

Concrete Deadmen Anchors

Economical and Effective Anchoring

Highland Tank



Concrete Deadmen Anchors

Highland adds to our extensive product line by delivering pre-fabricated Concrete Deadmen Anchors (CDA) along with our high-quality steel storage and wastewater treatment tanks.

Deadmen Anchors are beams of reinforced concrete placed alongside the tank in the bottom of the excavation. The weight of the backfill on the Deadmen Anchors provides additional resistance to buoyancy forces acting on the tank.

Properly installed Deadmen Anchors, when used exclusively with Highland's Polyester Hold-Down Straps and supplied hardware, prevent tank flotation and cost less than a concrete bottom hold-down pad.

Best of all, there is no delivery charge for Concrete Deadmen Anchors when they are shipped on the same truck along with a Highland tank product!

Highland's pre-engineered concrete deadmen anchors work with our standard horizontal underground UL-58 tank products ranging from 500 to 50,000 gallons.

A limited number of Deadmen Anchors require the installation of an 8" thick grade-level reinforced concrete pad (as recommended by PEI/RP 100-05).

Deadmen Anchor recommendations assume that tanks are buried at least 36" deep and have at least one Tank Top Sump installed. They are designed to work with Highland's Polyester Hold-Down Straps. Other methods are readily available and should be specified by a licensed professional engineer.

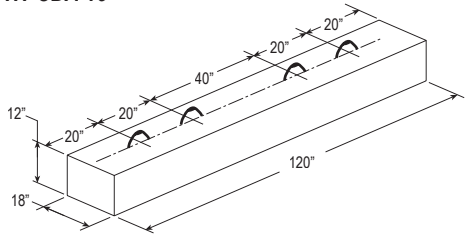
If your requirements are different, please forward details of the application to our engineering department who will perform an evaluation of your intended installation.

Standard Features

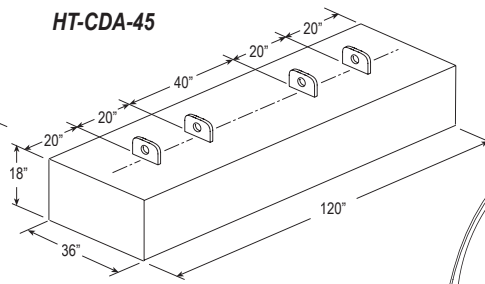
- Designed to work with standard underground storage tanks from 500 to 50,000 gallons.
- Utilize a 4,000 psi concrete mix reinforced with #4 rebar.
- Dimensions:
 - CDA-15: 120" L, 18" W, 12" H
 - CDA-45: 120" L, 36" W, 18" H
- Volume:
 - CDA-15: 15 cubic feet (approx.)
 - CDA-45: 45 cubic feet (approx.)
- Weight Each:
 - CDA-15: 2,200 pounds (approx.)
 - CDA-45: 6,500 pounds (approx.)

Concrete Deadmen Anchors can also be used with Highland's other standard underground installed products such as our Oil/Water Separators, Oil/Sand Interceptors, Solids Stormwater Interceptors, Passive Grease Interceptors and HighDRO™ Water Tanks.

**General Arrangement
HT-CDA-15**



HT-CDA-45



The diagram at right depicts a typical installation that employs Highland's Polyester Hold Down Straps and Concrete Deadmen Anchors. Steel cable and cable clamps are shown to illustrate one method of connecting the straps to the concrete deadman anchors. Other methods are readily available and should be specified by a licensed professional engineer.

Deadmen Anchors must be installed on both sides and along the full length of the tank. They must be positioned so the edges of the deadmen are aligned outside the tank "shadow;" outside the tank diameter and below the tank bottom.

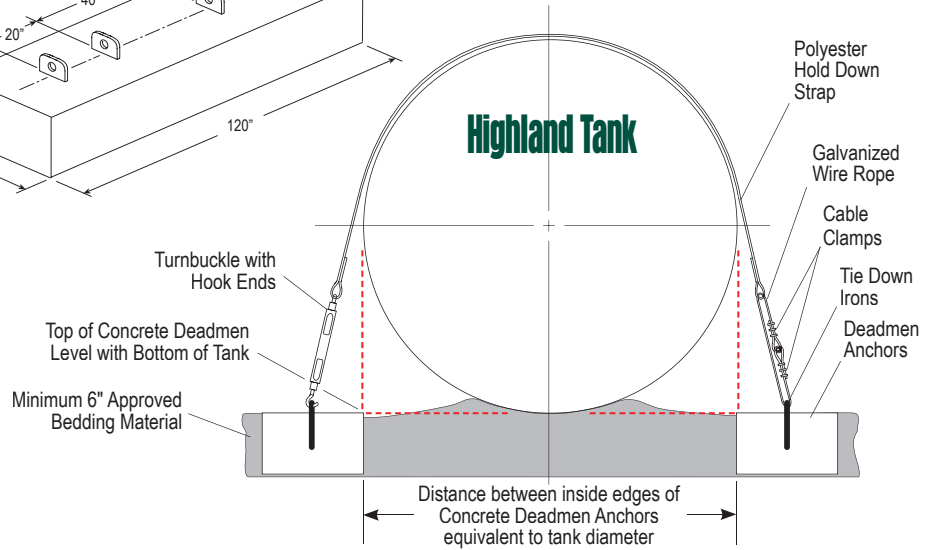


Table: Tank Volume, Tank Dimensions, Required Deadmen, and Required Straps

Tank Volume Gallons	Tank Dimensions Diameter	Tank Dimensions Length	Required Deadmen	Required Straps
500	4'-0"	5'-5"	2	2
1,000	4'-0"	10'-9"	2	2
1,000	5'-4"	6'-0"	2	2
1,500	5'-4"	9'-0"	2	2
2,000	5'-4"	12'-0"	2	2
2,500	5'-4"	15'-0"	2	2
3,000	5'-4"	18'-0"	2	2
4,000	5'-4"	24'-0"	4	4
4,000	6'-0"	19'-0"	4	4
4,000	8'-0"	10'-8"	2	2
5,000	6'-0"	23'-10"	4	4
5,000	8'-0"	13'-4"	2	2
6,000	6'-0"	28'-8"	6	6
6,000	8'-0"	16'-0"	2	2
8,000	8'-0"	21'-4"	4	4
*8,000	10'-0"	14'-0"	2	2
10,000	8'-0"	26'-8"	6	6
*10,000	10'-0"	17'-0"	4	4
12,000	8'-0"	32'-0"	6	6
*12,000	10'-0"	20'-6"	4	4
15,000	8'-0"	40'-0"	8	8
*15,000	10'-0"	25'-6"	4	4
*20,000	10'-0"	34'-0"	6	6
*20,000	10'-6"	31'-0"	6	6
*25,000	10'-6"	38'-9"	8	8
*30,000	10'-6"	46'-0"	10	10
†*40,000	12'-0"	47'-6"	10	10
†*50,000	12'-0"	59'-6"	12	12

*CDA-45 required. All calculations assume tanks are buried at least 36" deep, have at least one sump attached and will be installed exclusively with Highland's Polyester Hold-Down Straps. Contact Highland Tank for custom tank installation recommendations. Accuracy and/or correctness of tank installation is the responsibility of the Engineer of Record and the Installer.
 †These sizes currently must employ one of Highland's steel hold-down strap systems.



Please visit us at www.highlandtank.com

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