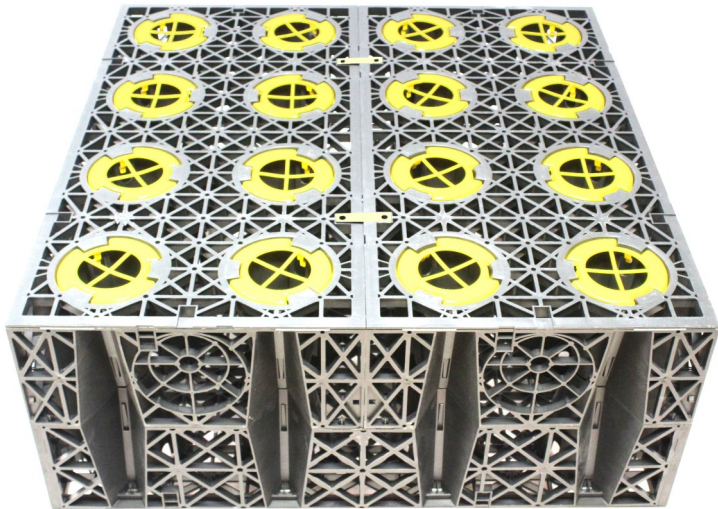




# StormMaster - Landscape (20T) Product Information Sheet

## PRODUCT INFORMATION

The StormMaster Landscape duty crate, manufactured from 100% recycled plastics consists of 4 pieces assembled in the factory to form a single closed crate.



Product Data	StormMaster Heavy Duty
Application	Landscape & light loads
Dimensions	1m x 1m x 0.4m (2.5/m <sup>3</sup> )
Weight	15.5kg
Colour	Grey
Strength - Vertical	200kN/m <sup>2</sup>
Strength - Lateral	85kN/m <sup>2</sup>
Void Ration	95.8%
Gross/Effective Volume	400 Litres / 383.2 Litres
Inspectable	Yes
Linking System	Yellow clips
Layer to Layer	Red Clips

### Connection Options:

The StormMaster system is delivered to site together with enough yellow clips to enable side to side connections (four per crate) and for multi-layered systems red clips are provided (two per crate). The final layer of crates have the yellow caps fitted to complete the structure.

For drainage and vent connections both 110/160mm OD cut-outs are provided on each side of the crate. Larger connections are accommodated by the use of adapter plates to suit the incoming pipe diameters.

### Design & Installation Guidance

#### Guidance from CIRIA C680 on Minimum Cover (table 4.7)

Type of Use	Loading	Cover
Landscape	Pedestrian	0.3m - 0.5m*

\* CIRIA recommend an assessment of the risk of damage due to gardening operations etc.

#### Guidance on Maximum Depth

Maximum Depth of Installation to base with varying soils (no groundwater within 1m of base)		
Soil Type	Shear Angle	Pedestrian Landscape
Stiff over consolidated clay	24°	2.5m
Silty sandy clay, consolidated	26°	2.8m
Loose sand & gravel	30°	3.3m
Medium dense sand/gravel	34°	3.5m
Dense sand & gravel	38°	3.7m

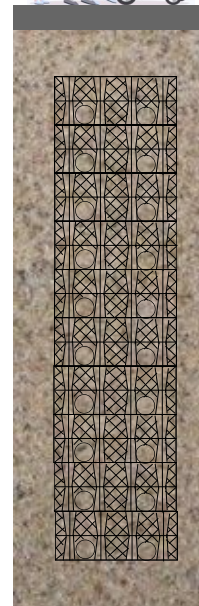
#### Product manufactured in the EU

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### Crate Loading:

The vertical loading on a crate structure is a combination of both the weight of the backfill and the imposed loads due to traffic (live) and structures (dead loads).

Lateral loads are a factor of the pressure exerted by the depth of installation and the strength of the surrounding soil.



#### For more Information Contact:

Balstreet Ltd., Blackthorn House, St Paul's Square, Birmingham, B3 1RL  
Tel: 0333 3220 190 sales@stormmaster.co.uk www.stormmaster.co.uk

# StormMaster - Landscape (20T) Product Features

## Access, Maintenance & Inspection

The standard StormMaster crate has two removable cut-outs for inspection/maintenance on each side. Remove the cut-outs on the lateral walls to suit the chosen routes and access to the inspection route is achieved from the upstream silt trap or downstream inspection chamber / manhole.



Two inspection routes in each direction in every crate.

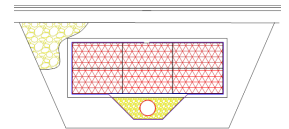
## Silt Control

It is good practice to install a silt trap immediately upstream of any crate structure. Alternatively a 225/300mm perforated pipe is installed below the crate structure within the geomembrane seal. N.B. CIRIA does not recommend a perforated pipe within the crate structure itself due to differential settlement. Another alternative is to create a silt channel between the inlet & outlet by a simple "U" shaped geotextile layer to retain silts.

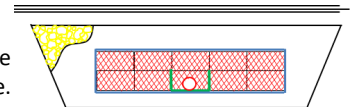


Silt Trap/  
Catch-pit

Perforated Pipe  
below structure



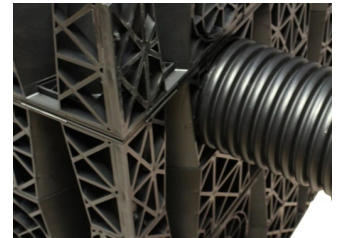
Geotextile silt route  
through structure.



## Making Connections

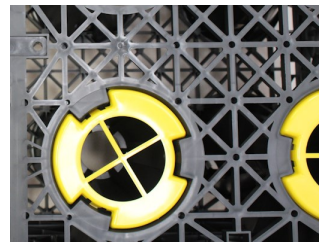
StormMaster crates have two removable cut-outs on each side to allow connections to 110/160mm OD pipework as standard. These can be positioned at both the top or the base of the unit by simply turning the crate upside down. For larger connections a specially made adaptor plate can be used or a manifold system can be utilised.

110/160 OD knock-out  
connections at base or  
top of crates



## Vents

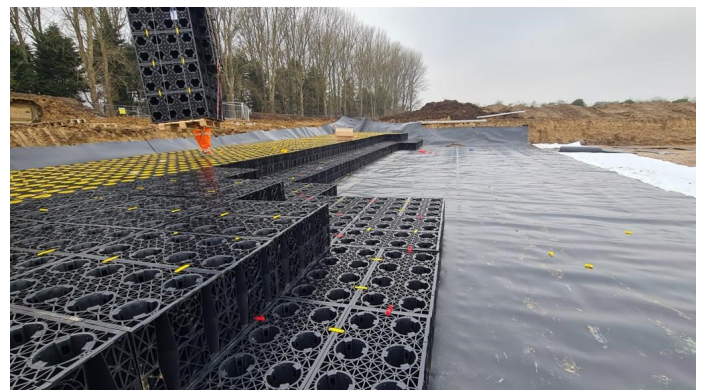
Sealed attenuation systems need a 110mm dia vent per 7,500m<sup>2</sup> of drained area. This is done by flipping the crate to establish a side connection at the top of the crate, or by connecting to the top of the crate by removing the yellow closer & using a flange connector.



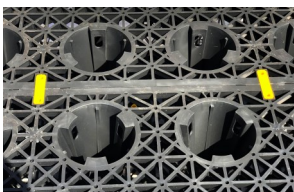
Top vent facility by re-  
moving a yellow closer  
to suit.

## Large Structures

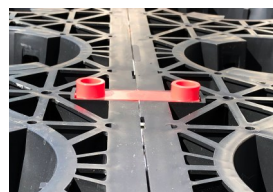
The landscape crate is equally at home with large structures, supplied as a fully assembled crate the landscape crates are placed in the excavated hole in the normal way clipping units together with the yellow clips provided. For multi layer projects these yellow clips are replaced with the red layer to layer connections (2 per crate) until the appropriate height/depth is reached. Closing caps (16 per crate) are then installed to complete the structure.



## Accessories:



**Yellow Clips:** Unit to unit connections - 4 per crate. (40 per pallet provided)



**Red Clips:** For layer to layer connections, allow 2 per crate to replace the yellow clips.



**Yellow Closers:** For the top finishing layer, clip 16 per crate into place to finish structure.