CONTAINMENT SOLUTIONS

SPLIT STRAP ANCHOR SYSTEM

For Use with 6', 8', and 10' Diameter Single, Double, and Triple-Wall Fiberglass Underground Tanks

INSTALLATION & SPECIFICATION

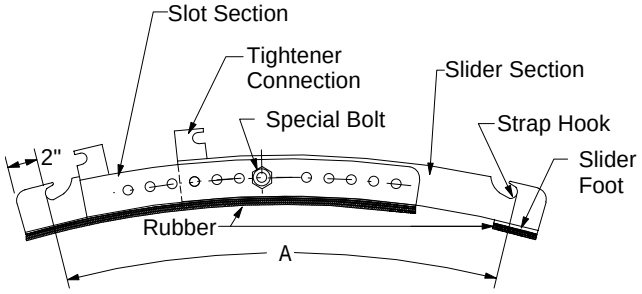
1.0 GENERAL DESCRIPTION

Containment Solutions can provide a split strap anchor system (patent pending) for 6', 8', and 10' diameter single, double, and triple-wall underground fiberglass storage tanks. The split strap anchor system provides a method to attach and tighten the tank anchor straps to deadmen or to an anchor pad without entry into the excavation. The split strap anchor system is safer and less costly than traditional methods that require shoring or other hole stabilization techniques to allow entry into the excavation.

The split strap anchor system can be shipped with your tank. Each tank anchor location will require 2 fiberglass straps (hook by eye) and a split strap take-up fixture. The straps can be attached to CSI supplied deadmen modified with additional shackle hardware at each deadman eyebolt (only available for 6' and 8' diameter tanks), or to customer supplied deadmen or anchor pads with embedded anchor points. One multiple use tightener will also be required to tighten the assembly onto the tank.

2.0 SPECIFICATIONS

Take-up Fixture:

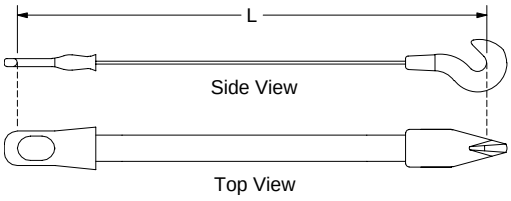


Dimensions:

Tank Diameter	Min A	Max A	Weight
6'	26"	43"	16 lbs.
8'	26"	43"	16 lbs.
10'	26"	43"	16 lbs.

Strap:

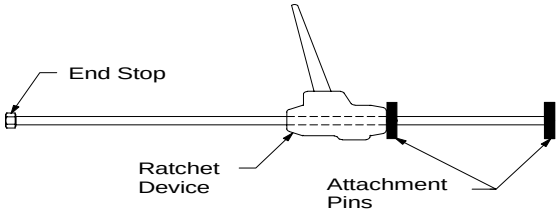
Each strap shall be capable of withstanding a maximum load of 25,000 lbs.



Dimensions:

Tank Diameter	Strap L
6'	64 5/8"
8'	89 1/2"
10'	128 3/8"

Tightener:



3.0 LIMITATIONS

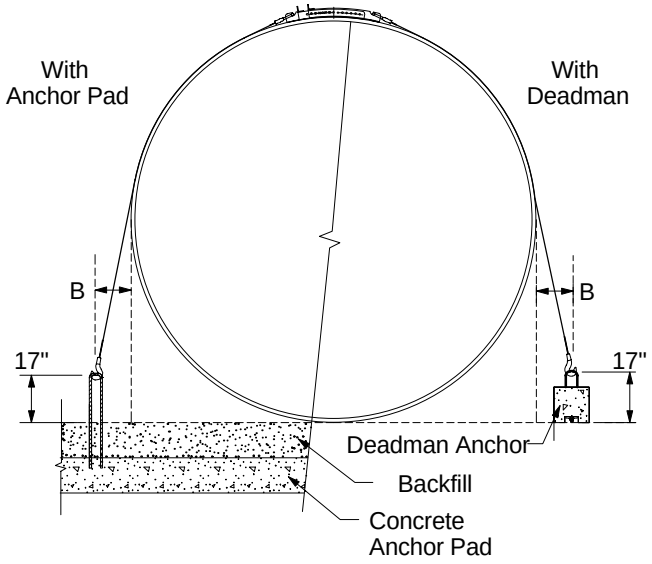
This specification is limited to only 6', 8', and 10' diameter single, double, and triple-wall underground fiberglass tank models installed in accordance with this specification and Containment Solutions Pub. No. INST 6001 (Fiberglass Underground Storage Tank Installation Instructions).

Note: The rubber attached to the bottom of the take-up assembly must remain in place between the take-up assembly and the rib at all times.

4.0 INSTALLATION

Anchor Point Position

Proper positioning of the anchor point for the hook end of the strap is critical. If the anchor point is incorrectly positioned, the split strap anchor system may not reach over the tank from one anchor point to the other. The take-up assembly will adjust a total of +/- 7" to allow for variations in tank and anchor point placement. The take-up assembly is sized to fit the tank rib diameter. An assembly designed for one tank diameter cannot be used on a different tank diameter.



The anchor hook point must be 17" above the bottom of the tank and positioned horizontally per the following table:

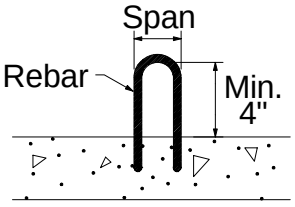
Tank Diameter	Dimension B Distance from Tank Shadow to Anchor Point
6'	6" to 12"
8'	6" to 12"
10'	9" to 15"

The anchor hook point on CSI supplied deadmen (only available for 6' and 8' diameter tanks) is 17" above the bottom of the deadman and will be at the correct position if the deadman is installed with the bottom of the deadman level with the bottom of the tank.

Anchor Point Design

The anchor point must be designed to allow the strap hook end to fit into the anchor point easily. If the anchor point rebar size, span, and interior height does not conform to the following table, the hook may not fit into the anchor point. Containment Solutions Pub. No. INST 6001 provides more information on anchor point design requirements.

Tank Dia.	Rebar Size**	
	Min	Max
6'	#6	#10
8'	#8	#10
10'	#10	#10



Rebar Size	Rebar Span*
#6	4½"
#8	6"
#10	7½"

**Note: Wider or narrower span will weaken anchor below required strength.*

***Note: Rebar larger than #10 will not fit into the strap hook end.*

Installation Steps

Follow all instructions in Containment Solutions Pub. No. INST 6001on tank strapping with the following additional instructions:

a. Place deadmen or anchor pad in hole so anchor hook point is 17" above the tank bottom.
b. Position personnel on tank top. Follow all applicable safety requirements.
c. Dangle the hook end of a strap over the tank side and hook it into the anchor point. A person standing on an adjacent tank or outside of the hole with a long stick will be required to assist in positioning the hook into the anchor point.
d. Hook the eye end of the strap into the slotted section of the strap take-up assembly and set the assembly centered onto the appropriate rib. Keep tension on the strap so it does not unhook from the anchor point.
e. Repeat step c. on the other side of the tank.
f. Hook the eye end of the strap into the slider section of the strap take-up assembly and set the slider into the slotted section already on the tank rib. Pin the two pieces together using the supplied bolt (5/8" diameter ASTM-A490 grade bolt with minimum 1-1/4" long smooth shank).
g. Attach the tightener to the take-up assembly and remove the bolt. (Threaded rod with nuts and washers may be used in place of the tightener.)
h. Ratchet the take-up assembly until the straps are snug without causing tank deflection. Measure tank deflection by measuring tank diameter before and after snugging straps. DO NOT OVERTIGHTEN. (See special instructions of Fluid Containment Pub. No. INST 6001 section on "Strapping"). The assembly pieces will both slide on top of the rib until the assembly is tight. If the rubber will not slide on the rib surface, soap the rib surface and continue.
i. Pin the take-up assembly pieces together through the aligned holes using the bolt and washer supplied with the assembly (washer under the bolt head). Screw the nut onto the bolt to the end of the threads (the nut will not be tight against the take-up assembly). This will insure that the smooth (non-threaded) section of the bolt is under load.
j. Repeat for all anchor ribs. All anchor straps must be uniformly tightened.
k. Protect all steel components from corrosion.

5.0 WARRANTY

Straps and the take-up assembly will meet our published specifications and will be free from material defects in materials and workmanship for a period of one (1) year following date of original delivery by Containment Solutions.

Our liability under this warranty shall be limited to, at our option, (i) repair of the defective unit, (ii) delivery of a replacement unit to the point of original delivery, or (iii) refund of the original purchase price, and we shall not be liable for any labor, other installation costs, indirect or consequential damages or other damages in connection with such equipment. The foregoing constitutes our exclusive obligation and we make no express or implied warranties, or any warranty or merchantability or fitness for any particular purpose whatsoever, except as stated above.

Failure to install the split strap anchor system in accordance with these instructions and the Containment Solutions installation instructions (publication number INST 6001) will void the tank warranty.