

TW™-Series Septic Tanks General Installation Instructions



Before You Begin

Infiltrator Systems' TW-Series Septic Tanks must be installed according to state and/or local regulations, which supercede the manufacturer's installation instructions. If unsure of the installation requirements for a particular site, contact the local health department or permitting authority.

Visually inspect the tank for damage before installation.

While illustrations depict models TW-900™ through TW-1500™, these instructions also apply to the TW-375™.

Materials and Equipment Needed

- | | |
|---|---|
| <input type="checkbox"/> TW-Series Tank | <input type="checkbox"/> Excavator |
| <input type="checkbox"/> Manhole lids (included) | <input type="checkbox"/> Shovel |
| <input type="checkbox"/> 6 bolts per lid (included) | <input type="checkbox"/> Level |
| <input type="checkbox"/> Rubber gaskets (included) | <input type="checkbox"/> 5" (127 mm) or 5 1/4" (133 mm) diameter hole saw |
| <input type="checkbox"/> Inlet/outlet tees* | <input type="checkbox"/> Utility knife |
| <input type="checkbox"/> Tape measure | <input type="checkbox"/> Pipe glue |
| <input type="checkbox"/> Pipe, risers, etc. | <input type="checkbox"/> Socket wrench |
| <input type="checkbox"/> Socket wrench | <i>*may be included</i> |

Installation Site Selection

1. Avoid installation of the tank in vehicular traffic areas. The tank is designed for non-traffic applications.

2. The maximum vehicle load is a 4,500-pound axle load at a soil cover depth of 6 to 48* inches (152 to 1,219 mm).

**18-inch max. burial depth in Florida; 36-inch max. burial depth in North Carolina, Massachusetts, and Oregon.*

Excavating and Preparing the Site

1. The excavation width and length should be 12 to 18 inches (304 to 457 mm) larger than the tank on each side.

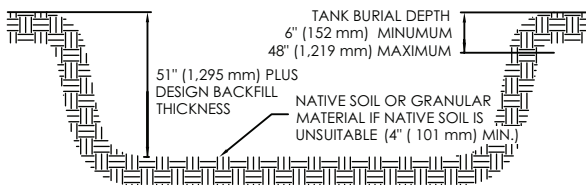
2. Excavate to account for 51 inch (1,295 mm) height of tank, 4 inches (101 mm) of bedding (if required), and backfill thickness (permissible cover depth is 0.5 to 4 feet (152 to 1,219 mm) of soil).

3. Inspect bottom of excavation to verify suitability of native soil for tank installation. Clay soil and large, protruding, or sharp stones or other similar objects that may damage tank are not suitable.

4. The tank may be bed either in suitable native soil or a minimum 4-inch (101 mm) layer of pea stone, sand, gravel, or other similar granular material having particles less than 3 inches in diameter.

5. For clay soil, see "Installing in Clay Soil" section.

6. Create a uniform, level bedding surface to ensure that the bottom of tank is uniformly supported at the base of the excavation.



Installing the Tank

1. If the tank inlet and outlet penetrations are not drilled, drill holes (see Inlet and Outlet Hole Locations section) using the following saw sizes:

- SDR 35 pipe - 5-inch (127 mm) hole saw
- Schedule 40 pipe - 5 1/4-inch (133 mm) hole saw

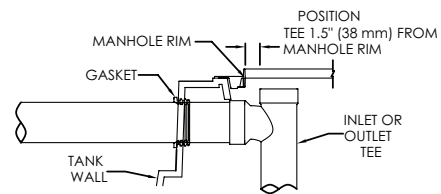
2. Install the rubber gaskets at the inlet and outlet.

3. Slide the tees* through the gaskets.

**For North Carolina, the inlet pipe shall be a straight pipe with no tee.*

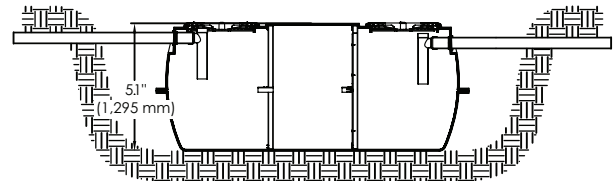
Note: 6-inch (152 mm) drop required for IL inlet tees.

4. Horizontally position the tee as shown in the detail below.



5. Using lifting lugs, lower tank into excavation with tees in place.

6. Install lid, inlet and outlet piping, and risers (see Installing the Riser section) as necessary.



Backfilling the Tank (Non-clay Soil)

Note: The Infiltrator TW-Series Tanks do not require filling with water prior to backfill placement.

1. Backfill with suitable native soil. Suitable soil shall be free-flowing and should not have stones greater than 3 inches (76 mm) in diameter or clods that do not break apart during placement and compaction. Backfill must be capable of filling the spaces between tank ribs. If soil is unsuitable, see "Installing in Clay Soil" section.

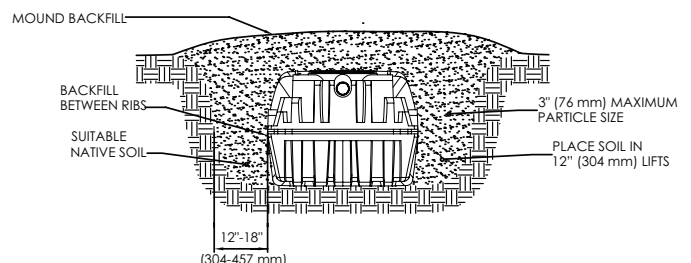
2. Do not backfill top of tank before sidewalls are completely backfilled.

3. Place backfill around the four sidewalls in a progressive, alternating manner, so that the backfill height along the four sidewalls is maintained within a 12-inch (304 mm) tolerance.

4. Continue to place backfill along the sidewalls in 12-inch (304 mm) lifts. Place backfill between the ribs on the sidewalls such that the space between the ribs is completely filled with soil.

5. Compact backfill material either by hand tamping or mechanical compactor. Compact each lift prior to placement of next lift. Compact backfill from tank walls to excavation sidewalls.

6. Complete backfilling and grade the area.



Failure to comply with these installation instructions may invalidate the warranty.

Supplemental Installation Procedures

Installing Under Shallow Groundwater Conditions

If the seasonal high groundwater table has the potential to rise 18 inches (457 mm) or more above the tank bottom, anti-buoyancy measures are warranted. Possible anti-buoyancy measures include:

1. Option 1 - Physically Secure Tank

- Secure the tank with a commercially available or field-constructed anchoring system.
- The anchoring system may consist of a strap system in conjunction with anchors, a ballast connected to the tank, or other suitable means.
- For a strap system, the product used must not have the potential to cut into the polyethylene tank wall. Protective padding may be required for steel cable strap systems. Nylon, polyester, and polypropylene straps are acceptable.
- A ballast shall be constructed using reinforced, cast-in-place concrete. Cast ballast around the tank to provide sufficient downward force to prevent displacement under anticipated groundwater conditions.

2. Option 2 - Long-Term Groundwater Control

- If site conditions are amenable to construction of a groundwater control system and regulatory separation distances can be achieved, groundwater control can be used. Possible solutions include:

i) *Underdrain* – Bed and backfill the tank with clean pea gravel or equivalent pervious material. Install piping in the bedding to convey collected groundwater by gravity flow to a downgradient location away from the tank and drainfield.

ii) *Interceptor trench* - Construct an interceptor trench upgradient of tank to continuously maintain a groundwater table no higher than 18 inches (457 mm) above the bottom of tank. Install piping within the trench to convey collected groundwater to a downgradient location away from tank and drainfield.

- Groundwater control is not applicable if prohibited by regulation or law, or tank location is subject to flooding.

3. Short-Term Groundwater Control

- During tank installation, construction of a temporary dewatering well may be necessary to maintain dry conditions.
- Expand a portion of the excavation horizontally and vertically to create an area for groundwater flow and collection.
- Pump collected groundwater out of the dewatering well to maintain dry conditions within the excavation.

4. Contact Infiltrator Systems' Technical Services Department for assistance at 800-221-4436.

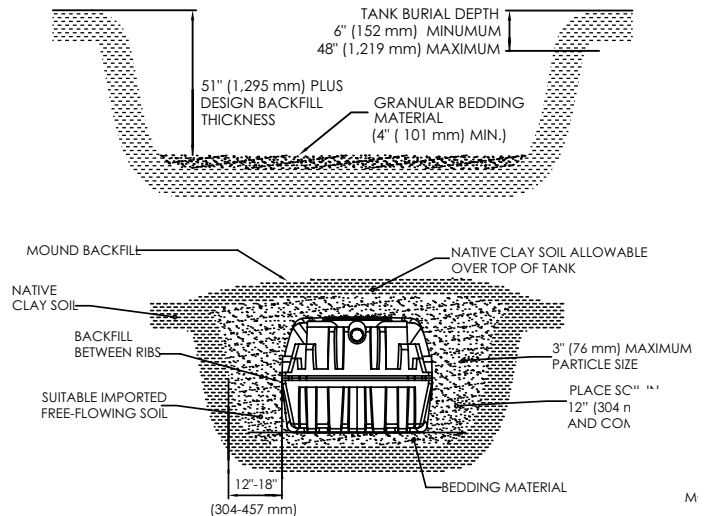
Installing in Clay Soil

1. Do not bed or backfill the tank using clay soil. Use imported suitable soil that is free-flowing and does not have stones greater than 3 inches (76 mm) in diameter or clods that do not break apart during placement and compaction. Imported backfill must be capable of filling the spaces between tank ribs.

2. Place and compact suitable backfill as instructed under "Backfilling the Tank (Non-clay Soil)."

3. Prepare bedding as instructed under "Excavating and Preparing the Site."

4. A minimum cover of 6 inches (152 mm) of suitable soil must be placed over the top of the tank. Clay soil may be placed above imported soil to finish grade elevation.



Installing the Riser

1. Compatible risers include 24-inch (609 mm) diameter products from Polylok®, Inc., Tuf-Tite® Corporation, EZ SET, and IPEX (Ultra Rib), in addition to 24-inch (609 mm) diameter corrugated pipe.

2. Oregon watertightness testing to include filling with water at least 2 inches above riser connection, with no more than 1 gallon leakage per 24 hours, per OAR 340-073-0025(3).

Note: Installation instructions for a watertight connection of the riser to the TW-series tank are available upon request.

Installing Miscellaneous Appurtenances and Equipment

Installation of other products with TW-series tanks, such as electrical conduit and wiring, pumps, water level control equipment, valves, siphon equipment, etc. shall be in accordance with product manufacturer's instructions and compliant with applicable state or local rules and regulations. Where possible, appurtenances shall be installed to facilitate maintenance and repair access via manhole openings.

General Specifications

- Failure to comply with installation instructions may void warranty.
- Prior to ground disturbance, check for subsurface obstructions and utilities in conformance with local requirements.
- Tanks are only designed for installation underground.
- Operating water temperature shall be less than 140° F.
- Tanks are not fire resistant. Store away from ignition sources.
- Tanks are not suitable for potable water storage applications.
- Tanks are recommended for use as septic, rainwater/stormwater storage, and pump tanks only.

Table 1: TW-Series Polyethylene Tank Nominal Volume Chart

Height ¹ (in)	Total Liquid Volume in Tank at Indicated Height									
	TW-375		TW-900		TW-1050		TW-1250		TW-1500	
	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters
0	0	0	0	0	0	0	0	0	0	0
1	3	12	10	37	11	43	14	52	17	64
2	8	31	21	81	25	94	30	114	37	139
3	15	57	41	155	47	180	57	217	70	265
4	22	85	62	234	72	272	87	328	106	401
5	30	115	83	315	97	366	116	441	143	540
6	39	146	105	397	122	461	147	555	180	680
7	47	179	127	480	147	557	177	670	217	821
8	56	213	149	564	173	654	208	787	254	963
9	66	248	172	649	199	753	239	904	292	1,107
10	75	284	194	735	225	852	270	1,023	331	1,251
11	85	320	217	822	251	952	302	1,143	369	1,397
12	94	357	240	910	278	1,053	334	1,263	408	1,544
13	104	395	264	999	305	1,155	366	1,385	447	1,692
14	114	433	287	1,088	332	1,258	398	1,508	486	1,841
15	125	472	311	1,178	360	1,362	431	1,631	526	1,991
16	135	510	335	1,270	387	1,467	464	1,756	566	2,143
17	145	550	360	1,362	415	1,572	497	1,882	606	2,295
18	157	593	384	1,454	444	1,679	530	2,008	647	2,448
19	168	637	409	1,548	472	1,786	564	2,135	687	2,602
20	180	681	434	1,642	500	1,894	598	2,263	728	2,758
21	191	724	459	1,739	530	2,005	633	2,394	770	2,916
22	203	768	486	1,838	560	2,118	668	2,528	813	3,078
23	214	812	512	1,939	590	2,233	704	2,665	857	3,242
24	225	852	540	2,044	621	2,352	741	2,805	901	3,410
25	235	891	566	2,144	652	2,467	777	2,940	944	3,574
26	246	930	592	2,241	681	2,578	811	3,071	986	3,732
27	256	968	617	2,335	710	2,686	845	3,199	1,027	3,887
28	266	1,006	642	2,429	738	2,793	878	3,325	1,067	4,040
29	276	1,044	666	2,521	766	2,899	912	3,451	1,108	4,193
30	285	1,080	690	2,613	794	3,005	945	3,577	1,148	4,345
31	295	1,116	714	2,705	821	3,109	978	3,701	1,188	4,495
32	304	1,152	738	2,794	849	3,212	1,010	3,823	1,227	4,644
33	313	1,186	762	2,883	875	3,314	1,042	3,944	1,266	4,791
34	322	1,219	785	2,970	902	3,414	1,074	4,064	1,304	4,936
35	331	1,252	807	3,056	928	3,514	1,105	4,182	1,342	5,080
36	339	1,283	830	3,142	954	3,612	1,136	4,299	1,379	5,222
37	347	1,313	852	3,225	980	3,708	1,166	4,414	1,417	5,362
38	355	1,342	873	3,306	1,004	3,801	1,195	4,525	1,453	5,498
39	362	1,370	894	3,383	1,028	3,891	1,224	4,633	1,488	5,631
40	369	1,396	916	3,467	1,053	3,987	1,254	4,746	1,525	5,772
41	375	1,421	933	3,533	1,074	4,066	1,280	4,844	1,556	5,890
42	382	1,445	953	3,607	1,097	4,151	1,307	4,947	1,589	6,017
43	388	1,467	972	3,678	1,119	4,235	1,334	5,048	1,622	6,141
44	393	1,488	990	3,748	1,140	4,316	1,360	5,146	1,654	6,262
45	398	1,507	1,007	3,811	1,160	4,390	1,383	5,236	1,683	6,372
46	403	1,525	1,020	3,861	1,175	4,449	1,403	5,309	1,708	6,464
47	408	1,543	1,031	3,904	1,189	4,501	1,420	5,375	1,729	6,546
48	412	1,560	1,040	3,935	1,199	4,537	1,431	5,417	1,743	6,598
49	415	1,573	1,055	3,994	1,215	4,599	1,448	5,481	1,762	6,670

Note: Height measured from inside surface at bottom of corrugation in tank.

Inlet and Outlet Hole Locations

Drill height markings are provided on the Infiltrator TW-900, TW-1050, TW-1250, and TW-1500 to serve as a guide for inlet and outlet hole locations. Markings "A" (lower) and "B" (upper) are located at the inlet end. *Note: holes may be drilled at the end or side inlet and outlet locations.* Markings "C" (lower), "D" (middle), and "E" (upper) (TW-900 only) are located at the outlet end. The centering symbol (resembling a dimple) next to the letter indicates the centerpoint location for the hole saw. The pilot drill bit on the hole saw should be positioned on the centering symbol to properly align the hole saw.

The drill height markings below are provided to set the inlet and outlet invert heights based on state and/or local regulations. The chart below provides the proper inlet and outlet drill points. Note that state, provincial and local regulatory requirements take precedence over the information provided in the table below.

State or Province	Inlet Drill Location	Outlet Drill Location	Invert Drop (in) [mm]	Inlet Invert Height ² (in) [mm]	Outlet Invert Height ² and Liquid Level (in) [mm]
DE, FL ¹ , IA, MA, ON	A	D	2 [51 mm]	42 [1,067 mm]	40 [1,016 mm]
AR ² , CA, CO, CT, ID, IN ¹ , KS, KY, MO, MT, ND, PA, SD, TX, VT, WV	B	C	3 [76 mm]	42.75 [1,086 mm]	39.75 [1,010 mm]
All Others	A	C	2.25 [57 mm]	42 [1,067 mm]	39.75 [1,010 mm]

Notes:

1. Florida, Indiana, and Oregon tanks are factory drilled.
2. Arkansas tanks must be drilled by the distributor.
3. Invert heights are measured from the interior surface at the bottom of the tank.

**INFILTRATOR SYSTEMS, INC. ("Infiltrator")
INFILTRATOR® TW™-SEPTIC TANK LIMITED WARRANTY**

FIVE (5) YEAR MATERIALS AND WORKMANSHIP LIMITED WARRANTY

(a) This limited warranty is extended to the end user of an Infiltrator TW™ Septic Tank. A Septic Tank manufactured by Infiltrator, when installed and operated in accordance with Infiltrator's installation instructions and local regulation by a licensed installer, is warranted to you: (i) against defective materials and workmanship for five (5) years after installation. Infiltrator will, at its option, (i) repair the defective product or (ii) replace the defective materials. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Septic Tank.

(b) In order to exercise its warranty rights, you must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect.

(c) YOUR EXCLUSIVE REMEDY WITH RESPECT TO ANY AND ALL LOSSES OR DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER SHALL BE SPECIFIED IN SUBPARAGRAPH (a) ABOVE. INFILTRATOR SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, HOWEVER OCCASIONED, WHETHER BY NEGLIGENCE OR OTHERWISE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

(d) THIS LIMITED WARRANTY IS THE EXCLUSIVE WARRANTY GIVEN BY INFILTRATOR AND SUPERSEDES ANY PRIOR, CONTRARY, ADDITIONAL, OR SUBSEQUENT REPRESENTATIONS, WHETHER ORAL OR WRITTEN. INFILTRATOR DISCLAIMS AND EXCLUDES TO THE GREATEST EXTENT ALLOWED BY LAW ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FINESSE FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. NO PERSON (INCLUDING ANY EMPLOYEE, AGENT, DEALER, OR REPRESENTATIVE) IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY CONCERNING THIS PRODUCT, EXCEPT TO REFER YOU TO THIS LIMITED WARRANTY. EXCEPT AS EXPRESSLY SET FORTH HEREIN, THIS WARRANTY IS NOT A WARRANTY OF FUTURE PERFORMANCE, BUT ONLY A WARRANTY TO REPAIR OR REPLACE.

(e) YOU MAY ASSIGN THIS LIMITED WARRANTY TO A SUBSEQUENT PURCHASER OF YOUR HOME.

(f) NO REPRESENTATIVE OF INFILTRATOR HAS THE AUTHORITY TO CHANGE THIS LIMITED WARRANTY IN ANY MANNER WHATSOEVER, OR TO EXTEND THIS LIMITED WARRANTY.

CONDITIONS AND EXCLUSIONS

There are certain conditions or applications over which Infiltrator has no control. Defects or problems as a result of such conditions or applications are not the responsibility of Infiltrator and are NOT covered under this warranty. They include failure to install the Septic Tank in accordance with instructions or applicable regulatory requirements or guidance, altering the Septic Tank contrary to the installation instructions and disposing of chemicals or other materials contrary to normal septic tank usage.

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of a Septic Tank should contact Infiltrator's corporate headquarters in Old Saybrook, Connecticut, prior to such purchase to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of a Septic Tank.



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