INSTALLATION - - OPERATION - - MAINTENANCE

AquaClean®

OIL / WATER SEPARATORS

MANUFACTURED BY:

Metal Products Company, Inc.
P.O. Box 8
725 Main Street
Suwanee, GA 30024
800-424-7373

INSTRUCTIONS

INSTALLATION:

A. Upon delivery of the separator and accessory equipment, inspect unit for damage to exterior, including protective coating. Remove manway cover and determine that all internal baffle plates, internal piping and HydroPack™ coalescer are securely mounted.

B. The excavation shall be free from material that may cause damage to the separator coating.

C. Separator must be installed in a level and plumb position to facilitate proper system function. Piping to separator unit must be pitched at a 1/8" per foot minimum.

D. The bottom of the excavation shall be covered with a minimum of one foot of proper backfill material. (No. 7 or finer clean washed stone)

E. The excavation shall extend two feet around the perimeter of the vessel on all sides.

F. Provide adequate equipment to lift the separator and lower it into position in the excavation. Do not drag or drop the separator to avoid damaging the structure or coating of the vessel.

G. Attach lifting chains and hooks into the lifting lugs on the top of the separator. DO NOT USE CHAINS OR SLINGS AROUND THE SEPARATOR SHELL.

H. Anchor straps or ground anchors, if required shall be installed in such a manner that they do not damage the protective coating of the separator.

I. Backfill the excavation with the clean recommended backfill making sure to avoid any voids in the backfill around the bottom quadrant of the tank.

J. Separator shall be filled with clean water as soon as possible after backfilling.

K. Where air or hydrostatic testing is required after installation, it is recommended that the pressure applied shall not be in excess of 5 pounds per square inch. (PSIG) as measured at the top of the separator.

L. All vent openings must be piped in accordance with governing standards with proper atmospheric vent outlet. Separator inlet must be vented to prevent air lock flow reduction and the outlet must be vented SEPARATELY to prevent siphoning and to keep vented gas out of the effluent system.

M. Separators must be provided with freeze protection where required by conditions.

PLASTEEL COMPOSITE®

INSTALLATION INSTRUCTIONS

I. GENERAL

The **PLASTEEL COMPOSITE®** underground tank is a U.L. Listed composite tank providing corrosion protection per U.L. 1746 in double-wall and single-wall designs.

PLASTEEL COMPOSITE® underground tanks must be installed according to these installation instructions, the latest issue of the N.F.P.A. 30 and the authority having jurisdiction (AHJ).

The installer and/or owner must read and be familiar with the entire installation instructions prior to installing the **PLASTEEL®** tank. To activate the **PLASTEEL COMPOSITE®** Tank Warranty, a completed and signed Certificate of Installation for the **PLASTEEL COMPOSITE®** Underground Tank must be returned to the manufacturer. For additional installation references, consult the current editions of:

- Petroleum Equipment Institute, RP-100
- American Petroleum Institute, RP-1615.

If tank will be stored above ground more than 30 days, consult the manufacturer for procedures.

Products stored in the **PLASTEEL®** tank must not exceed 150° (66° C). The **PLASTEEL®** tank shall be maintained per API RP 1621, Appendix D.

II. VISUAL INSPECTION

Prior to setting tank in hole, inspect exterior for damage. If tank exterior is damaged, call factory regarding correct repair procedures. Exterior damage is indicated when the blue color of the FRP laminate has shown a white fractured pattern.

III. HANDLING

Good construction engineering practice, common sense and safety must prevail during this phase. **PLASTEEL®** tanks are not to be dropped or rolled off of the delivery vehicle onto the ground or into the hole. The lifting hook or hooks provided must be used in combination with the proper capacity unloading equipment. It is the responsibility of the owner to provide the qualified personnel and safe, proper unloading equipment, with specific consideration given to tank weight and reach distance to set tank in excavation. The preferred lifting cable included angle is 60° and must never exceed 120°. A spreader bar may be used to achieve this angle.

IV. EXCAVATION DEPTH, BEDDING AND BACKFILL

Follow all applicable local regulations and codes. When excavating, allow a minimum clearance of 6" for backfill around the tank. For minimum burial cover, consult N.F.P.A. 30. If burial cover over top of tank exceeds five (5) feet, consult factory. Backfill materials should be clean, debris free, sand or pea gravel. Hydrocarbon exposed sand or pea gravel may be re-used if approved by the AHJ. Native sand may be used if approved by the tank manufacturer and the AHJ. Allow a minimum of 12" of backfill between traffic slab and all appurtenances that are attached to the tank. Damage to tank may occur if surface traffic loads are transmitted directly to tank.

V. ANCHORING SYSTEMS

CAUTION: The decision to use an anchoring system is the responsibility of the owner. Damage to the tank may occur if the tank is subjected to movement.

Consult the factory for number, size and type of hold-down assemblies required when using a concrete pad under the tank. You may set and securely anchor the **PLASTEEL®** tank on the pad with a minimum of 6" of backfill between tank bottom centerline and the pad. Upon AHJ approval, you may set and securely anchor the **PLASTEEL®** tank directly on the smooth, flat pad taking care to place a 12" wide x 1" thick piece of felt between the entire tank bottom centerline and the pad to minimize damage during placement. Consult factory for other anchoring techniques.

VI. TESTING

PLASTEEL® tanks are designed for atmospheric service. Test procedures shall be in accordance with these instructions, N.F.P.A. 30, and the AHJ. Insert and tighten steel plugs in unused pipe connections.

Test pressure shall not exceed 5 psi. When pressure testing the piping, the tank must be isolated and not subjected to the higher pressures.

DOUBLE-WALL: Test inner tank at a maximum of 5 psi. Do NOT pressurize interstice (volume between tanks) by itself. If outer tank must be tested, use a tee fitting to pressurize inner tank and interstice simultaneously. After test, release simultaneously. Never allow interstice pressure to exceed primary (inner) tank pressure. For additional instructions, consult factory.

CAUTION: Damage to tank may occur if pressure in primary tank exceeds 5 psig or pressure in interstice exceeds pressure in primary tank.

The tank may be delivered with an interstitial vacuum established at the factory. The delivery document will state the vacuum gauge reading required for acceptance at the delivery location. Record the vacuum gauge reading on the delivery document when the tank is delivered. If the vacuum gauge has decreased from the vacuum gauge reading listed for acceptance on the delivery document, call the factory for further instructions. If an interstitial vacuum is to be established at the installation, follow the instructions in Appendix B, Interstitial Vacuum Test. **DO NOT** apply a vacuum to the primary tank, **DAMAGE MAY OCCUR.**

OPTION: See Appendix B for a final installation tightness test that complies with E.P.A. leak tightness test protocol.

VII. VENTING: DOUBLE-WALL TANK

The primary tank must be vented to atmospheric pressure except for use with a vapor recovery system, provided the pressure or vacuum does not exceed 1 psi (6.9 kpa). Compliance is required for underground tank venting in N.F.P.A. 30. The interstitial space does not require venting. It is recommended that the interstice be sealed air tight.

CAUTION: DO NOT MANIFOLD VENT FROM PRIMARY TANK TO VENT FROM INTERSTICE.

VIII. PLASTEEL® SEALING PROCEDURES

These procedures must be performed prior to completion of backfill and AFTER TESTING. To ensure complete corrosion protection, the following instructions must be followed:

a. General instructions for working with fiberglass resin

By carefully performing the following steps, your **PLASTEEL®** tank will be fully protected from corrosion. The kit includes materials for covering and protecting the unused tank connections, tank handling hooks, and each of the pipe connections on top of the tank. **The PLASTEEL® kit contains hazardous materials.** Read the enclosed material safety data sheets before proceeding to work with **PLASTEEL® kit materials.**

The standard kit includes the following materials and tools:

BOX A
4 each 1 Qt. bottles **PLASTEEL®** resin

BOX B	
1 each 1 Qt. bottle	Resin emulsifier or Acetone
4 each 1 Oz. bottles	Catalyst
6 each	Star Mats
10 each	Mat strips
6 each	Plug mats
1 - 3 each	4" Flat pipe plugs
2 each	Paint stirring sticks
2 each	1-1/2" Paint brushes
3 each	Mixing cups
1 each Sheet	60 grit sandpaper
4 each	Hook Mats

Additional material is supplied when tank configured with containment collars, special fittings, manholes or extension spools.

b. Preparation

Do not mix the catalyst with the resin until all the pieces you wish to impregnate have been fitted in place and the 1" strips of matting are laid out next to their corresponding pipe connections. Once the resin and catalyst are mixed, a chemical reaction begins that cannot be reversed. Working time for a mixed batch is about 30 minutes at 70° F. Higher temperatures make it set up more quickly, shortening working time. For example, at 100° F. you will have approximately 15 minutes of working time. The key things to remember are: (1) Be prepared and have all parts prefitted and in place before mixing the resin. (2) Mix only as much resin as you can use in 30 minutes and mix it thoroughly – stir for at least 1 minute. (3) Work quickly and efficiently. Lower temperatures increase resin set-up time and require additional catalyst.

c. Mixing the catalyst

Resin and catalyst must be mixed in the proper proportions so that the resin will harden properly. Below is a list of some various size batches you could mix.

RESIN	CATALYST
1 qt.	1/2 oz.
1 pint	1/4 oz.
1 cup	1/8 oz.

If you're not sure how fast it will set up, it is better to mix several small batches rather than one big one.

d. Application

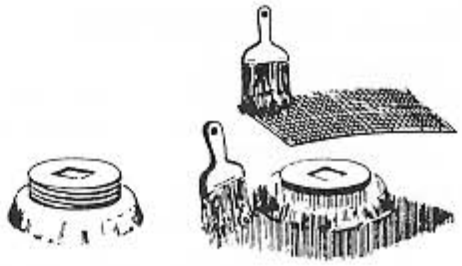
Using the paint brush provided, DAB the resin mixture into the cloth rather than painting it on. You are trying to completely soak the matting with resin, not just cover it.

e. Pipe and Risers

For standard threaded fittings: Apply resin to the base of the pipe and top of tank and push down the matting circle as shown. Impregnate with resin.

Impregnate the strips of matting and wrap like tape around the joint starting at the base and working upward. Apply any leftover resin to the outside of the joints when done wrapping.

For special bolt-up flanges: Apply generous coating of resin to exposed metal edges of flange and wrap with resin impregnated matting strips. Apply leftover resin to nuts and bolts.



f. Steel Plugs

After fitting fiberglass matting, lift it up and apply mixed resin to the top of the tank surface where the matting will contact. Stick matting over plug into wet resin and totally impregnate matting with resin, dabbing in with paint brush as described above.

g. Manhole, Extension Spool and Handling Hooks

Apply generous coating of resin impregnated matting strips to exposed metal edges and to handling hooks (matting precut). Apply leftover resin to nuts and bolts except on access cover.

h. Cleanup

Hands and tools may be cleaned with Resin Emulsifier before the resin has hardened. No solvent will work once the resin has hardened.

NOTE:

The **PLASTEEL®** tank installation is not complete until all exposed steel surfaces on tank are sealed with the **PLASTEEL®** fiberglass resin.

For additional assistance or information, call your **PLASTEEL®** tank factory below:

Licensed PLASTEEL COMPOSITE® tank manufacturers

BERTOTTO, BOGLIONE S.A.
Marcos Juarez, Argentina

INSTALL RZESZOW
Rzeszow, Poland

INDUSTRIAS CORREAGUA
Panama, Panama

INDUSTRIA ACERO
Quito, Ecuador

ERMETRA INDUSTRIA
Belim, Brazil

HALL TANK CO.
N. Little Rock, AR
(501) 945-3211
Fax (501) 945-4477

TECNOECO CHILE
Santiago, Chile

TANQUES GUMEX
Torreon, Mexico

K & T STEEL
Twin Falls, ID
(208) 733-2554
Fax (208) 733-7239

METAL PRODUCTS
Suwanee, GA
(770) 945-8383
Fax (770) 932-5671

TANX INC.
Claremont, NH
(603) 543-1272
Fax (603) 543-1270

TALLER EL RETOÑO C.A
Barquisimeto, Venezuela

METALURGICA RIMA
Guaira, Brazil

INDUSTRIAS METALICAS, S.A.,
San Pedro Sula, Honduras

MAINTENANCE INSTRUCTIONS

A. General

Periodic preventative maintenance should be scheduled based on actual usage, but not to exceed six month intervals.

B. Oil - Water Separator

1. Inspect separator for general appearance and operation.

2. Inspect for coating durability and possible corrosion, and maintain operating water level at full in the oil-water separator.

3. Maintain individual components as indicated elsewhere in these instructions.

4. Remove sludge from separator by pump draw-off at six month intervals, or more often if necessary.

5. An excessive build up (greater than 12") that would overwhelm the sludge baffle will require an internal separator cleaning to insure maximum future processing efficiency. To determine this, use a calibrated stick gauge and submerged the stick at the inlet most edge of the coalescer manway (second manway on larger units-30" diameter or rectangular)

C. Corrugated Plate and Parallel Plate Separators

1. Once each year plates and other separator internals should be visually inspected for hard film and sludge build-up using proper safety gear for internal access to the separator. Clean internals as necessary. Experience may dictate more frequent maintenance requirements or separator may seldom require any special internal cleaning.

2. This process will require a "confined-space" entry and all procedures for such should be followed.

D. Secondary Coalescer

1. Follow a regular maintenance schedule based on usage or if usage is low, perform maintenance at six month intervals. (See drawings for location)

2. Before removal, all accumulated oil should be removed from the unit.

3. Clean the coalescer by removing it from the separator and hosing it down in a backwards fashion. Apply hose pressure water stream from the discharge side of the coalescer. This will free any clinging debris and allow it to fall out through the less tightly packed side of the coalescer. Do not leave in direct sunlight for a prolonged period of time, as the ultra-violet light will harm the materials effectiveness.

E. Grit Chamber (optional equipment)

1. If the separator is equipped with a grit, chamber enhanced maintenance will be required. (See drawings for location) The grit chamber should initially be inspected every 60 days to determine the rate of build up or capture of heavy solids in the grit chamber. To inspect and determine the amount of grit/heavies accumulated, remove the 4" plug fitting in the grit chamber's manway cover, This may require the removal of a surface access manhole cover if the unit is installed below a concrete surface. The grit chamber is located at the forward-most/ inlet end of the separator. Using a calibrated stick, determine the amount of grit build-up in the chamber. It is recommended to empty or vacuum out the grit when the level reaches a 40% height maximum.