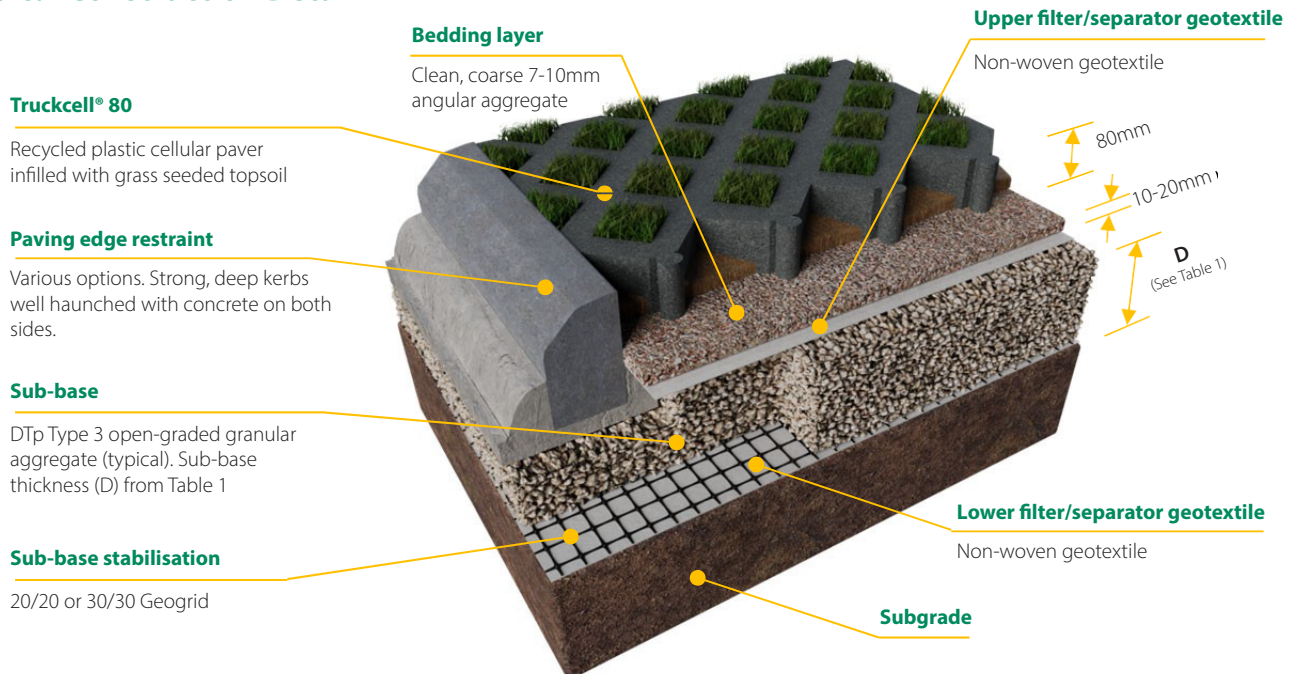


# TRUCKCELL

Ground, Wind, Weed & Erosion Control

Truckcell is a recycled plastic cellular porous paving solution for use in Sustainable Drainage Systems (SuDS). Truckcell is suitable for a wide range of trafficked applications where a stabilised, free-draining grass surface is required and where high vehicle loads are expected. Typical applications include: coach and truck parks, emergency access, and maintenance routes. Considerations relating to the movement and attenuation of water within the porous pavement are not covered in this document. This document is intended to be a summary presenting typical solutions.

## Typical Construction Detail



## Technical Specification

<b>Surface finish &amp; compliance:</b>	Smooth finish. Compliant Part M (Building Regs) Equality Act (DDA)
<b>Material:</b>	100% recycled and recyclable plastic (Polyolefins)
<b>Colour:</b>	Grey
<b>Paving unit &amp; pallet sizes:</b>	80mm x 400mm x 600mm
<b>Coverage rate:</b>	4.17 blocks per m <sup>2</sup> 80 blocks/pallet (19.2m <sup>2</sup> ) 32 pallets/load (614m <sup>2</sup> )
<b>Cell dimension:</b>	103mm x 103mm (nominal)
<b>Cell wall thickness:</b>	40mm (nominal)
<b>Weight:</b>	9kg/unit      37.5kg/m <sup>2</sup>
<b>Load &amp; strength capacity:</b>	SLW60 – Vehicles: <60t gross weight & 10t (100kN) single wheel load Compressive strength: 1,896 tons/m <sup>2</sup> (18,600 kN/m <sup>2</sup> ) DIN Tested
<b>Connection &amp; interlock:</b>	Integral tongue & groove
<b>Chemical resistance:</b>	Excellent



## Technical Specification

<b>UV Stability</b>	High resistance to colour & strength degradation
<b>Infiltration capacity</b>	Limited by the permeability of the specified infill material. Typical $\geq 2,500$ mm/hr for gravel
<b>Bedding layer material</b>	Porous, clean angular aggregate: 3-14mm particle size, with greater proportion in 7-10mm range, and in accordance with Table A.3 of BS 7533-13
<b>Bedding layer thickness</b>	A level & uniform layer thickness: 10mm - 20mm maximum
<b>Cell infill material</b>	Grass seeded good quality, free-draining, friable top-soil with no contaminants or oversized debris
<b>Cell infill thickness</b>	Installed surface to be level with top of cells
<b>Upper filter/separator geotextile</b>	Non-woven geotextile 1.1mm thick, 120g/m <sup>2</sup> , zero breakthrough head
<b>Sub-base material</b>	DTP Type 3 or a drained Type 1, or BS 7533-13 4/20 or 4/40 (Ref. Note C)
<b>Sub-base thickness</b>	Refer to Table 1 for typical thickness 'D' in millimetres (mm)
<b>Sub-base stabilisation</b>	20/20 or 30/30 geogrid (see Table 1). Alternative options may be suitable (Ref. Note B)
<b>Lower filter/separator geotextile</b>	Non-woven geotextile 1.1mm thick, 120g/m <sup>2</sup> , zero breakthrough head

## Structural Design, Installation and Maintenance Guidance for Grass Surfaces

### TRUCKCELL® INSTALLATION PROCESS

The following generic guidance must be read in conjunction with the specific project specification within the contract documents and the DESIGN NOTES below.

1. Install the specified lower filter/separator geotextile and sub-base stabilisation onto the prepared subgrade formation.
2. Install the specified sub-base & edge restraints: strong, deep kerbs, well haunched with concrete on both sides.
3. Install the upper filter/separator geotextile on top of the sub-base.
4. Install the specified bedding layer to a uniform thickness.
5. Ensure an accurate right-angled Truckcell laying pattern by setting-out the site using string-lines. Check the lines regularly for accuracy. Start installing the Truckcell pavers. Wherever possible start laying from a right angled corner and progress across the site in rows. The pavers can be installed in a width or lengthwise orientation and cross-bonded if required or appropriate to fit the site. When installing the interlocking type pavers (80mm deep) ensure that the male/female connectors are fully located together. Use protective gloves to avoid abrasions.
6. Truckcell pavers can be cut to fit around obstructions & curves using a hand or power saw. Wherever possible avoid using small cut-pieces less than one-third original size.
7. When installed, fill the paver cells loosely to the finished level (top of cells) with the specified cell infill. Remove excess soil from the surface of the pavers and do not overfill. A single pass with a light vibrating plate machine or roller may be used to firmly bed the pavers and settle the soil, but do not compact the soil. Do not vibro-roll. It is preferable that the soil is left just below the top of the cells to aid quality grass growth and reduce traffic abrasion. The surface may be trafficked by slow moving plant during the cell-filling process, but care must be taken not to displace the unfilled pavers.
8. Apply the grass seed at the supplier's recommended rates.
9. The surface may be trafficked immediately after the pavers are filled. However, it is strongly advised that the grass is allowed to establish fully, then mown 2 or 3 times, prior to regular use.
10. A routine management and maintenance programme to keep the surface in good condition and free of debris and weed growth, will help to sustain the porosity, quality and longevity of the system.

### NOTES

- A. Advice on subgrade CBR% strengths, ground conditions, and construction over weak ground is available from Green-tech.
- B. If the sub-base stabilisation is omitted, the total sub-base layer thickness ('D' on Table 1) is typically increased by a minimum of 50%.
- C. A permeable open-graded (reduced-fines) aggregate is recommended, such as DTP Type 3 low-fines roading aggregate, or BS 7533-13:2009 SuDS aggregate (4/20 or 4/40). However, where a conventional DTP Type 1 sub-base is to be used, it is essential that a drainage system is incorporated. Specific advice is available from Green-tech.
- D. Maximum sub-base particle size should match minimum sub-base thickness but must 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 the Geogrid.
- E. Edge restraints. Strong, deep concrete kerbs, well haunched both sides with concrete. Minimum sizes and haunch depths apply. Advice from Green-tech.
- F. The sub-base must be overlaid by a non-woven geotextile to provide separation, enhanced water treatment function and prevent migration of the bedding layer.
- G. To provide a stable bedding layer for Truckcell, the bedding layer must not be sand.
- H. The paver fill material should be suitable for healthy grass growth. Amenity grass seed mixture should contain hard wearing, low fertility and/or drought tolerant species with a low percentage of clover content if acceptable.
- I. Maximum 8% (1:12) 5° advised gradient for vehicle traffic applications.
- J. When designed in accordance with the recommendations, Truckcell complies with BS8300:2009: "Design of buildings and their approaches to meet the needs of disabled people" – Code of Practice (ISBN 9780 580 57419) & Building Regulations Document 'M' Section 6.
- K. Expansion: 1-2mm gaps left between units will accommodate temperature variation. Large areas: a 25mm soil filled gap should be left between Truckcell and non-trafficked kerbs.
- L. Line marking can be created using road paint and/or red brick setts cut to fit into cells.
- M. All stated Truckcell dimensions & weights are nominal and in accordance with manufacturing +/- 1.5% tolerances.
- N. Truckcell is not recommended for small wheeled fork-lift applications and is for use in slow moving traffic applications only (5-8mph).
- O. Please contact Green-tech for clarification of any recommendations made within this document.

**TABLE 1:** Truckcell® typical DTp Type 3 sub-base thickness (D) requirements - refer to specific construction drawing

Vehicle Load and frequency	CBR strength of subgrade soil (%) (see Table 2)	DTp Type 3 sub-base thickness (D, mm)	Geogrid
Light vehicles only with emergency HGV access	≥6	100	20/20
	=4 < 6	100	20/20
	=2 < 4	120	30/30
	=1 < 2	220	30/30
Light vehicles with one HGV per week	≥6	125	20/20
	=4 < 6	150	20/20
	=2 < 4	200	30/30
	=1 < 2	325	30/30
Light vehicles with 10 HGVs per week	≥6	165	20/20
	=4 < 6	200	20/20
	=2 < 4	275	30/30
	=1 < 2	425	30/30
Regular HGV access	≥6	200	20/20
	=4 < 6	250	20/20
	=2 < 4	350	30/30
	=1 < 2	500	30/30

**TABLE 2:** Field guidance for estimating sub-grade shear strengths

CBR (%)	DCP Result <sup>1</sup> (Sandy Soils)	HSV Result <sup>1</sup> (Clayey Soils)	Tactile (Clayey Soils)	Visual (Clayey or Sandy Soils)
<1	<1	<30kPa	Easily indented by fingers	Adult standing will sink >30mm
1-2	<1	30-60kPa	Indented by strong finger/thumb pressure	Adult walking sinks 10-30mm
2-4	1-2	60-120kPa	Cannot be indented by thumb pressure	Utility truck ruts 10-25mm
5-7	2-3	120-200kPa	Can be indented by thumb nail	Loaded construction vehicle ruts by 25mm
>8	>3	>200kPa	Difficult to indent by thumb nail	Loaded construction vehicle ruts by <10mm

**Note: 1:** DCP results are expressed as blows per 100mm penetration. HSV results are expressed as "undrained shear strength" or Cu



Green-tech endeavour to ensure that the information given on this technical data sheet is accurate but accept no liability for its use or suitability for particular application.