

1. Tank Specifications

A. Tank Manufacturer: Tank Model:

B. Outside Tank Dimensions and Specifications: Tank Use:

Length: in Width: in Height: in Diameter: in

Length: ft Width: ft Height: ft Radius of Tank: in

2. Outside Volume of Tank

Rectangular Tank	Circular Tank
A. Area of Tank = Length (ft) X Width (ft) <input type="text"/> ft X <input type="text"/> ft = <input type="text"/> ft ²	A. Area of Tank = πr^2 (3.14 X (Radius of Tank) ²) 3.14 X <input type="text"/> ft ² = <input type="text"/> ft ²
B. Volume of Tank = Area of Tank (2.A) X Height (ft) <input type="text"/> ft X <input type="text"/> ft = <input type="text"/> ft ³	B. Volume of Tank = Area of Tank X Height (ft) <input type="text"/> ft ² X <input type="text"/> ft = <input type="text"/> ft ³

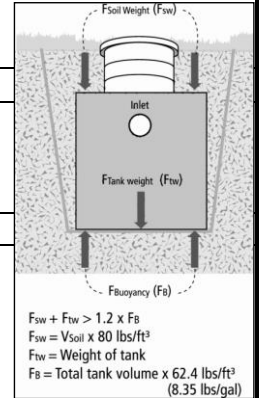
3. Force of Tank Weight (F_{TW})

Weight of Tank (provided by manufacturer) lbs/ft³

4. Force of Soil Weight Over Tank (F_{SW})

A. Depth of Cover Over Tank: <input type="text"/> in <input type="text"/> ft	Soil Type	Weight of Soil (lbs/ft³)
B. Weight of Soil Per Cubic Foot: <input type="text"/> lbs/ft ³	Sandy	120
C. Volume of Soil Over Tank = Depth of Cover (ft) X Area of Tank (ft ²) <input type="text"/> ft X <input type="text"/> ft ² = <input type="text"/> ft ³	Loamy	100
D. Weight of Soil Over Tank = Volume of Soil Over Tank X Weight of Soil Per Cubic Foot <input type="text"/> ft ³ X <input type="text"/> lbs/ft ³ = <input type="text"/> lbs	Clay	90

Note: Assumes saturation does not get over the lid of the tank



5. Buoyant Force (F_B)

Buoyant Force (F_B) = Outside Volume of Tank X Weight of Water Per Cubic Foot (62.4 lbs/ft³) X 1.2 (Safety Fctr)

X 62.4 lbs/ft³ X 1.2 = lbs

6. Evaluation of Net Forces

A. Downward Force = Force of Tank Weight (F_{TW}) + Force of Soil Weight of Soil (F_{SW})

lbs + lbs = lbs

B. Net Difference = Downward Force - Buoyant Force Including Safety Factor

lbs - lbs = lbs

If the Net Difference is negative, countermeasures will need to be taken to prevent the tank from floating out of the ground.

Comments/Solution: