

Rainsmart Ellipse Modules & HS20 Loading

In the USA TRI has recently completed a testing program and peer review of published design literature for HS-20 and HS-25 loading of Ellipse stormwater modules. Test standards ASTM D2412 and ASTM F2418 were examined and found to be relevant for this testing.

TRI found that the Rainsmart Ellipse Modular tank system is capable of easily supporting AASHTO HS-20 loads with safety factors of 1.75 or higher. A summary of the results is shown in the following table, contact SGS for full details of the program.

Unconfined compression test



Property	Description	R-Tank Value	R-TankHD value	R-TankSD value
Void Area	Volume available for water storage	95%	95%	95%
Surface Void Area	% of exterior available for infiltration	90%	90%	90%
Compressive Strength	ASTM D 2412/ ASTM F 2418	207 kPa	230kPa	296kPa
HS-20 Minimum Cover	Cover required to support HS-20 loads	N/A	600mm	600mm
HS-25 Minimum Cover	Cover required to support HS-25 loads	N/A	750mm	600mm
Maximum Cover	Maximum Allowable	900mm	<2100mm	<3000mm

R-Tank - standard 4 plate Ellipse

R-TankHD - 5 plate Ellipse

R-TankSD - 5 plate 1/2 height Ellipse