



TECHNICAL BULLETIN: HDK-2 HOLD DOWN KIT

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Striem 57-gallon through 250-gallon Oil Separators, Solids Interceptors, and Chemical Waste Tanks are designed to be installed above-grade or below-grade. When installing the unit below-grade, HDK-2 anchor kits are used to offset buoyancy forces, when required.

NOTE:

Hold down kits are only needed for installations in a high-water table or flood-prone area, not on all installations.

The Striem HDK-2 anchor kit is available for all Striem 57-gallon through 250-gallon tank models. They have a 24" x 16-5/8" footprint and are made from 11-gauge series 304-2B stainless steel. Installation details can be found in the product-specific Installation and Operation Manual.

Striem anchor kits leverage the weight of the backfill directly over the anchor kit. The calculations below, show that the weight of backfill over the anchor plate, in addition to the weight of backfill over the unit, is more than sufficient to offset the net buoyant force of the empty unit.

The calculations below assume the unit is buried at the minimum burial depth. As burial depth increases, so does the factor of safety.

HDK-2 BUOYANCY CALCULATIONS:

Tank Capacity (Gallons)	57	110	250
Buoyant Volume (ft ³)	11	20	40
Buoyant Force (lbs)	686.4	1,248	2,496
Weight of Empty Unit (lbs)	92	120	230
Net Buoyant Force (lbs)	594.4	1,128	2,266
Average Density of Backfill (lbs/ft³)			
Average Density of Backfill (lbs/ft ³)	100	100	100
Average Density of Concrete (lbs/ft³)			
Average Density of Concrete (lbs/ft ³)	150	150	150
Volume of Backfill above Unit and Anchor Plates (ft³)			
Volume of Backfill above Unit and Anchor Plates (ft ³)	9.5	15.5	20.1
Volume of Concrete above Unit and Anchor Plates (ft³)			
Volume of Concrete above Unit and Anchor Plates (ft ³)	5.4	6.6	22.3
Weight of Backfill above Unit and Anchor Plates (lbs)			
Weight of Backfill above Unit and Anchor Plates (lbs)	946.7	1,546.5	2,008.9
Weight of Concrete above Unit and Anchor Plates (lbs)			
Weight of Concrete above Unit and Anchor Plates (lbs)	810.7	995.2	3,351
Total Weight above Unit and Anchor Plates (lbs)			
Total Weight above Unit and Anchor Plates (lbs)	1,757.4	2,541.7	5,359.9
Factor of Safety			
Factor of Safety	3.0	2.3	2.4

* Please refer to product specification sheet for tank capacity.

