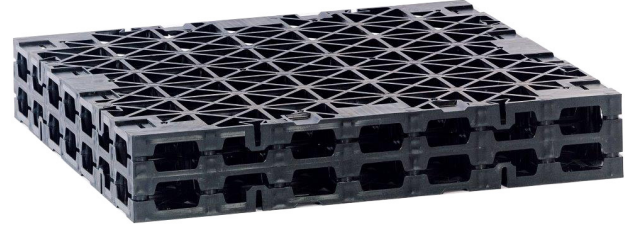


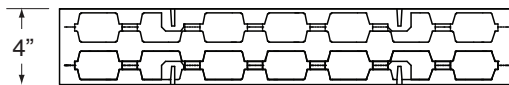
# X-BOX

*X-Box* is a high-strength plastic structure that can be installed under green roofs to provide uninterrupted drainage, to delay stormwater release, to provide high-volume water storage, or to create lightweight topographic relief. Standard heights are 4", 6", 8", 10", and 12" (16" and 24" are available on special order), but modules can be stacked to create unlimited heights in two-inch increments. Modules can be joined horizontally with locking butterfly connectors and vertically with alignment pins to create complex three-dimensional shapes without the positioning, wind uplift, or flotation issues of geofoam.

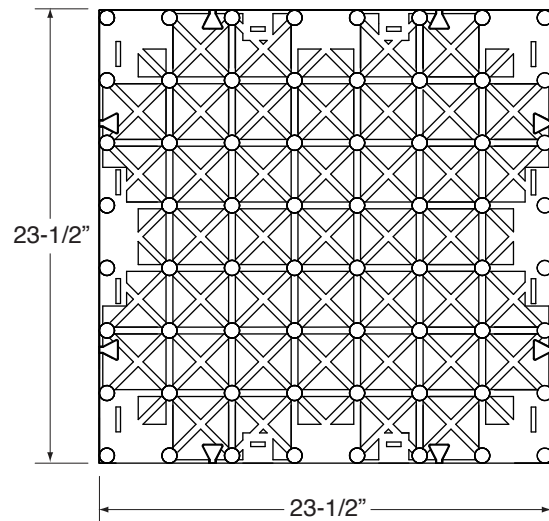
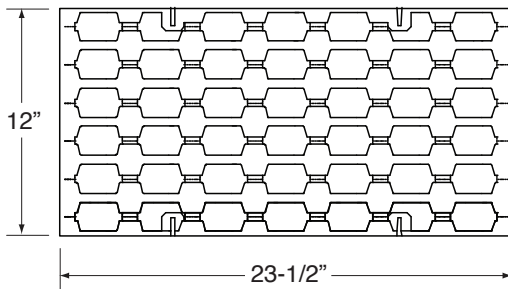


All X-Box modules have 64 full-height support columns, making them significantly stronger than other low-profile modules. With a 50-year long-term load capacity of 4,000 lb/sf, they can support pre-cast walls, planters, and other rooftop hardscapes, freeing the designer from roof drainage and stormwater management constraints.

## PHYSICAL CHARACTERISTICS



(also available 6", 8", and 10")

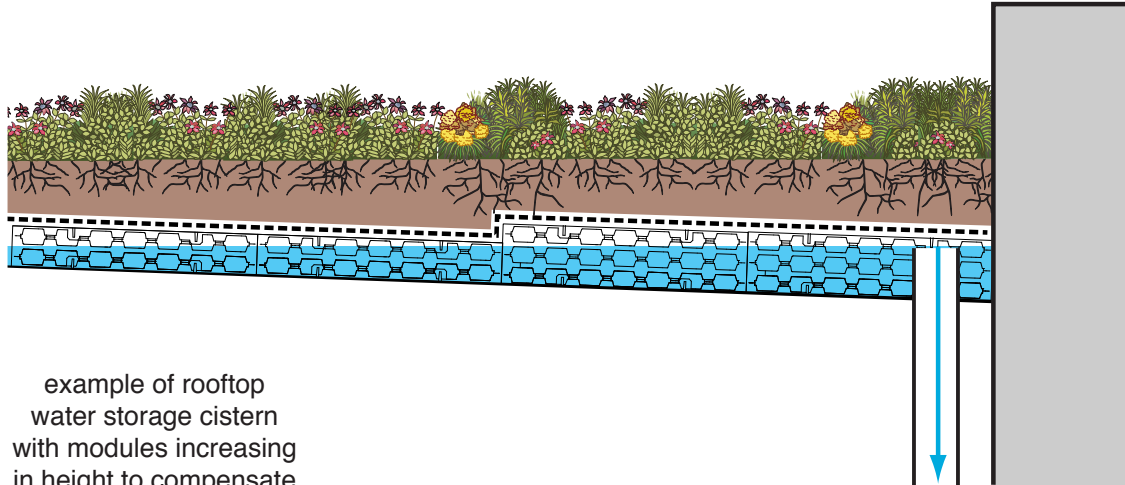


Property	US	Metric
Base	23.5" x 23.5"	60cm x 60cm
Height	4", 6", 8", 10", 12"	10cm, 15cm, 20cm, 25cm, 30cm
Unit Water Storage*	0.6 gal/in/ft <sup>2</sup>	x 13.7 l/cm/m <sup>2</sup>
Unit Weight*	0.25 lb/in/ft <sup>2</sup>	0.045 kg/cm/m <sup>2</sup>
Short-Term Load Capacity	13,500 lb/ft <sup>2</sup>	650 kN/m <sup>2</sup>
Long-Term (50 year) Load Capacity	4,000 lb/ft <sup>2</sup>	200 kN/m <sup>2</sup>

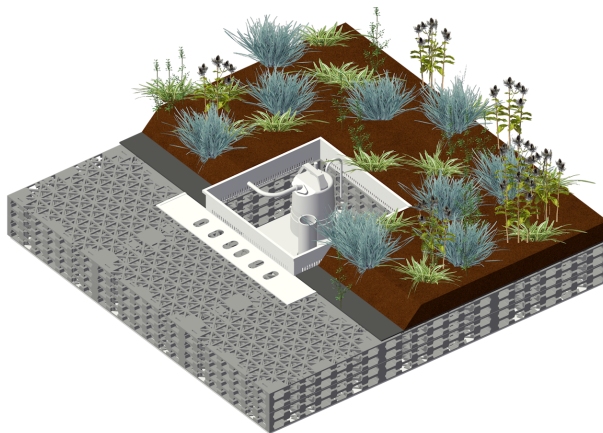
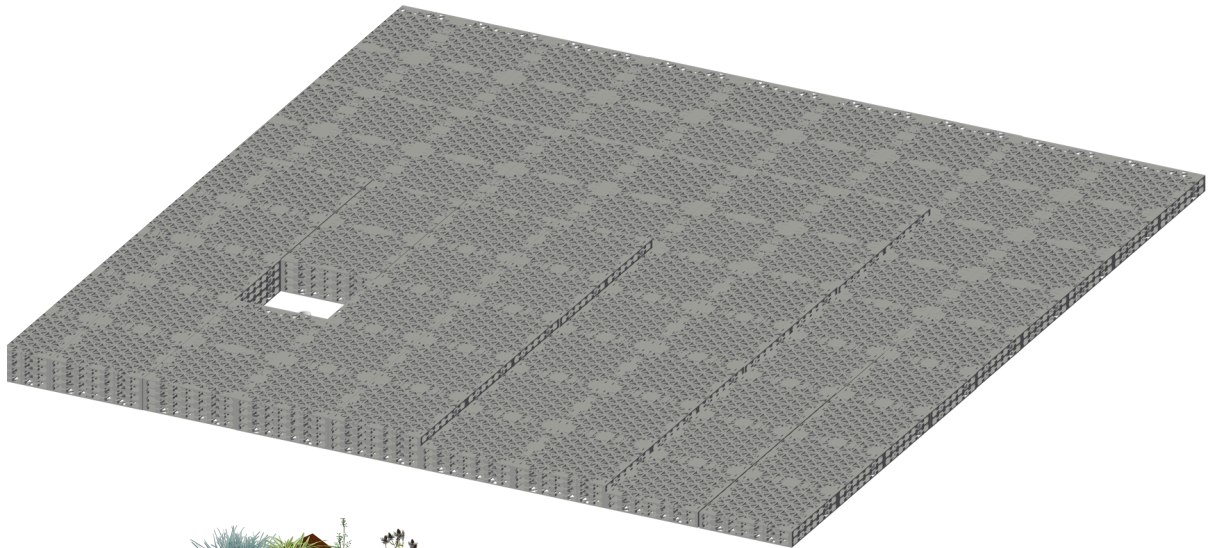
\* Example: for 6" modules, water storage = 6" x 0.6 gal/in/ft<sup>2</sup> = 3.6 gal/ft<sup>2</sup> and weight = 6" x 0.25 lb/in/ft<sup>2</sup> = 1.5 lb/ft<sup>2</sup>

## ROOFTOP CISTERN

The X-Box is ideal for creating a low-profile rainwater cistern under a green roof. First a durable ponding membrane, for example a sheet of EPDM rubber, is placed over the primary waterproofing and lapped up the parapet walls. Then modules are placed on the ponding membrane, completely covering the surface. Since X-Box modules are available in 2" increments of height and typical roofs slope 1/4" per foot towards the roof drains, the module height should be increased by 2" every eight feet (four modules) to maximize water storage capacity while leveling the green roof. Lastly, a standpipe over the drain is set to the desired water-retention height. In freezing climates the standpipe should be designed to be removed in the winter. A special abrasion-resistant pump that draws down to one-eighth inch makes it possible to irrigate the roof above.



example of rooftop  
water storage cistern  
with modules increasing  
in height to compensate  
for the slope to drain



detail showing module omitted to  
create an access cavity, standpipe,  
and special low-suction pump