

Terra Vault™ HD MODULE SPECIFICATION SHEET



TerraVault 1000X Module



TerraVault 4000X Module

Terra Vault Modules are modular units that assemble to form a skeletal matrix that supports relevant pavement loads while providing large volumes of un-compacted soil within the structure for free root growth.

The open, skeletal matrix provides a maximum growth zone for tree roots. In excess of 95% of the Internal Void volume is available for un-compacted soil and root growth.

Traditionally rock and soil mix use to provide support for pavement, while permitting some root growth within the pavement. Terra Vault System have moved this principle forwarded by entirely replacing the rock (80% of the total volume) the engineered modules provide the structural strength for pavement loads whilst providing free un-compacted root zone for trees.

Terra Vault Module Dimensions:

Module (Unit)	Width (mm)	Width (inches)	Length (mm)	Length (inches)	Height (mm)	Height (inches)
Single (1)	400	15.75	715	28.15	440	17.32
Double (2)	400	15.75	715	28.15	860	33.86
Triple (3)	400	15.75	715	28.15	1280	50.39
Quad (4)	400	15.75	715	28.15	1700	66.93
Penta (5)	400	15.75	715	28.15	2120	83.46

Soil Storage Volume:

Module (Unit)	Module Volume (L)	Module Volume (cf)	Module Volume (gal)	Soil Storage Volume (l)	Soil Storage Volume (cf)	Soil Storage Volume (gal)
Single (1)	125.77	4.44	33.26	119.47	4.22	31.60
Double (2)	245.94	8.69	64.97	233.64	8.25	61.72
Triple (3)	366.08	12.93	96.70	347.77	12.28	91.87
Quad (4)	486.29	17.17	128.46	461.97	16.31	122.03
Penta (5)	606.32	21.41	160.17	576.00	20.34	152.19



**TerraVault 1000X Module/ TerraVault 4000X Module
STD 5 Internal Plate.**

Item	Description	Value	Unit	
Void Area	Area available for uncompacted soil and root zone vs. that made up of plastic	95	%	
Surface Void Area	Open area where root System can grow unobstructed in or out of the units	95	%	
Rib Thickness	Minimum thickness of the load bearing members to full depth of the plate	11.5 (0.42)	mm (inches)	
Service Temperature	Operating temperature where the units can be expected to perform adequately	-10 to 75°C (-14 to 167°F)	°C (°F)	
Recycled Content	85% Selected Recycled Polypropylene + 15% proprietary mix	85% + 15%	%	
Biological & Chemical Resistance	Unaffected by moulds, algae, Soil borne Chemical, bacteria and bitumen, polypropylene is very inert	**	**	
Ultimate Vertical unconfined Crush Strength	Using a full -size plate that completely covers the top of the unit determines the pressure required to crush the entire unit	23-24 (32.71-34.13)	ton/sqm (PSI)	
Ultimate Lateral un Confined Crush Strength	Using a full -size plate that completely covers the top of the unit determines the pressure required to crush the entire unit	20-22 (28.44-31.29)	ton/sqm (PSI)	
180 Day Creep testing	Used to determine long-term performance of the system <i>*Single Module tested</i>	**	**	
	Load Applied	Initial & Sustained	76.92 (11.15)	
	Creep Sustained	After 90 Days	1.035	%
	Creep Sustained	After 180 Days	1.128	%
	Projected Creep	40 Years	1.72	%

****Heavy Duty Tank for High load bearing capacity are also available**

NOTE: All 'RAINSMART Products and Systems are DESIGN REGISTERED.

Safety Factors: Engineers, designers and geotechnical engineers should design and calculate safety factors to a serviceable limited state to suit specific project. In case of doubt, consult your nearest distributor or representative.

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TerraVault™ System Advantages at Glance:

- ✓ **Heavy Load bearing capacity.**
TerraVault Modules have a high load bearing capacity of up to 60 t/sqm.
- ✓ **Modular Structure provides Design Flexibility**
Modular Nature of the system helps designers to create any shape, any size and fits tight spot.
- ✓ **Use Strength With Flexibility.**
Reduce or Increase the number of internal support plates to use achieves Required load rating whilst keep costs low.
- ✓ **High Internal Void Ratio.**
TerraVault Modules have 95% internal void Ratio, meaning more space for un-compacted soil and roots and water management. Allowing healthy root and plant growth.
- ✓ **High Surface void Ratio.**
Up to 95% surface void ratio providing free un-obstructed root growth and movement in the un-compacted soils.
- ✓ **Quick & Lightweight Easy to install.**
TerraVault Modules are light weight and easy to install by unskilled labor, without the need of any heavy Machinery
- ✓ **Available in Kit form.**
Supplied in kit form its easy delivery and handling and reduces transport costs.
- ✓ **Easy to Infill and Top Up.**
Unlike other systems, this is a single component module which is easy to infill and lock in place. Reduces installation time and costs.
- ✓ **Environmentally Friendly.**
Made from Recycled Polypropylene the Terra Vault Modules are Green label Certified.
- ✓ **High Lateral load Capacity**
The TerraVault Modules have a high lateral load carrying capacity of > 20-22 t/sqm. Internal plate layout ensure uniform load distribution and load capacity. Lateral forces must also be considered for engineering design of tree pits, when in proximity of traffic areas.
- ✓ **Interlocks**
TerraVault units lock together vertically and laterally if required to form a single structure with excellent modular strength, both vertically and laterally.
- ✓ **Enhances and Recycles Stormwater.**
There are many WSUD methodologies to capture and utilize valuable rainfall using the TerraVault system and other Rainsmart product range to enhance growth of trees in an Urban Environment.



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