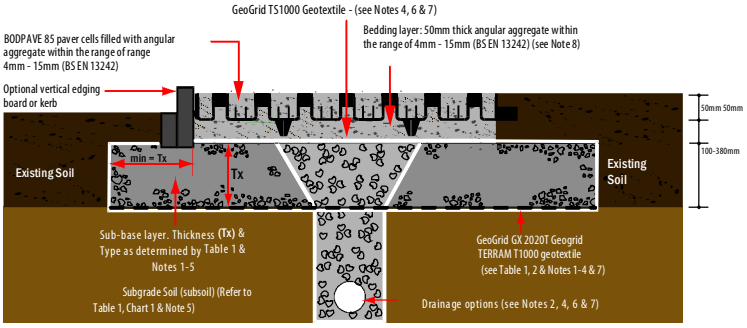
SPECIFICATION, DESIGN & INSTALLATION GUIDANCE FOR **GRAVEL SURFACES**

Typical Construction Profile



Installation method for BODPAVE 85

1. Install edge retention as specified: Either tanalised timber boards, concrete, steel or plastic kerbs as appropriate.
2. Ensure that the gravel/aggregate bedding layer is the correct & uniform thickness, is level & well consolidated.
3. Place the paver units: With the 2 sets of edge loop connectors facing in directions of laying, place BODPAVE 85 firmly onto the surface so that its ground spikes are pressed fully into the bedding and the base of the paver cells sit flat on the bedding layer surface. Connect adjacent pavers together by slotting the edge cell connectors down into the edge loops (LOOPS ALWAYS LEAD) & progress over the area in rows. Pavers are locked in place by snap-fit clips. If paver separation is required, clips can be dislocated using careful, firm hand or screwdriver pressure or by gently twisting the paver joints. Use protective gloves to avoid abrasions.
4. Pavers can be offset by 1 cell increments or cut to fit around obstructions & curves using a hand or power saw. The use of cut-pieces which do not have integral snap-fit connectors should be avoided wherever possible.
5. Fill pavers with specified angular decorative gravel/aggregate to finished levels. A light vibrating plate compactor may be used to consolidate the pavers and settle the fill. Top up the cells as required after settlement. It is preferable not to overfill the cells. The use of 'rounded pea gravel' is not recommended.
6. If the area is to be used for horses, it may be preferable to cover the surface with 50 – 100mm of a fine sand or bark mulch.
7. The surface may be trafficked immediately.

Design notes for BODPAVE 85

1 If GeoGrid GX 2020T geogrid is omitted, the total Granular Sub-Base (GSB) layer thickness (Tx) must be increased by minimum 50%.

2 A'DoT Type 1' sub-base may be used provided that an adequate drainage system is installed. Alternatively, a permeable/open-graded (reduced fines) sub-base layer (i.e Type 3) may be specified, e.g. as part of a Sustainable Urban Drainage System (SUDS).

3 If construction traffic axle loads will be greater than 60kN (approx' 6 Tonnes), minimum sub-base thickness over GeoGrid GX 2020T geogrid shall be 150mm. Maximum sub-base particle size should match minimum sub-base thickness but not exceed 75mm diameter. For sub-base thicknesses of around 100mm, a minimum 37.5mm particle size should be adopted to allow effective installation of GeoGrid GX 2020T geogrid

4 Where drains are omitted and a 'reduced fines' sub-base is specified for SUDS, this may be covered with a GeoTrax TS1000 geotextile to avoid smaller particles migrating into the sub-base.

5 Specific advice on CBR% strengths, ground conditions and construction over weak ground with a CBR less than 1% is available from TERRAM. CBR% = California Bearing Ratio, a measurement of subgrade soil strength.

6 Typical standard drainage detail: 100mm diameter perforated pipe drains laid at minimum gradient 1:100, bedded on gravel in trench backfilled with 'DoT Type A' drainage aggregate, trench covered &/or wrapped with a GeoTrax TS1000 geotextile, pipes leading to a suitable outfall or soakaway. Drains installed down centre or one edge of areas up to 5m wide. Wider areas mayrequire additional lateral drains at 5m - 10m centres. Drainage design to be determined by the specifier based on specific site conditions.

7 Drainage for a Sustainable Urban Drainage System (SUDS) application will vary according to the site but generally omits the requirement for extensive pipe & trench drainage systems within the sub-base layer and may require an additional layer of GeoTrax TS1000 geotextile at base of construction. The type of SUDS design (attenuation or infiltration) will depend upon the underlying ground conditions and not all sites are suitable for infiltration. Weak and low-permeability cohesive sub-grades are generally unsuitable for infiltration SUDS.

8 The selected gravel fill & bedding should be clean, free-draining, angular shaped material in the specified size range.

9 Maximum advised gradient for traffic applications: 12% (1:8) 7º. BODPAVE 85 has specific pegging points if required for steep slope applications. Pegging is not necessary for standard access route applications.

10 BODPAVE 85 complies with BS8300:2009 - "Design of buildings and their approaches to meet the needs of disabled people"- Code of Practice. (ISBN 978 0 580 57419)

Specific advise on the use of BODPAVE 85 on steep slopes, drainage suitability and Sustainable Urban Drainage Systems (SuDS) applications, can be obtained from Terram.

TERRAM

BODPAVE 85

PAVING GRIDS

FOR **GRAVEL SURFACES**

Table 1: Sub-Base Guidance

The following table is for general guidance only. Please contact us for scheme specific advice.

APPLICATION/LOAD	CBR % OF SUBGRADE	SUB-BASE THICKNESS	GEOTEXTILE (A)	GEOGRID (B)
LIGHT DUTY (CARS)	OVER 6 %	150 mm	TS1000	
	4 - 6 %	200 mm	TS1000	
CBR 8%	2 - 4 %	230 mm	TS1000	GX20/20
	1 - 2 %	350 mm	TS1000	GX20/20
	BELOW 1 %	CONTACT US		
MEDIUM DUTY (7.5T)	OVER 6 %	150 mm	TS1000	
	4 - 6 %	200 mm	TS1000	GX20/20
CBR 10%	2 - 4 %	300 mm	TS1000	GX30/30
	1 - 2 %	430 mm	TS1000	GX30/30
	BELOW 1 %	CONTACT US		
HEAVY DUTY (HGV)	OVER 6 %	230 mm	TS1000	GX20/20
	4 - 6 %	310 mm	TS1000	GX30/30
CBR 15%	2 - 4 %	470 mm	TS1000	GX30/30
	1 - 2 %	CONTACT US		
	BELOW 1%	CONTACT US		

Table 2: Paving Grid Specification

Description	Data
Product	BODPAVE 85
Material	100% recycled polyethylene
Colour	Black & Green
Paver dimensions	500mm x 500mm x 50mm + 35mm ground spike
Installed Paver size	500mm x 500mm (4 grids per m^2)
Nominal internal cell size	Castellated 67mm Plaque & 46mm Round Shaped
Structure Type	Rigid-walled, flexible semi-closed cell combination
Cell wall thickness	2.5mm – 4.4mm
Weight (Nominal)	1.56 kg/paver - (6.24kg/m^2)
Load bearing capacity (filled)	< 400 tonnes/m^2
Crush Resistance (unfilled)	< 250 tonnes
Basal support & Anti-Shear	Integral 35mm long Cross & T section ground spikes (18 per paver)
Open cell %	Top 92% / Base 75%
Connection type	Overlapping Edge Loop & Cell connection
Interlock Mechanism	Integral self locking Snap-Fit Clips
Chemical resistance	Excellent
UV resistance	High
Toxicity	Non Toxic

This field guide is provided as an aid to assessing the mechanical stabilisation requirements in commonly encountered site conditions. TERRAM accepts no responsibility for any loss or damage resulting from the use of this guide.

* Regular tight turning of vehicles and "dry" steering may cause damage to the units and/or displace gravel infill; vehicle manoeuvring should be carefully considered at specification/design stage. Gravel filled units may require some maintenance when subjected to regular channelised and turning traffic loadings.

- Please note that some colour/shade variations may occur in recycled HDPE, but these will be minimalised as much as is possible in the manufacturing process. In addition, virgin
- polymer may be used to manufacture green pavers when recycled green HDPE is in short supply

For more information, contact us today or visit our website:

www.groundtrax.com

GROUNDTRAX

Ground Protection and Reinforcement

Telephone: 03456 800008 | Fax: 03456 800208

E-Mail: info@groundtrax.com | Website: www.groundtrax.com