



steel hold-down straps



multiple styles available

**HT-1063**

## PRODUCT DETAILS

Highland Tank Hold Down Straps are primarily designed to secure storage and process vessels to permanent anchoring in underground installations. They can also be used in aboveground applications.

Even when completely full of liquid, steel vessels may float if groundwater is present in the area. Straps are designed to work in conjunction with adequately sized concrete anchoring to counteract the tank's natural buoyant forces.

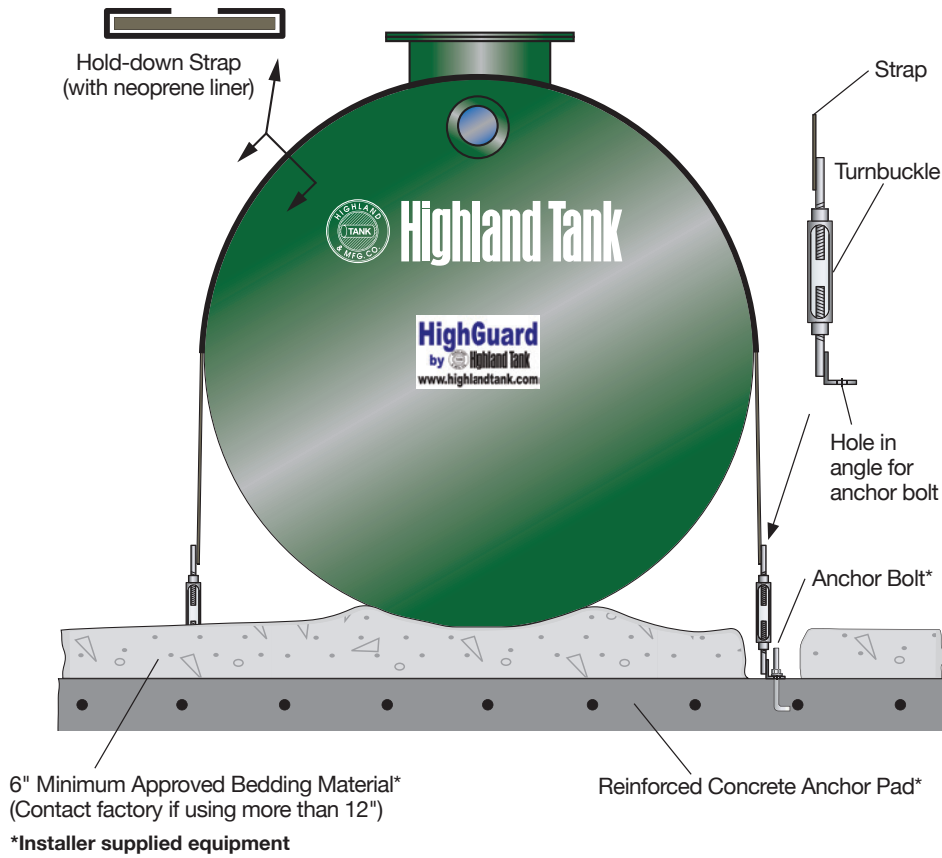
### Highland Strap Designs

Highland manufactures Steel Hold Down Straps in three different designs to accommodate specific installation requirements.

- Standard
- Safety
- Dead-Man

For safety and shipping purposes, on tanks larger than 8'-0" in diameter, Highland Tank will only supply safety style steel hold-down straps.

Coated mild-carbon steel is used in the fabrication of all steel strap designs. Stainless or galvanized steel are also available. Each strap design uses adjustable turnbuckles as the tensioning system for securing tanks in place. Neoprene rubber liners for electrical isolation and tank protection are supplied with all steel hold-down straps.



### Standard Hold Down Strap

Manufactured from mild-carbon steel with an adjustable turnbuckle and angle clip on each end, they are a reliable choice for securing tanks to concrete anchors either underground or aboveground. Neoprene rubber liners for electrical isolation and tank protection are supplied with all steel hold down straps.

Standard straps are sized so that when the turnbuckles are completely closed, there will be six (6") inches between the anchor pad and the tank bottom. Turnbuckles can be opened to allow up to twelve (12") inches of clearance.

Maximum diameter for standard steel straps is 10'-6".

### Standard Strap Installation

Standard one-piece hold-down straps are not available for tanks above 8' diameter. Refer to specific installation instructions for straps supplied.

Standard hold-down straps are installed after the vessel has been placed and supported by backfill to prevent movement.

Prepare straps with neoprene liners at a convenient location. Secure liners to straps with non-metallic tape to prevent shifting during installation.

Open turnbuckles to maximum capacity for fitting to vessel. Confirm strap locations on approved drawing prior to installation and place straps accordingly.

Straps must be mechanically lowered into

position being careful to prevent any sharp edges of straps from scratching the tank surface. If scratches do occur, repair according to manufacturer's instructions.

Lower strap into excavation positioning angle plate over anchor bolt. Secure strap in place with supplied washers and nuts.

Secure the vessel in place by tightening turnbuckles evenly being careful to prevent vessel from turning or rolling from side to side. This may require multiple personnel or multiple trips from side to side.

Recheck tightness of all straps prior to backfilling excavation.



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