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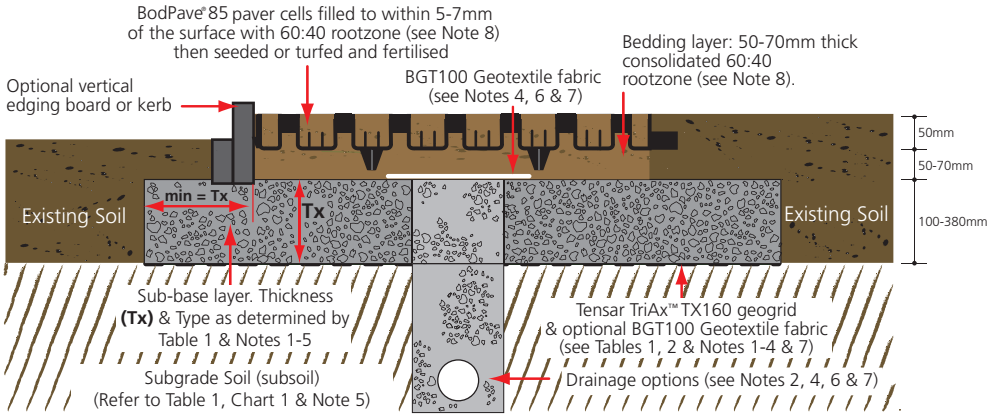
BODPAVE®85 PAVING GRIDS

Data Sheet No : SDI / B85PGS09 Issue 2

SPECIFICATION, DESIGN & INSTALLATION GUIDANCE

For Grassed Surfaces

Typical Construction Profile



BODPAVE®85 INSTALLATION METHOD

1. Install edge retention as specified: Either tanalised timber boards, concrete, steel or plastic kerbs as appropriate.
2. Ensure that the sand:soil rootzone 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 propriety rootzone to finished levels: 5-7mm below top of the cells after settlement. A light whacker plate may be used to consolidate the pavers and settle rootzone fill. Do not overfill or over consolidate.
6. Carry out a normal seeding, fertilising & watering programme. A light top dressing may be applied to just cover the seed and to provide adequate germination conditions. Do not overfill the paver cells. Thin-cut or Washed Turf may be lightly rolled into the surface as an alternative if required.
7. The surface may be trafficked immediately for critical access purposes, but it is preferable to allow grass to fully establish prior to use.

DESIGN NOTES

Note 1: If Tensar TriAx™ TX160 geogrid is omitted, the total Granular Sub-Base (GSB) layer thickness (Tx) must be increased by minimum 50%.

Note 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).

Note 3: If construction traffic axle loads will be greater than 60kN (approx' 6 Tonnes), minimum sub-base thickness over Tensar TriAx™ TX160 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 Tensar TriAx™ TX160 geogrid.

Note 4: Where drains are omitted and a 'reduced fines' sub-base is specified for SUDS this must be covered with either a geotextile fabric (i.e. BGT100) and/or a clean, suitably graded gravel blinding to avoid the bedding layer leaching into the sub-base.

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

Note 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 geotextile fabric (i.e BGT100), pipes leading to a suitable outfall or soakaway. Drains installed down centre or one edge of areas up to 5m wide. Wider areas may require additional lateral drains at 5m - 10m centres. Drainage design to be determined by the specifier based on specific site conditions.

Note 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 BGT100 geotextile fabric at base of construction.

Note 8: Rootzone bedding and paver fill must be a free-draining, structurally sound propriety blend of sand:soil or sand:compost such as used in sports/golf construction & normally identified as a 60:40 or 70:30 ratio blend. The use of site-won materials or in-situ self-blending is NOT recommended without taking further advice.

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

Note 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) & Building Regulations Document 'M' section 6.

Specific advice on the use of BodPave®85 on steep slopes, drainage suitability and Sustainable Urban Drainage Systems (SUDS) applications, can be obtained from Fiberweb Geosynthethics Ltd.

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Table 1: Typical Sub-base Thickness (Tx) Requirements - refer to construction profile overleaf

APPLICATION/LOAD	CBR (%) STRENGTH OF SUBGRADE SOIL *(see Chart 1)*	(TX) DoT SUB-BASE THICKNESS (mm) *(see Notes 1 - 5)*	TENSAR TriAx™ GEOGRID *(see Notes 1 - 3)*
Fire trucks, Coaches and occasional HGV access	≥ 6 = 4 < 6 = 2 < 4 = 1 < 2	100 120 190 380	TX160 TX160 TX160 TX160
Light vehicle access and overspill car parking	≥ 6 = 4 < 6 = 2 < 4 = 1 < 2	100 100 135 260	TX160 TX160 TX160 TX160

Table 2: Paving Grid Specification

DESCRIPTION	DATA
Product	BodPave®85
Material	100% recycled polyethylene
Colour options	Black, Green & Natural
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/m^2 *
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
Bedding Layer	60:40 rootzone (see Note 8) : 50-70mm thick
Paver fill (seed bed)	60:40 rootzone (see Note 8): 43-45mm thick
Grass seed or turf	35g/m^2 amenity blend low maintenance seed or turf as required
Fertiliser	Pre-seed fertiliser followed up with appropriate seasonal fertiliser
Sub-base type	DoT Type 1 or a modified permeable Type 3 sub-base *(Table 1 & Notes 1-5)*
Sub-base reinforcement	Tensar TriAx™ TX160 geogrid *(Table 1 & Notes 1-4 & 7)*-Specification on request.

Chart 1: Field guidance for estimating sub-grade strengths

Consistency	Indicator			Strength	
	Tactile (feel)	Visual (observation)	Mechanical (test)	CBR	CU
			SPT	%	kN/sqm
Very Soft	Hand sample squeezes through fingers	Man standing will sink >75mm	<2	<1	<25
Soft	Easily moulded by finger pressure	Man walking sinks 50-70mm	2-4	Around 1	Around 25
Medium	Moulded by moderate finger pressure	Man walking sinks 25mm	4-8	1-2	25-40
Firm	Moulded by strong finger pressure	Utility truck ruts 10-25mm	8-15	2-4	40-75
Stiff	Cannot be moulded but can be indented by thumb	Loaded construction vehicle ruts by 25mm	15-30	4-6	75-150

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

*Research carried out by Sheffield University Department of Mechanical Engineering. (Rennison/Allen March 2009)

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