











# Propane Tank Anchorage Installation Calculations for Flotation & Wind Stabilization

	Tank Number	Approx. Capacity (Gallons)
	1	1990
	2	1450
	3	1000
	4	850
	5	500
	6	325
	7	250
	8	150
	9	120
	10	120

## Approval/Engineer's Seal

These instructions valid through 2020

Tank Number	Water Capacity (Gal)	Leg Spacing (inches)	Dia. (in)	Length (inches)	Length (feet)	Surface Area (ft <sup>2</sup> )	Weight Empty (lb)	Buoyancy Force (lb)
1	1990	192	48	287	23.92	95.67	3400	18231
2	1450	139.5	48	208	17.33	69.33	2658	13104
3	1000	121	41	192	16.00	54.67	1760	9110
4	850	86	41	165	13.75	46.98	1440	7800
5	500	60	37	119	9.92	30.58	949	4486
6	325	60	30	119	9.92	24.79	597	2936
7	250	60	30	94	7.83	19.58	483	2235
8	150	60	24	84	7.00	14.00	314	1317
9	120	45.25	24	80	6.67	13.33	257	1047
10	120	-	54	30	-	11.25	260	1044

The values represented here are for anchorage of submerged tanks. The uplift is due to the water table pushing the tanks up when the water reaches the depth of the tanks.

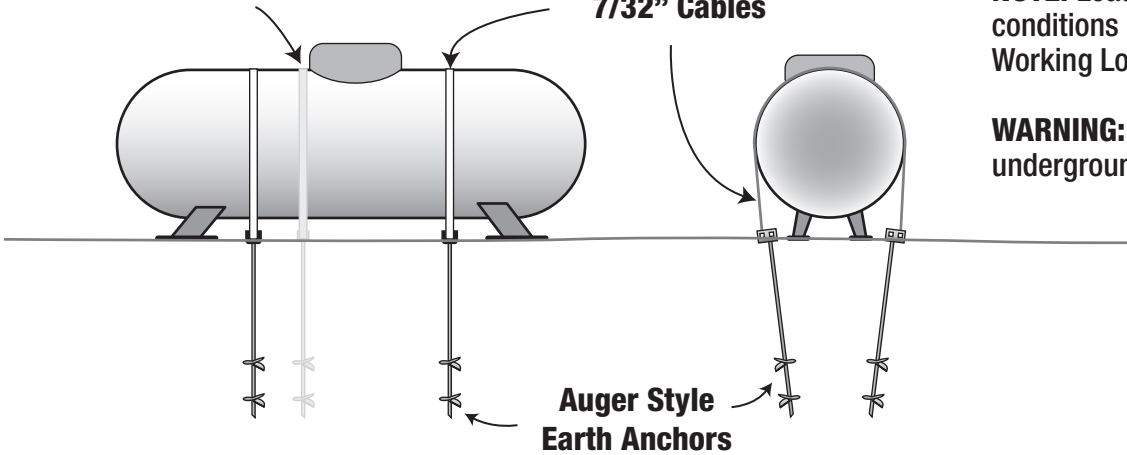
D909 - Rev. 8/1/19

Single straps should be placed as close to center of tank as possible

1-1/4" Strap or 7/32" Cables

**NOTE:** Loading for strap and cable conditions is based upon 3150 lb. Working Load Capacity.

**WARNING:** Always check for underground utilities before installing



**Strap:** 1-1/4" X .031 Galvanized Steel, Class B, Grade 1, 4725 Tensile Strength.

**Cable:** 7/32. 7 x 19 Galvanized Cable, 5600 lb. Breaking Strength, 2 Anchors Required for Each Strap or Cable.

Tank Number	Wind Anchorage*									Buoyancy Anchorage*		
	100 mph.	110 mph.	120 mph.	130 mph.	140 mph.	150 mph.	160 mph.	170 mph.	180 mph.	# Cables Required	# Straps Required	Anchor Pull Out
1	0	0(2)	0(2)	0(2)	1(2)	1(2)	2	2	3	6	6	1546 lbs.
2	0	0	0(2)	0(2)	1(2)	1(2)	2	2	3	5	5	1577 lbs.
3	0	0	0	1(2)	1(2)	1(2)	2	2	3	4	4	1359 lbs.
4	0	0	0	1	1(2)	1(2)	2	2	3	3	3	1540 lbs.
5	0	0	0	1	1	1(2)	2	2	3	2	2	1359 lbs.
6	0	0	1	1	1	1	2	2	3	1	1	884 lbs.
7	0	0	1	1	1	1	1(2)	2	3	1	1	1359 lbs.
8	0	1	1	1	1	1	1(2)	1(2)	2	1	1	816 lbs.
9	1	1	1	1	1	1	1	1	2	1	1	653 lbs.
10	0	1	1	1	1	1	1	1	1	1	1	653 lbs.

Values shown comply with Florida Building Code, 6th ed. and ASCE 7-10 (exp.C)

**NOTES:**

\* Engineering data based on weight of a empty tank.

(2) - 2 straps or cables recommended for stabilization on longer tanks in high winds.

Eye or mobile home anchors must have a minimum of 5/8" shaft.

Class 2 Soils require minimum of 30" anchor with (2) 4" disc.

Class 3 Soils require minimum of 34" anchor with (1) 6" disc.

Class 4A Soils require minimum of 48" anchor with (1) 6" disc.

Class 4B Soils require minimum of 60" anchor with (1) 6" disc.



MANUFACTURING INGENUITY

Manufactured Housing Division

605 Stonehill Drive SW, Atlanta, Georgia 30336

800-241-1806 • 404-344-0000 • www.tiedown.com

ISO 9001:2015 Certification

Intellectual property of TIE DOWN Inc. ©2018 TIE DOWN, Inc.

D909, Rev. 8/1/19