass play area reinforcement
- Recreation areas (parks, picnic areas)
- Event flooring
- Horseboxes and animal boarding areas

BODMAT flexible surface reinforcement is available in convenient roll form, and offers many user benefits:

- Flexible to allow use on contoured surfaces
- Can be used by wheelchairs and strollers
- Ideal for both people and animals
- Allows grass to grow through the mesh apertures
- Reinforces grass

BODMAT flexible matting is a designed and tested practical solution:

- Allows water / rain infiltration
- Flexible and durable
- Easily cut to shape/size
- Tested to a Critical Fall Height (CFH) of 5.9ft – BS EN 1177

PATHMAT beach access mat has been specifically developed for use in permanent or temporary recreation access applications. Utilizing the proven oscillated mesh design ensures that rigidity and strength are preserved over soft sand surfaces while the elastomeric material is able to contour to undulating surfaces. This environmentally friendly, slip resistant product is easily installed and able to be removed and reinstalled per environmental regulations. Developed specifically for both animal and people traffic, the product provides a barefoot friendly surface for beach goers. Wherever a water pervious, enhanced-grp walkway access is required, PATHMAT beach access mat is the solution.

- Portable and easily removable rollout beach mat
- Pedestrian and wheelchair accessible
- Oscillated mesh provides strength over sand, pebble and turf surfaces
- Adapts smoothly to contoured surfaces
- Slip resistant surface providing a safe surface in wet conditions
- Minimal maintenance easy to use beach access mat
- Visually attractive design guides guests to desired locations

PATHMAT beach access mat is available in roll form allowing for a quick roll and pin installation. The UV stabilized elastomeric material is recyclable after use, reducing its environmental impact.

The material thickness, durability of construction and portability of the product make it the perfect solution for providing accessible beach pathways. PATHMAT beach access mat can be used in a multitude of applications - wherever recreation access is required for walking and wheelchair accessibility. The mat is also able to be cut and formed around existing beach structures in addition to protected native beach dunes.

**Fixing Pins**

- **Product:** U-Pins
- **Material:** Steel
- **Size (inches):** 16” x 6” x .375 diameter
- **Other:** 10 per pack

**TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)**
Flexible surfacing for temporary or permanent event walkways, grass playground perimeter areas and livestock applications.

BODMAT flexible surface reinforcement matting has been developed using the proven oscillated design of GRASSPROTECTA mesh and has been tested to a 5.9' CFH (Critical Fall Height). BODMAT matting can be installed in external applications by pinning using steel U-pins. It can also be installed in internal applications including horseboxes where a soft and flexible matting is required. Developed specifically for both animal and pedestrian traffic, BODMAT matting offers a pleasant, water pervious, enhanced-grip, under foot walking solution that is ideal for:

- Walkways and paths
- Grass play area reinforcement
- Recreation areas (parks, picnic areas)
- Event flooring
- Horseboxes and animal boarding areas

BODMAT flexible surface reinforcement is available in convenient roll form, and offers many user benefits:

- Flexible to allow use on contoured surfaces
- Can be used by wheelchairs and strollers
- Ideal for both people and animals
- Allows grass to grow through the mesh apertures
- Reinforces grass

BODMAT flexible matting is a designed and tested practical solution:

- Allows water / rain infiltration
- Flexible and durable
- Easily cut to shape/size
- Tested to a Critical Fall Height (CFH) of 5.9ft – BS EN 1177

Roll Size | Mesh Thickness | Color | Weight (lbs/ft²) | Tensile Strength (kN/m) | Material
--- | --- | --- | --- | --- | ---
6.5' x 32.8' | 0.5" | Black | 0.73 | 12 | Elastomeric Blend

PATHMAT beach access mat has been specifically developed for use in permanent or temporary recreation access applications. Utilizing the proven oscillated mesh design ensures that rigidity and strength are preserved over soft sand surfaces while the elastomeric material is able to contour to undulating surfaces. This environmentally friendly, slip resistant product is easily installed and able to be removed and reinstated per environmental regulations. Developed specifically for both animal and people traffic, the product provides a barefoot friendly surface for beach goers. Wherever a water pervious, enhanced-grip walkway access is required, PATHMAT beach access mat is the solution.

- Portable and easily removable rollout beach mat
- Pedestrian and wheelchair accessible
- Oscillated mesh provides strength over sand, pebble and turf surfaces
- Adapts smoothly to contoured surfaces
- Slip resistant surface providing a safe surface in wet conditions
- Minimal maintenance easy to use beach access mat
- Visually attractive design guides guests to desired locations

PATHMAT beach access mat is available in roll form allowing for a quick roll and pin installation. The UV stabilized elastomeric material is recyclable after use, reducing its environmental impact.

The material thickness, durability of construction and portability of the product make it the perfect solution for providing accessible beach pathways. PATHMAT beach access mat can be used in a multitude of applications - wherever recreation access is required for walking and wheelchair accessibility. The mat is also able to be cut and formed around existing beach structures in addition to protected native beach dunes.

Fixing Pins

<table>
<thead>
<tr>
<th>Product</th>
<th>U-Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Steel</td>
</tr>
<tr>
<td>Size (inches)</td>
<td>16&quot; x 6&quot; x .375 diameter</td>
</tr>
<tr>
<td>Other</td>
<td>10 per pack</td>
</tr>
</tbody>
</table>

Roll Size | Mesh Thickness | Color | Weight (lbs/ft²) | Tensile Strength (kN/m) | Material
--- | --- | --- | --- | --- | ---
5' x 32' | 0.53" | Blue | 0.76 | 12 | Elastomeric PE Blend

TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)
An innovative chemical and physical barrier system combining the Non systemic stopping power of Trifluralin with the strength and durability of TYPAR

The BIOBARRIER root and weed control system manages roots through the slow, controlled release of Trifluralin, a non systemic herbicide that has been used in food crop production for more than 40 years. Nodules containing Trifluralin are through-injection-molded to 4 oz, durable TYPAR GEOTEXTILE fabric, creating a continuous chemical and physical barrier against roots without impeding the flow of water, air or nutrients. Roots growing into the zone of inhibition are stopped, not just redirected, encouraging the plant to send energy to unimpeded areas of the root system, promoting healthy plant growth.

BIOBARRIER Root Control System
Used vertically, the BIOBARRIER root control system protects adjacent structures from root damage. Guaranteed protection for 15 years reduces the chance of injury and potential liability, as well as the costs associated with preventative maintenance and damage repair.

BIOBARRIER Weed Control System
Installed horizontally below 3” of stone/wood mulch, the BIOBARRIER weed control system blocks weed establishment using two layers of defense: chemical and physical. Guaranteed for 10 years, weeds are unable to develop a strong root system in the mulch layer while ornamental tree and shrub roots expand unimpeded below the Trifluralin emitting fabric layer, eliminating unwanted competition and maintenance costs.

BIOBARRIER Surround System
Tree roots seek out air and moisture in the soil, causing expensive damage to underground infrastructure, septic lines, municipal pipes, swimming pools, and more. BIOBARRIER'S unique geotextile design lends it the flexibility to surround infrastructure, extending the life of your investment by providing protection from root damage for a minimum of 15 years.

Guaranteed for up to 15 years!

TYPAR product specifications can be downloaded freely from www.typargeosynthetics.com
An innovative chemical and physical barrier system combining the Non-systemic stopping power of Trifluralin with the strength and durability of TYPAR

The BIOBARRIER root and weed control system manages roots through the slow, controlled release of Trifluralin, a non-systemic herbicide that has been used in food crop production for more than 40 years. Nodules containing Trifluralin are through-injection-molded to 4 oz, durable TYPAR GEOTEXTILE fabric, creating a continuous chemical and physical barrier against roots without impeding the flow of water, air or nutrients. Roots growing into the zone of inhibition are stopped, not just redirected, encouraging the plant to send energy to unimpeded areas of the root system, promoting healthy plant growth.

**BIOBARRIER Root Control System**
Used vertically, the BIOBARRIER root control system protects adjacent structures from root damage. Guaranteed protection for 15 years reduces the chance of injury and potential liability, as well as the costs associated with preventative maintenance and damage repair.

**BIOBARRIER Weed Control System**
Installed horizontally below 3” of stone/wood mulch, the BIOBARRIER weed control system blocks weed establishment using two layers of defense: chemical and physical. Guaranteed for 10 years, weeds are unable to develop a strong root system in the mulch layer while ornamental tree and shrub roots expand unimpeded below the Trifluralin emitting fabric layer, eliminating unwanted competition and maintenance costs.

**BIOBARRIER Surround System**
Tree roots seek out air and moisture in the soil, causing expensive damage to underground infrastructure, septic lines, municipal pipes, swimming pools, and more. BIOBARRIER’S unique geotextile design lends it the flexibility to surround infrastructure, extending the life of your investment by providing protection from root damage for a minimum of 15 years.

## Root Control Width

<table>
<thead>
<tr>
<th>Width (in.)</th>
<th>12</th>
<th>19.5</th>
<th>24</th>
<th>29</th>
<th>39</th>
<th>58.5</th>
</tr>
</thead>
</table>

### Uses
- Building Foundations
- Burial Vaults/Tombstones
- Containers
- Curbs
- Drain Lines
- Earthdams
- Golf Greens/Tees/Cart Paths
- Landfills
- Medians
- Paths
- Planting Beds
- Pots
- Retaining Walls
- Roads
- Roof Gardens
- Septic Tanks/Fields
- Sidewalks
- Swimming Pools
- Tennis Courts
- Underground Pipes/Cables
- Underground Storage Tanks
- Utility Substations

Guaranteed for up to 15 years!

**TYPAR product specifications can be downloaded freely from www.typargeosynthetics.com**

---

**TYPAR BIOBARRIER Root & Weed Control System**
TYPAR non-woven, thermally bonded GEOTEXTILES utilize continuous filament technology for superior strength and uniformity, providing the ideal solution for construction and civil engineering applications.

- Ideal for separation, stabilization, and filtration
- Higher strength:weight ratio
- Durable - 40+ years of proven performance
- Up to 20 percent recycled content
- Superior uniformity
- Consistent permeability even under compaction
- Filtering that prevents clogging
- Made in the USA
- Isotropic fabric provides stability and strength in all directions

Tough over time, TYPAR GEOTEXTILES preserve the original design, reduce construction and maintenance costs, and increase a project’s longevity!

### TYPAR product specifications can be downloaded freely from [www.typargeosynthetics.com](http://www.typargeosynthetics.com)

<table>
<thead>
<tr>
<th>AA5HTO Class</th>
<th>3201</th>
<th>3301</th>
<th>3401</th>
<th>3501</th>
<th>3601</th>
<th>3801</th>
<th>3100</th>
<th>3101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical (Marv)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Grab tensile strength (lb)</td>
<td>ASTM D4632</td>
<td>35</td>
<td>60</td>
<td>120</td>
<td>117</td>
<td>140</td>
<td>186</td>
<td>248</td>
</tr>
<tr>
<td>Grab elongation (%)</td>
<td>ASTM D4632</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Trapezoidal tear strength (lb)</td>
<td>ASTM D4533</td>
<td>15</td>
<td>25</td>
<td>35</td>
<td>41</td>
<td>64</td>
<td>61</td>
<td>85</td>
</tr>
<tr>
<td>Puncture strength (lb)</td>
<td>ASTM D4833</td>
<td>10</td>
<td>18</td>
<td>25</td>
<td>41</td>
<td>45</td>
<td>56</td>
<td>75</td>
</tr>
<tr>
<td>CBR Puncture</td>
<td>ASTM D4642</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>153</td>
<td>227</td>
<td>305</td>
<td>400</td>
</tr>
<tr>
<td>Endurance (MARV)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>UV Resistance (500 hrs)</td>
<td>ASTM D4355</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Apparent opening size (US Sieve)</td>
<td>ASTM D4751</td>
<td>20/30</td>
<td>30</td>
<td>50</td>
<td>60</td>
<td>60</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Permeability (sec⁻¹)</td>
<td>ASTM D4941</td>
<td>1.5</td>
<td>1.0</td>
<td>0.8</td>
<td>1.3</td>
<td>1.4</td>
<td>0.53</td>
<td>0.22</td>
</tr>
<tr>
<td>Water flow rate (gal/min/ft²)</td>
<td>ASTM D4491</td>
<td>235</td>
<td>190</td>
<td>95</td>
<td>84</td>
<td>91</td>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>Physical (Typical)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.6</td>
<td>1.9</td>
<td>3.0</td>
<td>3.4</td>
<td>4.0</td>
</tr>
<tr>
<td>Roll diameter (in)</td>
<td>-</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Length (yd)</td>
<td>-</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Width (in)</td>
<td>-</td>
<td>151</td>
<td>151</td>
<td>151</td>
<td>151</td>
<td>151</td>
<td>151</td>
<td>151</td>
</tr>
<tr>
<td>Roll area (yd²)</td>
<td>-</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>419</td>
</tr>
<tr>
<td>Roll weight gross (lbs)</td>
<td>-</td>
<td>50</td>
<td>58</td>
<td>87</td>
<td>97</td>
<td>115</td>
<td>158</td>
<td>165</td>
</tr>
<tr>
<td>Width (in)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>187</td>
<td>187</td>
<td>187</td>
<td>187</td>
</tr>
<tr>
<td>Roll area (yd²)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>519</td>
<td>519</td>
<td>519</td>
<td>519</td>
</tr>
<tr>
<td>Roll weight gross (lbs)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>142</td>
<td>175</td>
<td>209</td>
<td>275</td>
</tr>
</tbody>
</table>

Notes:
1. Minimum average roll values (MARV) in the weaker principal direction
2. O95 Max. ARV

Made in the USA, TYPAR GEOTEXTILES boast over 40 years of proven performance in separation, stabilization, and filtration applications. The continuous filament, thermally bonded design provides a higher strength:weight ratio than standard non-woven construction fabrics and maintains consistent permeability rates regardless of soil type or compaction. TYPAR GEOTEXTILE’S unique characteristics make it the ideal solution for road reinforcement, industrial yard stabilization, subsurface drain applications, erosion control, landfill separation, mulch underlayment, and septic system projects.

**AASHTO Class**
- TYPAR 3151
- TYPAR 3201
- TYPAR 3301
- TYPAR 3401
- TYPAR 3501
- TYPAR 3601
- TYPAR 3801

**Mechanical (Marv)**
- Grab tensile strength (lb) ASTM D4632
- Grab elongation (%) ASTM D4632
- Trapezoidal tear strength (lb) ASTM D4533
- Puncture strength (lb) ASTM D4833
- CBR Puncture ASTM D4642

**Endurance (MARV)**
- UV Resistance (500 hrs) ASTM D4355

**Apparent opening size (US Sieve)** ASTM D4751

**Permeability (sec⁻¹)** ASTM D4941

**Water flow rate (gal/min/ft²)** ASTM D4491

**Physical (Typical)**
- Unit weight (oz/yd²)
- Roll diameter (in)
- Length (yd)
- Width (in)
- Roll area (yd²)
- Roll weight gross (lbs)

**Notes:**
1. Minimum average roll values (MARV) in the weaker principal direction
2. O95 Max. ARV
TYPAR GEOTEXTILE Separator/Filter

TYPAR non-woven, thermally bonded GEOTEXTILES utilize continuous filament technology for superior strength and uniformity, providing the ideal solution for construction and civil engineering applications.

- Ideal for separation, stabilization, and filtration
- Higher strength:weight ratio
- Durable - 40+ years of proven performance
- Up to 20 percent recycled content
- Superior uniformity
- Consistent permeability even under compaction
- Filtering that prevents clogging
- Made in the USA
- Isotropic fabric provides stability and strength in all directions

Tough over time, TYPAR GEOTEXTILES preserve the original design, reduce construction and maintenance costs, and increase a project’s longevity!

Made in the USA, TYPAR GEOTEXTILES boast over 40 years of proven performance in separation, stabilization, and filtration applications. The continuous filament, thermally bonded design provides a higher strength:weight ratio than standard non-woven construction fabrics and maintains consistent permeability rates regardless of soil type or compaction. TYPAR GEOTEXTILE'S unique characteristics make it the ideal solution for road reinforcement, industrial yard stabilization, subsurface drain applications, erosion control, landfill separation, mulch underlayment, and septic system projects.

TYPAR product specifications can be downloaded freely from www.typargeosynthetics.com
Intelligent Application of Materials Technology

Geotextiles
TYPAR Geotextiles
TYPAR C-Class Construction Geotextiles
SILENT GARDNER Landscape Fabric
BIOBARRIER Root Barrier

Ground Reinforcement
BODPAVE BS Porous Pavers
GRASSPROTECTA Reinforcement Mesh
TURFPROTECTA Reinforcement Mesh
GRASSCARPET Protection Carpet
PATHMAT Beach Access Mat

Geocells
TYPAR Geocell Slope stabilization
TYPAR Geocell GS Cellular Confinement
DEFENCELL Wall Protection System

Geocomposites
GRASSCARPET Geonet/Filter
Frost Blanket
Geocomposite Drains

Industrial & Site Safety
PROTECTAMAT Foam Edge Protection
PROTECTASLEEVE Protective Netting
Filtration Mesh/Media
Plastic Stiagnage Separator Mesh

Underground Marking & Protection
UTILITAPE Underground Warning Tape
UTILINET Underground Warning Mesh
DETECTAMESH Detectable Mesh
WAVELAY Detectable Tape
PROTECTAMESH HD Rockshield
Pipeline Protection
CONTAMINET Contaminated Ground Mesh
CONTAMINET Composite
Plastic Cable Protection Covers
Cable & Pipeline Protection Mesh
Indicator Mesh

Horticulture & Plant Protection
TUBEX Treeshelters
Anti-Bird Netting
Derr Fencing
RIGHT GUARD Fertilizer
VISPORE Tree Mats
BIOBARRIER Root & Weed Protection

Fencing, Mesh, Netting
Garden Net
Windbreak Mesh
Garden Mesh
Climbing Support Netting
Safety Fencing
Fine Screening/Insect Mesh
Multipurpose Net

gleosales@fiberweb.com
1-800-541-5519
Intelligent Application of Materials Technology

Geotextiles
- TYPAR Geotextiles
- TYPAR C-Class Construction Geotextiles
- SILENT GARDNER Landscape Fabric
- BIOBARRIER Root Barrier

Ground Reinforcement
- BODPAVE 85 Porous Pavers
- GRASSPROTECTA Reinforcement Mesh
- TURFPROTECTA Reinforcement Mesh
- GRASSCARPET Protection Carpet
- PATHMAT Beach Access Mat

Geocells
- TYPAR Geocell Slope stabilization
- TYPAR Geocell GS Cellular Confinement
- DEFENCELL Wall Protection System

Geocomposites
- GRASSCARPET Geonet/Filter
- Frost Blanket
- Geocomposite Drains

Industrial & Site Safety
- PROTECTAFOAM Foam Edge Protection
- PROTECTASLEEVE Protective Netting
- Filtration Mesh/Media
- Plastic Stiage Separator Mesh

Underground Marking & Protection
- UTILITAPE Underground Warning Tape
- UTILINET Underground Warning Mesh
- DETECTAMESH Detectable Mesh
- WAVELAY Detectable Tape
- PROTECTAMESH HD Rockshield
- Pipeline Protection
- CONTAMINET Contaminated Ground Mesh
- CONTAMINET Composite
- Plastic Cable Protection Covers
- Cable & Pipeline Protection Mesh
- Indicator Mesh

Horticulture & Plant Protection
- TUBEX Treeshelters
- Anti-Bird Netting
- Dur Fencing
- RIGHT GUARD Fertilizer
- VISPORE Tree Mats
- BIOBARRIER Root & Weed Protection

Fencing, Mesh, Netting
- Garden Net
- Windbreak Mesh
- Garden Mesh
- Climbing Support Netting
- Safety Fencing
- Fine Screening/Insect Mesh
- Multipurpose Net

geosales@fiberweb.com
1-800-541-5519
Product data sheets, case studies, installation guides and project information are available on request or can be downloaded from www.typargeosynthetics.com. Please contact our sales team for reference projects or for further advice.

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 their respective directors, officers, employees or agents in relation to the accuracy or completeness or use of the information contained herein or any such products and any such liability is expressly disclaimed.

PGI excels in the innovative application of technology to create versatile, high-performance materials which are unique, cost-efficient and deliver significant added value.

Contact details:
TYPAR Geosynthetics
A PGI Company
Tel: 1-800-541-5519
Email: geosales@fiberweb.com
www.typargeosynthetics.com
70 Old Hickory Blvd.
Old Hickory, TN 37138