

Bolton Eden School Variobox Tank Structural Load Assessment – depths taken at Manhole S1.35

Hewitech Structural Load Calculator

Structural Load Calculator

Project Details

Project title	Bolton Eden School
Project date (dd/mm/yy)	18.2.15
Contractor	Wates R & M
Site Name	Bolton
Tank reference number	1
Customer ID number	RMD

Modular Structure

Box Type	Variobox Traffic
Vertical compressive strength	400 kN/m ²
Lateral compressive strength	100 kN/m ²
Height	1.2 m
Length	22.2 m
Width	4.2 m
Gross Capacity	111.89 m ³

Cover ①

Material 1	Soil
Unit weight of material 1	20 kN/m ³
Depth of cover	2.135 m
Material 2	Other
Unit weight of material 2	0 kN/m ³
Depth of cover	0 m
Material 3	Other
Unit weight of material 3	0 kN/m ³
Depth of cover	0 m

Variable Vertical Load (Vehicles) ②

Expected vehicle type	Drive on mowers
Distributed vehicle load	5 kN
Concentrated wheel load	1.4 kN
Tyre dimensions	150 x 150 mm
Load spread angle	45 degrees

Lateral Load

Lateral surcharge load	0 kN/m ²
Height of groundwater above base of tank	0 m ③
Angle of shearing resistance of soil	29 degrees ④

Calculate Reset Quit

Output

Vertical design load	66.89 kN/m ²
Vertical design limit	145.45 kN/m ²
Vertical safety check	Pass
Lateral design load	29.37 kN/m ²
Lateral design limit	36.36 kN/m ²
Lateral safety check	Pass