

ROTH RMT Certified Installer Training




TANKS FOR THE
NEXT GENERATION



ROTH RMT Certified Installer Training Objectives

- Differentiate the Roth tank, manufacturing process and features from other poly tanks
- Inform installers on the proper methods by which to configure and plumb Roth tanks
- Train installers on the importance of installation, different techniques, materials and DO's and DON'Ts of a proper installation
- Answer questions, objections, and perceptions regarding Roth poly tanks

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- Extrusion descends from tooling
- Air is blown into the hot extrusion to keep it open
- Wall thickness is computer controlled to accommodate stretch and desired material distribution throughout vessel

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- Sideview of machine
- Note mold change in upper left hand corner of slide
- 345 tons of materials, mechanical equipment and controls used to build machine
- 1000 pound shot – largest in the world by over 250 pounds

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- Material handling system
- Pneumatic conveyance of resin to blending system
- State of the art process and controls
- No air, water or solid waste discharge as a result of the process

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- Post mold fixturing of tanks
- Shapes tank during final cooling
- Minimizes differential shrinkage
- Simulates compacted backfill purpose along sidewalls
- Note arched roof

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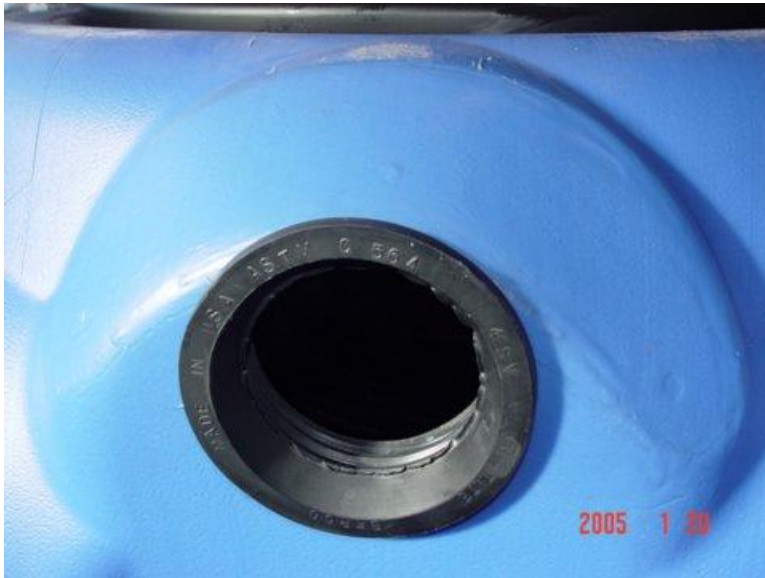
- Warning sticker placed on every single tank at inlet end
- Empty tank
- Set on compacted bed
- Support haunches
- Compact backfill
- EMPTY, BED, HAUNCH, COMPACT
- No clay!

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- A standard 5" hole saw is used for cutting inlet and outlet ports
- FL and OR tanks are predrilled at factory
- All states and provinces use A dimples except NE, IL and AZ
- Use ONLY a hole saw
- No sawzalls!

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- Proper grommet installation
- Note that grommet is flat against tank
- Use non-petroleum lubricant to stab pipe into grommet (dish soap works well)
- Work pipe in at an angle and bevel if desired
- Do not attempt to stab pipe straight in

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- Add bedding material to excavation and spread evenly
- Sand, fine gravel, stone dust, and other fine materials make ideal bedding
- Native material (if used) must be carefully worked, leveled and compacted
- DO NOT belly out excavation by over-digging

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- Ideal bed prepared for tank
- Note uniform distribution of material
- The compacted bed supports the belly of the tank, particularly when it is filled with water
- A poorly prepared bed will allow to belly of the tank to sag and the roof to squat causing riser/lid lean

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- Gravel is added along the tank sidewalls
- Note the gravel under the haunch of the tank, cradling the tank in the excavation
- Rod in material with shovels, shovel handles, etc., to ensure support of the haunch
- Sand is best “floated” or washed in with water if possible

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- After getting material under the haunch of the tank, begin backfilling along sidewalls
- Level and compact material in 6" lifts as you go
- Mechanical compactors are ideal for most materials
- Failure to compact will allow excessive expansion of sidewalls

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- Note that this placement of material fills all corrugations and voids
- Continue to spread material evenly, compacting as you go
- Compaction of sidewall backfill in particular provides the structural support the tank requires to maintain proper shape

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- Mechanical compactors such as this plate tamper pose no threat of damage to the tank
- Review the soil compaction handbook referenced on page 5 to best determine what type of compactor is best suited to the backfill materials at each site

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- Note the uniform and level placement of compacted material around the entire tank
- Note the use of all imported material to replace the heavier clayey soils encountered on this site

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- Native material appropriate for backfill
- Note the relative absence of clay and the free-flowing nature of the excavated materials
- Native material such as this **MUST** be compacted and will (in general) be more work than importing material

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- Proper compaction of previously shown native material
- Note the compaction of material all the way to the shoulders of the tank
- No further compaction of material is required at this point
- Take care in evenly backfilling around pipes and risers

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- Continue backfilling over top of tank uniformly and evenly
- Hand work backfill around pipes and risers
- Note the placement of gravel around the riser in the bottom of the photo
- Uneven backfilling around risers will cause them to be out of round

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- HEAVY CLAY!!!
- Do not use this to backfill tank
- Use of clay to backfill voids all warranties

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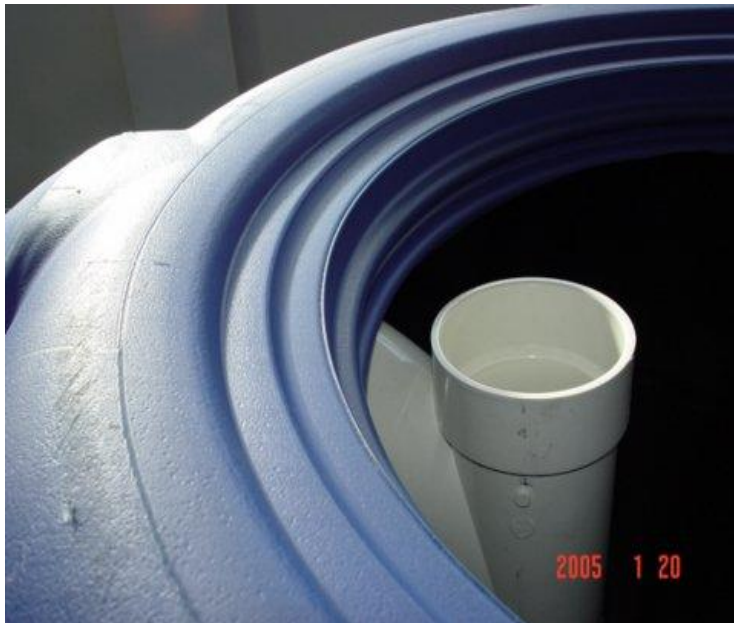
- Grade evenly over tank
- Mound up over tank to allow settling and redirect runoff water
- When grading, consider roof drains, hills and other sources of surface water that should be directed **AWAY** from the tank

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- Note the use of gravel under the effluent pipe to provide support and minimize settling
- Hand place material as necessary to provide uniform backfill

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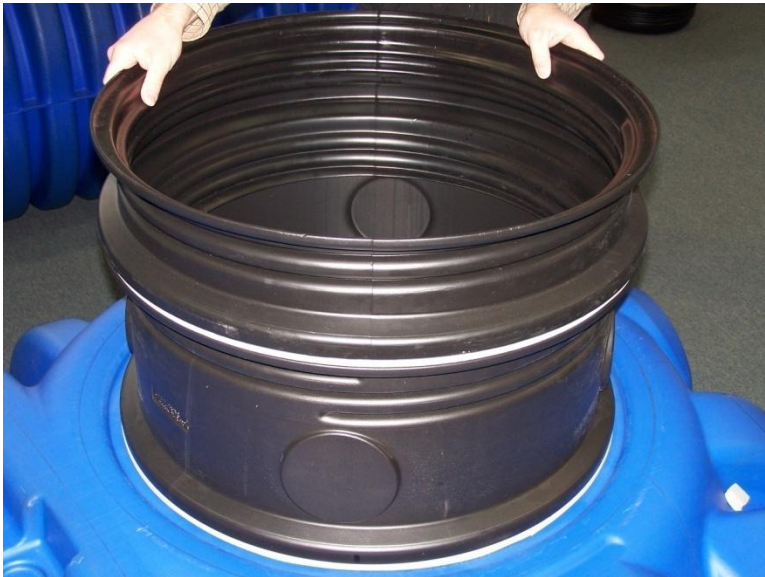
- Proper position of inlet T baffle
- Note that the sweep of the inlet T baffle allows a clearance for the riser or lid without hitting the inlet pipe
- Use ONLY factory provided plumbing or you will experience an interference fit
- If a riser is used, it may be notched to provide clearance

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- Risers must be gasketed and sealed to prevent infiltration of surface/groundwater
- Surfaces must be clean and dry when applying gasketing material

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- Take care to thread risers in to tank and each other as tightly as possible
- After gasket material has been installed, additional sealing may be provided using ADH 100 and/or butyl mastic
- Where the threat of severe infiltration is present, contact factory for additional instructions

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Details Provided by APPIAN Consulting Engineers – www.applanengineers.com

12/06/2005 – 10:07:05 AM

RESTRAINING COLLAR FOR HIGH GROUNDWATER

TOP

GENERAL NOTE:

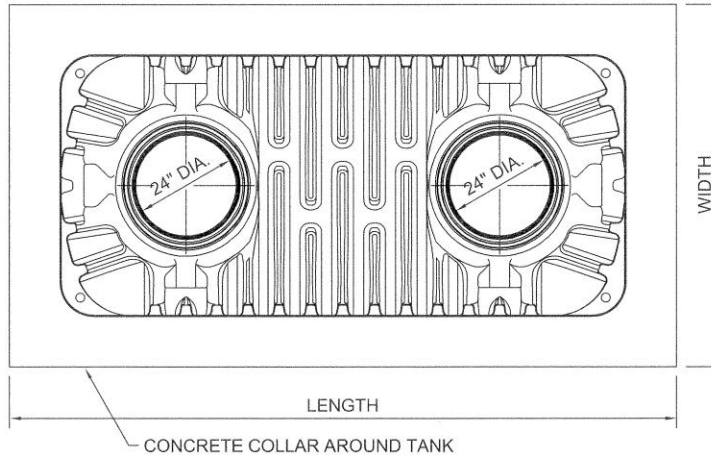
1. THE BUOYANCY RESTRAINING COLLAR DESIGN IS BASED ON BUOYANCE CALCULATIONS AVAILABLE ON REQUEST FROM FRALO PLASTECH, LLC.

CONCRETE NOTES:

1. PROVIDE CONCRETE TO OBTAIN THE MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
2. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ACI-318-99 (BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE) AND ACI-301-LATEST EDITION (SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS).

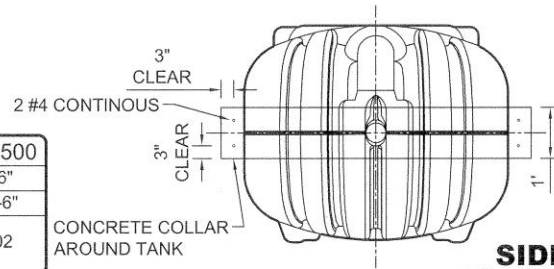
REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO STANDARDS OF ASTM A615, GRADE 60.



CONCRETE COLLAR SPECS

TANK MODEL	ST-500	ST-750	ST-1060	ST-1250	ST-1500
WIDTH (FEET)	7'-0"	7'-0"	7'-6"	7'-6"	7'-6"
LENGTH (FEET)	7'-0"	10'-6"	12'-0"	14'-0"	16'-6"
FACTOR-OF-SAFETY AGAINST FLOATING	2.96	2.15	2.09	2.10	2.02



DWG SCALE: 1:1
 PLOT SCALE: 1:2
 SHEET #:
 1 OF 1

SEPTech™ TANK
BUOYANCY RESTRAINING SYSTEM
 THE NEXT GENERATION OF ONSITE WASTEWATER PRODUCTS



FRALO PLASTECH
 One General Motors Drive
 Syracuse N.Y. 13206
 Call Toll Free 866.943.7256
 www.fralo.net

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- For deep bury applications (verify if allowed with local Codes) additional internal struts may be installed
- Note the PVC support pipe visible in the lower manway
- Install Schedule 40, 4" PVC pipe at each end of tank between roof and floor



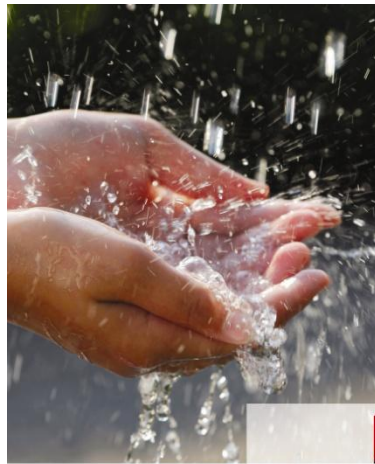
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- Pipe mounting brackets are molded into the floor and roof of every tank
- Tank MUST be installed exactly to installation instructions or severe damage to the tank may occur due to point loading
- Field measure each support pipe
- Proper length is $42 \frac{5}{8}$ – $42 \frac{3}{4}$ "

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Questions and Answers



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