



Concrete Deadman Anchors

HT-1112

Now you can get prefabricated Concrete Deadman Anchors (CDA) at the same time we deliver our high-quality, steel, storage and process vessels.

Highland Tank's CDAs are beams of reinforced concrete used to counteract the buoyant forces acting on an underground vessel. Placed alongside the tank in the bottom of an excavation, they are secured in place using hold-down straps. The weight of the backfill on the CDAs provides additional resistance to those buoyant forces.

CDAs, when used exclusively with Highland's Polyester Hold-Down Straps and supplied hardware, typically cost less than a concrete bottom hold-down pad. Highland Tank's CDAs work with our standard horizontal underground tank products ranging from 500 to 60,000 gallons.

CDA recommendations assume that vessels are buried at least 36" deep and have only one tank top sump installed. Some installations may also require the installation of a grade-level reinforced concrete pad (Refer to PEI/RP 100).

Information supplied here is for planning purposes. Hold-down systems should be specified by a licensed professional engineer. Other hold-down methods are readily available.

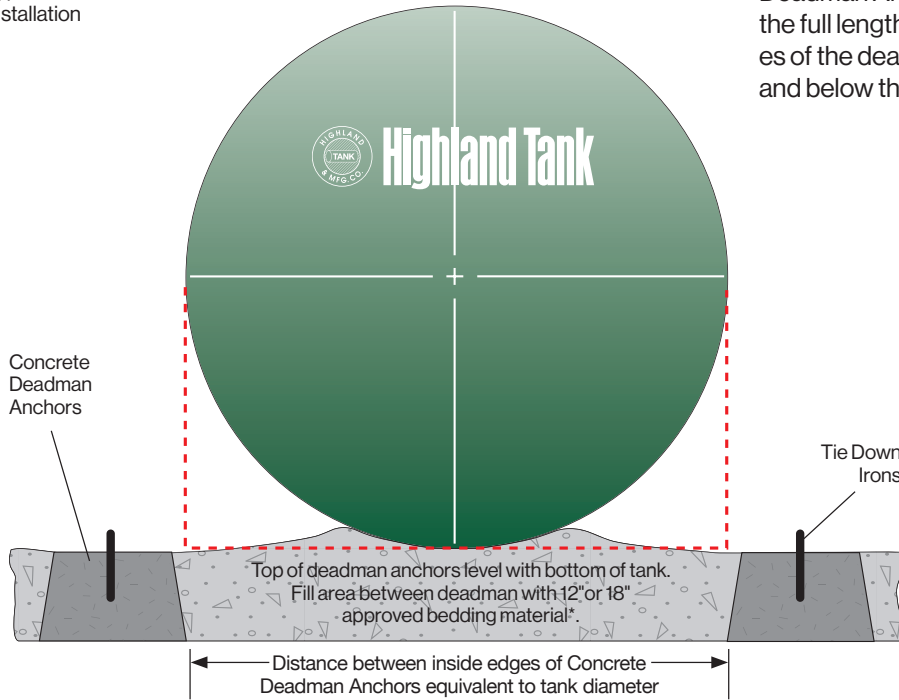
CDA Specifications:

- 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: 2,500 pounds (approx.)
 - CDA-45: 6,500 pounds (approx.)

Concrete Deadman Anchors can be used with all of Highland Tank's standard underground vessels such as Oil/Water Separators, Oil/Sand Interceptors, Passive Grease Interceptors and HighDRO® Water Tanks.

Anchor Details

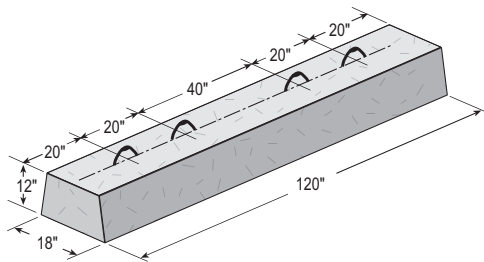
Typical Deadman Installation



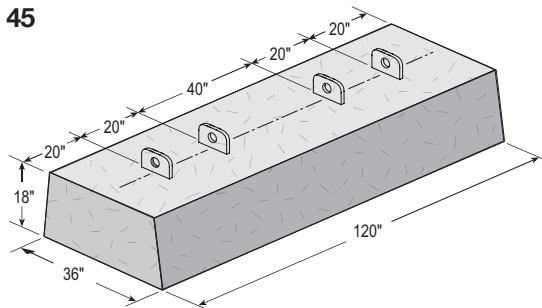
Deadman Anchors must be installed on both sides and along the full length of the tank. They must be positioned so the edges of the deadman are aligned outside the tank diameter and below the tank bottom.

Gallons	Highland Tank Vessel Information		Required Deadman
	Diameter	Length	
240	4'-0"	5'-5"	2
300	4'-0"	10'-9"	2
350	4'-0"	10'-9"	2
500	4'-0"	5'-5"	2
550	4'-0"	10'-9"	2
750	4'-0"	10'-9"	2
1,000	4'-0"	10'-9"	2
1,000	5'-4"	6'-0"	2
1,500	5'-4"	9'-0"	2
2,000	5'-4"	12'-0"	2
2,500	5'-4"	15'-0"	2
3,000	5'-4"	18'-0"	2
4,000	5'-4"	24'-0"	2
4,000	6'-0"	19'-0"	4
4,000	8'-0"	10'-8"	2
5,000	6'-0"	23'-10"	4
5,000	8'-0"	13'-4"	2
6,000	6'-0"	28'-8"	6
6,000	8'-0"	16'-0"	2
7,000	7'-0"	24'-4"	2
8,000	8'-0"	21'-4"	4
8,000	10'-0"	14'-0"	2
9,000	8'-0"	24'-0"	2
10,000	8'-0"	26'-8"	6
10,000	10'-0"	17'-0"	4
12,000	8'-0"	32'-0"	6
12,000	10'-0"	20'-6"	4
15,000	8'-0"	40'-0"	8
15,000	10'-0"	25'-6"	4
20,000	10'-0"	34'-0"	6
20,000	10'-6"	31'-0"	6
25,000	10'-6"	38'-9"	8
30,000	10'-6"	46'-0"	10
*40,000	12'-0"	47'-6"	10
*50,000	12'-0"	59'-6"	12
*60,000	13'-0"	60'-6"	12

CDA - 15



CDA - 45



Information supplied here is for planning purposes. Hold-down systems should be specified by a licensed professional engineer. Typically 10' diameter tanks and larger require CDA-45 deadman anchors. However, deadman anchor sizing is determined by buoyancy needs. Please consult Highland Tank.

*Polyester straps are not available for these sizes. Use one of the steel hold-down designs. Steel hold-down straps are available for all vessel sizes. Refer to HT-1063 for details. For all vessels 8'-0" in diameter and larger using steel hold-down straps, Highland Tank will supply one of the safety style designs.



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