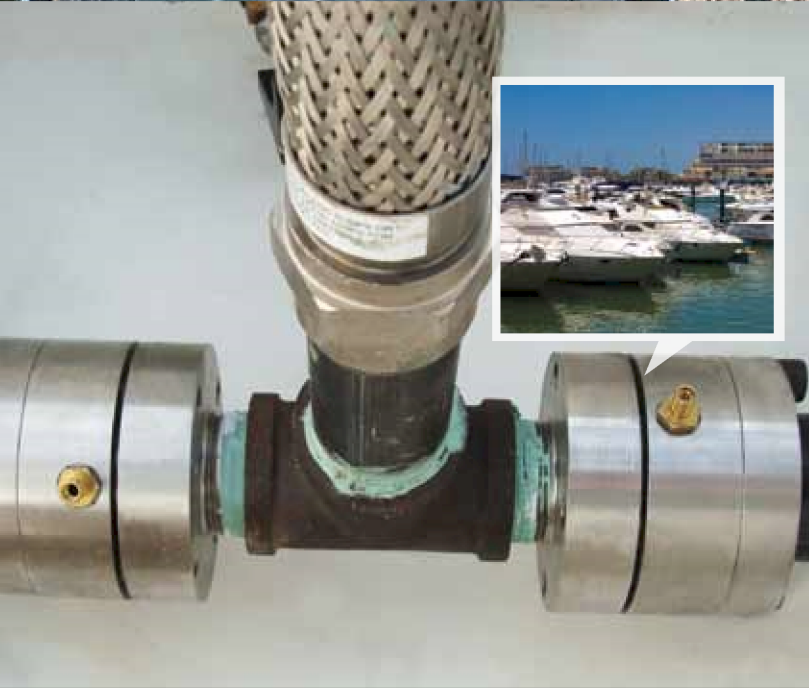
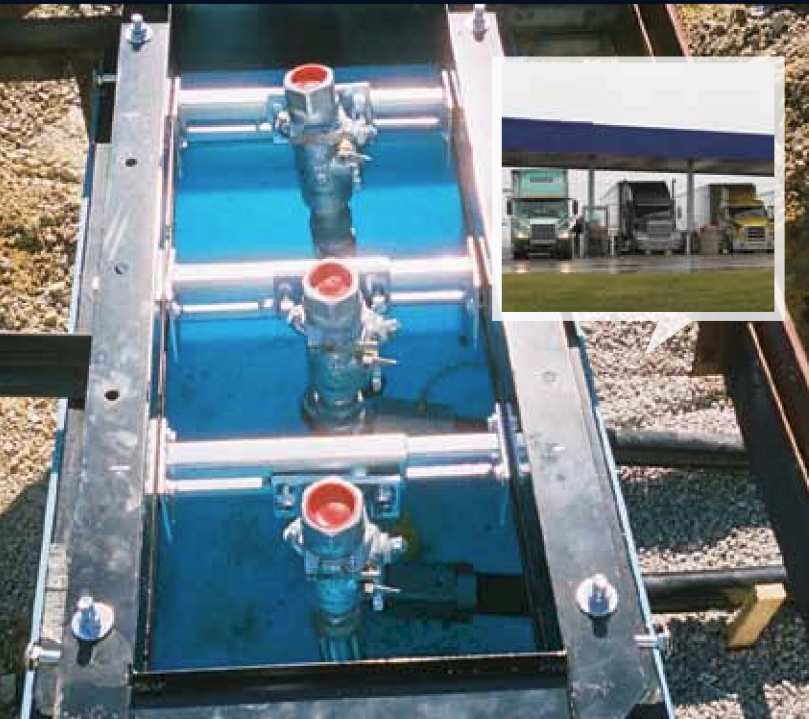




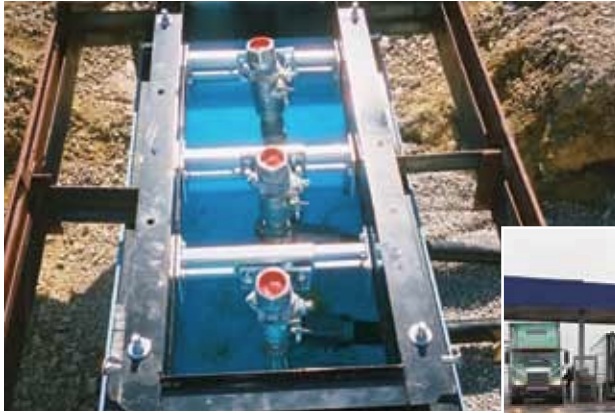
*Double Containment Piping for Diesel, Gasoline, Biofuels and DEF*



*New UL 971A Listed Fitting for Easier Assembly*



## Installation Applications and Uses



### UST – Features and Benefits

As with the entire line of semi-rigid piping from OmegaFlex, DoubleTrac is flexible, direct burial piping that is easier to install and is less labor intensive than rigid piping installations. DoubleTrac requires no special tools to assemble, can be bent by hand and the patented field attachable fittings provide a reliable metal to metal seal through proven technology. It's supplied in continuous lengths from a spool that eliminates the need for splice joints, no electro-fusion joint welding, no adhesives, no curing problems, and no leaks.



### AST – Features and Benefits

DoubleTrac's innovative double wall design includes a UV stabilized Nylon 12 outer layer, providing excellent resistance to weathering, and chemical exposure.

Elbows and tees available to facilitate installations in restricted spaces, double containment flow through maintained throughout all fittings.



### Marina – Features and Benefits

Routes easily along or underneath docks. The Nylon 12 outer jacket is UV stabilized and salt water resistant; no chase pipe required. Can be supplied in extra long continuous lengths; eliminating transition sumps on the dock. Additionally, a double containment flexible floating dock connector is available.



### Aviation – Features and Benefits

Suitable for use with all aviation fuels; utilizing the DoubleTrac stainless steel fittings, all wetted surfaces are stainless steel. Secondary containment rated for 50 psig or full vacuum allowing for continuous monitoring.





## Product Specifications / DoubleTrac® Flexible Piping

Size	1"	1.5"	2"
Part No.	UGF-FSP-16	UGF-FSP-24	UGF-FSP-32
Description	1" Double Wall Flexible Piping	1.5" Double Wall Flexible Piping	2" Double Wall Flexible Piping
Working Pressure (PSIG)	125 Primary 50 Secondary	100 Primary 50 Secondary	75 Primary 50 Secondary
Minimum Bend Radius (INCHES)	12	24	32
Weight (LBS/FT)	0.75	1.50	2.00
Lengths	up to 1000 ft.	up to 1000 ft.	up to 1000 ft.
Operating Temperature	-20° F to 120° F		

### 1) Corrugated Stainless Steel Primary Pipe

This zero-permeation, ASTM A 240 316 series stainless steel pipe is highly resistant to corrosion, providing longer life and exceptional crush resistance.

### 2) EFEP Secondary Barrier Jacket

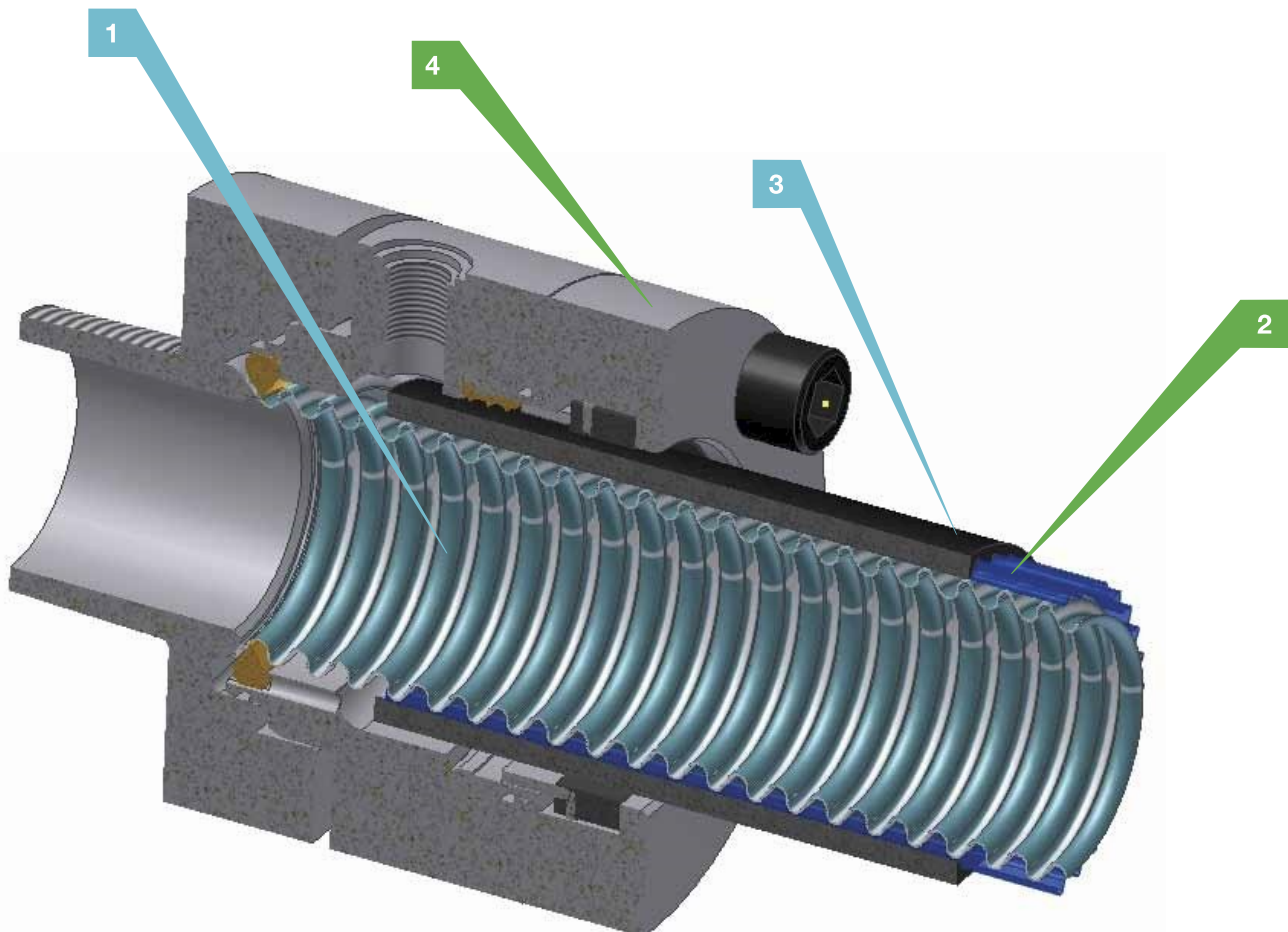
This layer is bonded to the Nylon 12 protective layer to offer secondary containment with exceptional permeation resistance for product compatibility. Interstitial space allows continuous monitoring for leak detection, with a 50 psig rating for pressurized systems.

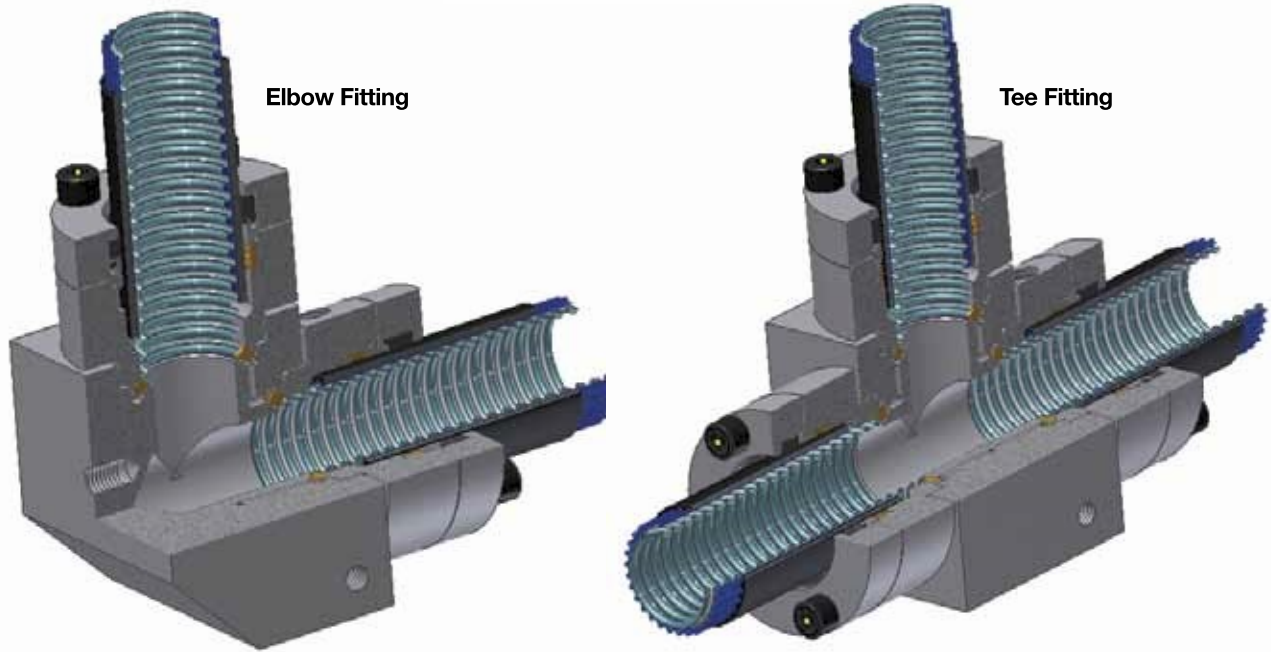
### 3) UV Stabilized Nylon 12 Outer Jacket

This direct-burial layer offers exceptional resistance to hydrocarbons, chemical and water exposure, and carries a 50 psig rating. UV stabilized for above ground and marine use.

### 4) New Quicker, Easier Assembly Fitting

Provides a metal to metal sealing surface that's unsurpassed in reliability and user friendliness, and is field-attachable using standard tools. Available in Alloy 360 Brass or Stainless Steel.





**Specification Data**

**Corrugated Stainless Steel Tubing Materials**

MECHANICAL JOINT FITTING: Alloy 360 Brass or Stainless Steel Fitting

NOTE: Fitting joint with tubing shall provide a metal-to-metal seal; no gaskets permitted

NOTE: All fittings meet Salt Spray Test requirements of ASTM B-117-90

NOTE: UL 971A listed file number MH 45578, titled Integral Primary/Secondary for all Fuels

**OmegaFlex**

**Background**

Established in 1975, OmegaFlex is the preeminent international producer of flexible metallic piping products. With over 90 patents registered worldwide, OmegaFlex supplies proprietary products for a broad number of applications and markets, which include primary steel production, semiconductor, medical, pharmaceutical, petrochemical, residential and commercial construction, and power generation.

**OmegaFlex Philosophy**

- Provide our customers quality products through teamwork and continuous improvements
- Strive for zero defects
- Create an environment that allows continuous and above average growth
- Provide a positive working environment with a commitment to employee training
- Stress quality awareness and its benefits to both customers and employees
- Empower our employees to perform to the best of their abilities

**OmegaFlex Products and Install Base**

OmegaFlex is committed to serving its customers with the largest selection of sizes and materials in the corrugated metal flexible piping industry. Whether it is designing highly engineered specialty assemblies for OEM applications, gas piping for new home construction, supporting its large network of fabricating distributors, or designing the new DoubleTrac® flexible piping system, OmegaFlex has the dedication and the resources to meet the needs of today's demanding requirements. Listed below are some of the standard products offered by OmegaFlex.

**Industrial Metal Hose**—Highly engineered assemblies for numerous applications such as steel mills, petrochemical facilities, power generation and cryogenic applications.



For more information please visit us at [www.doubletrac.net](http://www.doubletrac.net) or call 1-800-355-1039.

**[www.DoubleTrac.net](http://www.DoubleTrac.net)**

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**OmegaFlex**

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Tel: 1-610-524-7272 Fax: 1-610-524-6484

Toll Free: 1-800-355-1039

DBT-110 / REV 1/2013



## QLXT.MH45578 Piping, Flammable Liquid, Underground

[Page Bottom](#)

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### Piping, Flammable Liquid, Underground

[See General Information for Piping, Flammable Liquid, Underground](#)

**OMEGA FLEX INC**  
451 CREAMERY WAY  
EXTON, PA 19341 USA

MH45578

**Underground metallic integral primary/secondary pipe system (PS), normal vent (NV) and vapor recovery (VR) for Motor vehicle fuels (MV fuels), High blend fuels (HB fuels), Concentrated fuels (CT fuels) and Aviation & marine fuels (A&M fuels),** Doubletrac in 1, 1-1/2 and 2 inch sizes.

[Last Updated](#) on 2008-03-12

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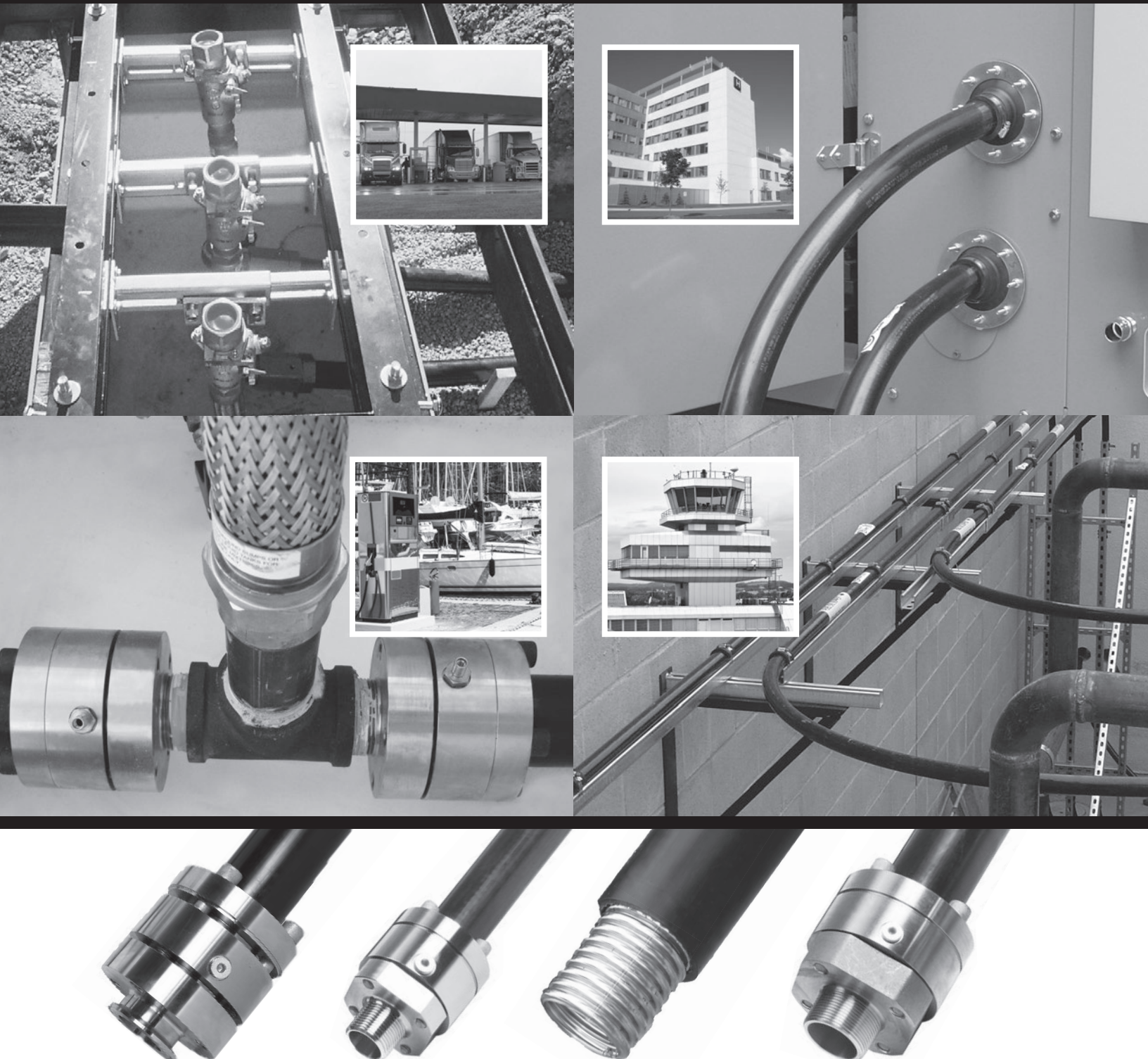




# DoubleTrac<sup>®</sup>

Easy Installation. Zero Permeation.

*Stainless Steel Double Containment Piping for Diesel, Gasoline, Biofuels and DEF*  
**Design and Installation Guide - August 2017**





***The Environmental Choice***  
*Next Generation of UL971A*  
*Stainless Steel Double Containment Piping*

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SECTION 1.0 – INTRODUCTION

**⚠ CAUTION**

This manual provides the installer with general instructions for the design and installation of underground, above ground and marina fuel piping systems using DoubleTrac® petroleum piping system with built-in secondary containment.

This information deals primarily with underground, above ground and marina fuel piping. Other components of the piping system have their own individual installation instructions provided by the equipment manufacturer. The installation instructions provided by all component manufacturers must be followed for the underground, above ground and marina petroleum piping system to operate safely as designed.

The OmegaFlex DoubleTrac® piping system must only be installed or serviced by a qualified installer who has been trained through the Underground, Above Ground and Marina Petroleum Piping Systems Installation Training Program. The use of non-trained personnel or any deviations from these written procedures could result in damage or leakage of the system and void the product warranty. Contact OmegaFlex Customer Service for more information at 800-355-1039.

These instructions must be used in conjunction with federal and state regulations for underground, above ground and marina bulk petroleum storage and piping.

All underground, above ground and marina fuel piping systems must be installed in accordance with recognized engineering practices. The industry standards for the installation of underground, above ground and marina tanks including piping systems are PEI RP100, RP200 and RP1000.

At the completion of work this installation manual must be given to the site operator or owner.

**⚠ CAUTION**

If the DoubleTrac® system is improperly installed, the contents of the piping may leak and possibly cause personal injury or damage to the environment. The instructions in this manual and applicable local codes must be strictly followed.



*DoubleTrac Underground, Above Ground and Marina Piping System*



**Important Information Follow All Instructions**

**SECTION 2.0 - LISTINGS and APPROVALS**

OmegaFlex DoubleTrac® piping system has both a primary and secondary containment jacket and is listed with UL 971A/ULC S667-11 under file number MH 45578, titled: METALLIC UNDERGROUND FUEL PIPE. DoubleTrac® piping may be used in the following applications.

- Pressure System Supply Piping
- Suction System Supply Piping
- Tank Vent Piping
- Stage II Vapor Recovery Piping
- Remote Fill Lines

Although DoubleTrac is listed with UL/ULC; these are specific for metallic underground fuel piping. As of the revision date of this Design and Installation Guide, UL/ULC does not offer a listing for double containment piping for aboveground or marina fuel systems.

DoubleTrac is designed for above ground and marina installations as the Nylon 12 is extremely durable and is UV stabilized to be exposed to the elements. When requested, OmegaFlex can supply documentation supporting these installations.

**SECTION 3.0 - PRESSURE RATINGS**

DoubleTrac® piping and fittings have a minimum five to one safety factor from the maximum rated operating pressure for the primary and secondary pipes. The product media should not exceed the maximum operating pressures indicated for each pipe size shown in Table 1.

**SECTION 4.0—OPERATING TEMPERATURE**

All DoubleTrac® products are rated for -40°F to +150°F.

**SECTION 5.0—BEND RADIUS**

DoubleTrac® piping should never be bent at a radius smaller than the designed bend radius shown in Table 2.

**Table 2**

Pipe Size	Minimum Bend Radius
1"	12"
1-1/2"	24"
2"	32"

**SECTION 6.0 - INSPECTION, HANDLING and STORAGE**

Inspect all piping, fittings and components when they arrive at the job site. Any piping that has been cut, crushed, or otherwise subjected to physical damage during transportation or storage shall be discarded and never used. The piping and fittings shall be handled in such a manner that will not cause any unnecessary damage. Keep all components in the original packaging until ready for use. Inspect fittings prior to installation.

**⚠ CAUTION**

**The end of the piping must be protected at all times. Extra caps are provided with each shipment.**

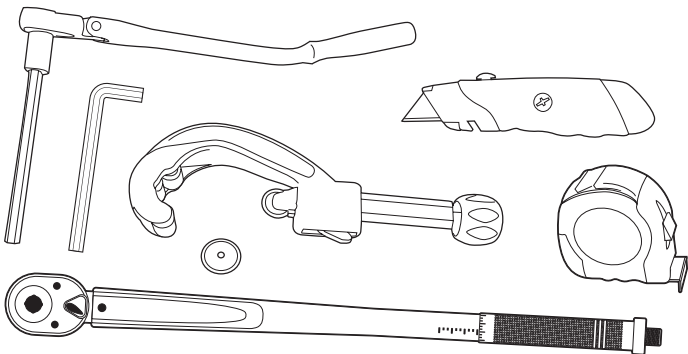
**Table 1**

Pipe Size	O.D. Nom	Weight	Primary Max Operating Pressure	Secondary Max Operating Pressure	Max Vacuum Rating
1"	1.55	0.75 lbs/ft	125 psig	50 psig	29" Hg
1-1/2"	2.30	1.50 lbs/ft	100 psig	50 psig	29" Hg
2"	2.93	2.00 lbs/ft	75 psig	50 psig	29" Hg

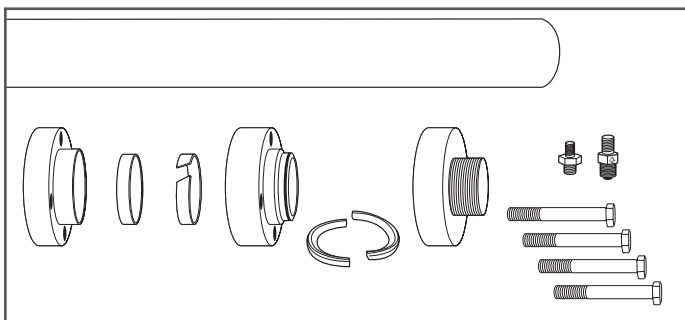
**SECTION 7.0 - ASSEMBLY OF DoubleTrac® FITTING**

Tools required for Assembly

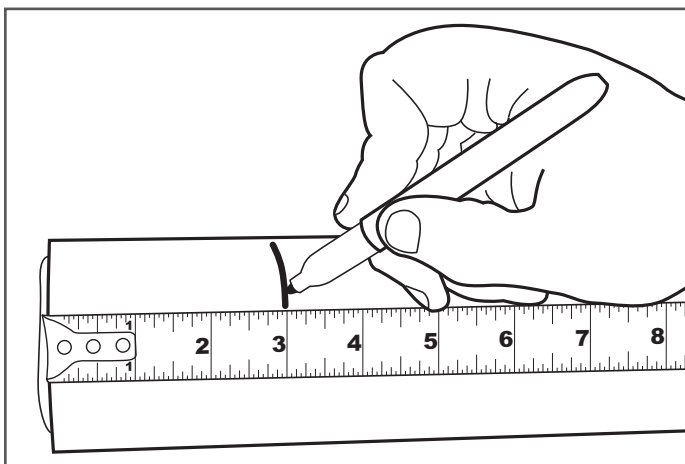
- Utility knife with sharp blade
- Tape measure
- Ratchet
- Appropriate size allen wrench/allen wrench socket
- Tubing Cutter
- FT/LBS torque wrench
- OmegaFlex cutting wheel P/N# UGF-E-5272



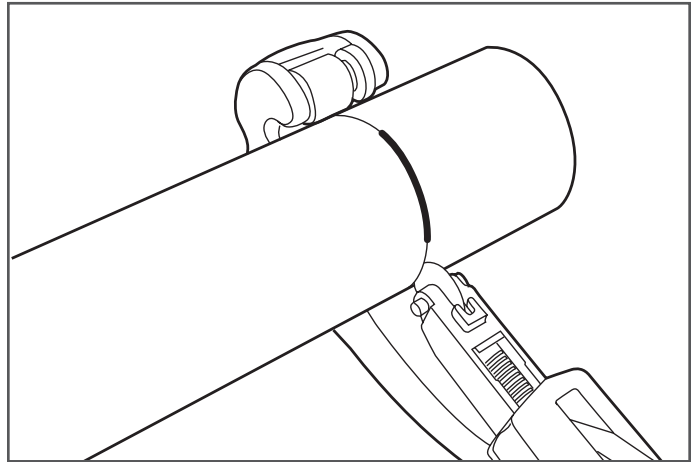
**1. Components**



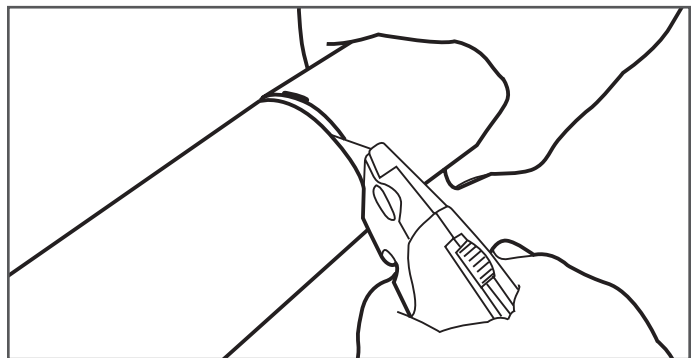
**2.** To determine the rough jacket strip length measure back 3" from the end.



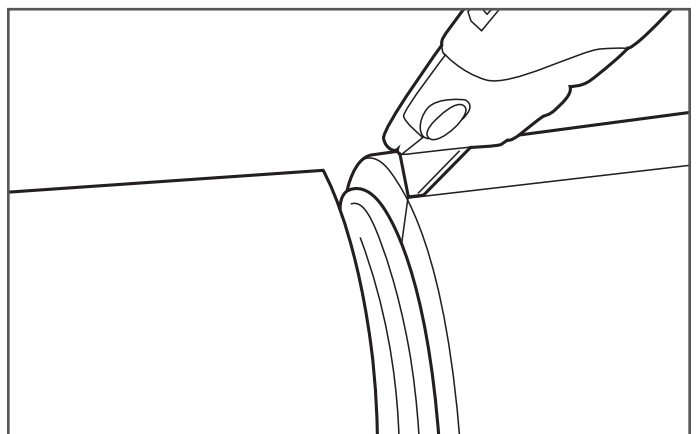
**3.** Using the tubing cutter, score the black sleeve approximately half of the way through all around the sleeve circumference. Use extreme caution not to cut or score the stainless corrugated pipe. Typically, no more than two turns on the cutter is sufficient.



**4.** Finish cutting through the outer jacket down to the stainless corrugated pipe using a sharp utility knife.



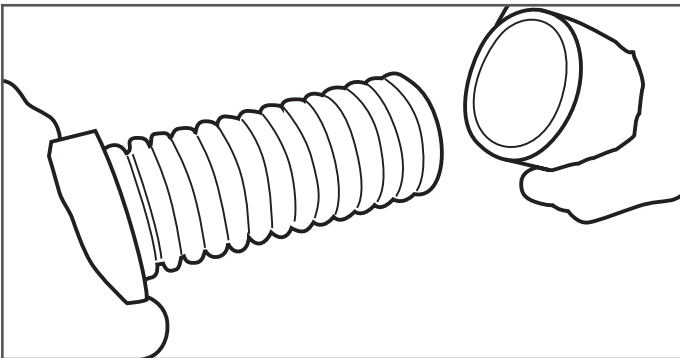
**5.** Carefully cut jacket with a utility knife for ease of removal. Do not score DoubleTrac® piping.





Important Information Follow All Instructions

6. Remove portion of jacket



**CAUTION**

**NOTE:** Inspect the stainless steel pipe for scoring from the tubing cutter. If the stainless steel pipe is damaged, remove the damaged portion and repeat this procedure.

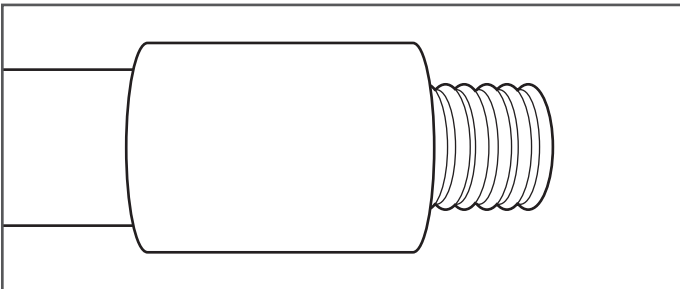
**CAUTION**

Finishing the cut by bending or twisting may cause an improper seat.

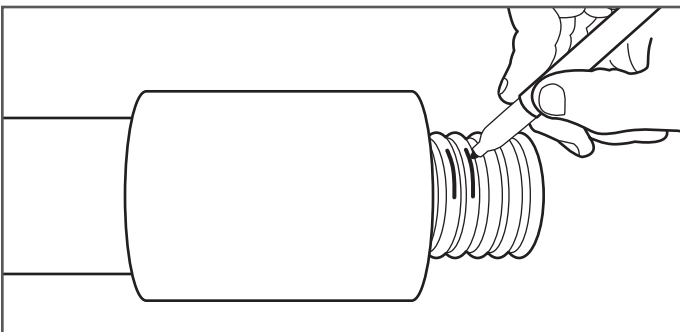
**CAUTION**

**NOTE:** When making the final cut, do not cut DoubleTrac® with a reciprocating saw or hack saw.

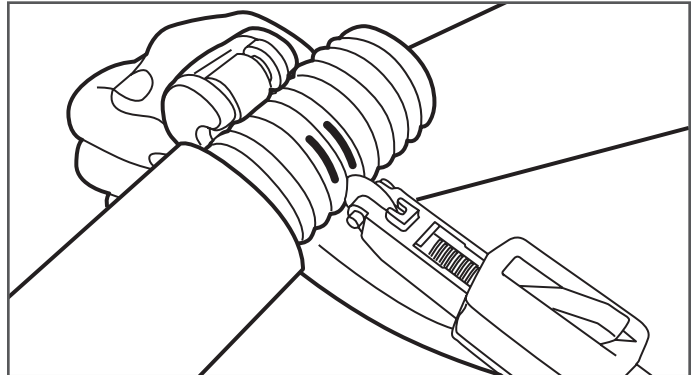
7. Preparing piping for final cut. Slide DoubleTrac final cut measuring tool onto DoubleTrac pipe until it bottoms out.



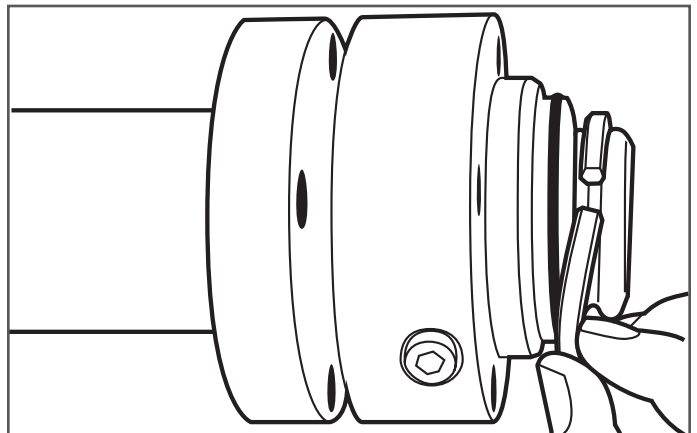
8. Marking the piping for final cut. Once the DoubleTrac final cut measuring tool has bottomed out, place a mark on top of the first two corrugations that are past the DoubleTrac final cut measuring tool. Remove measuring tool prior to making final cut.



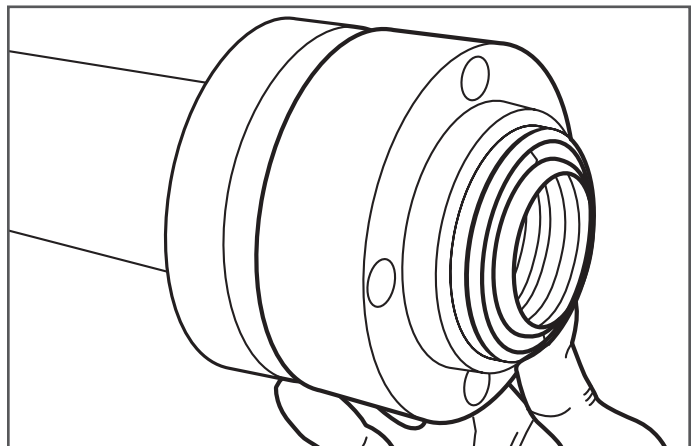
9. Cut through the corrugated piping using a tubing cutter with a sharp wheel. Cut must be centered in the valley between the two marked corrugations. Use full circular strokes in one direction and tighten roller pressure slightly after each revolution. DO NOT over tighten roller which may flatten tube.



10. Slide the back and middle section of the fitting onto the pipe and insert the split rings into the valley of the first corrugation closest to middle section of the fitting.

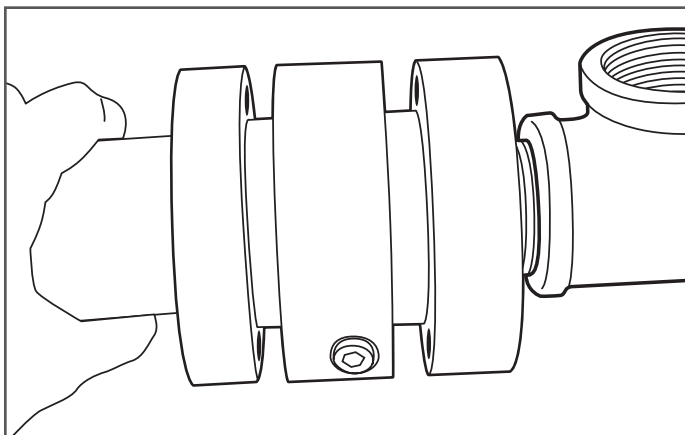


Slide the back and middle section of the fitting up until the split rings are covered by fitting.



**Important Information Follow All Instructions**

11. Thread the NPT front section into the existing piping (elbow, tee, valve etc). Slide the middle and back sections up to the front section and hold in place.



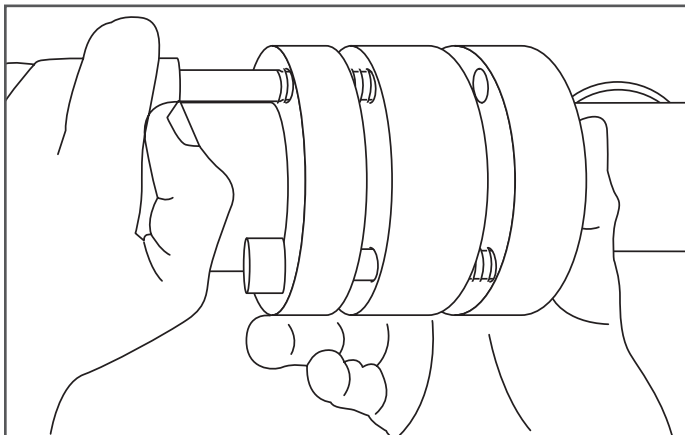
**⚠ CAUTION**

Apply constant pressure on backside of fitting to ensure split rings do not come out of seat.

**⚠ CAUTION**

**NOTE:** Do not use any pipe dope or thread sealants on the self-flaring connection. This connection is a metal to metal seat and will not seal properly if pipe dope or thread sealants are used. Sealants are to be used on the NPT Connector to the equipment only.

Insert cap screws into the back section of the fitting and tighten the screws in an alternating pattern to ensure an even compression of the fitting.

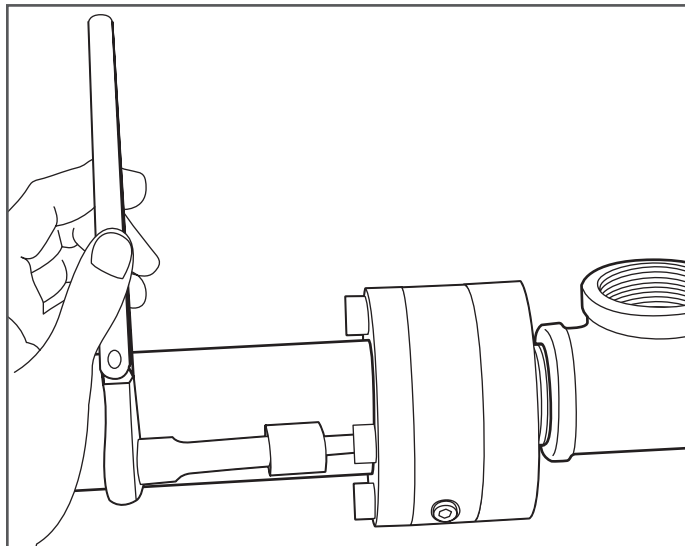


12. Tighten all cap screws in an alternating pattern.

**Table 2**

**DoubleTrac® Pipe Size Recommended Torque Values**

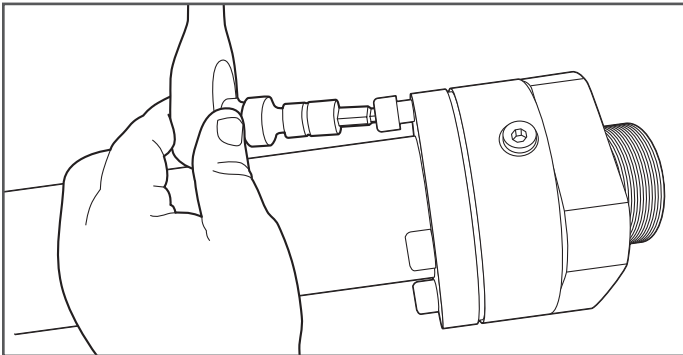
DoubleTrac® Pipe Size	Torque Settings
1"	30 FT-LBS
1-1/2" & 2"	50 FT-LBS



**Important Information Follow All Instructions**

**SECTION 8.0 - DISASSEMBLY OF DOUBLETRAC FITTING**

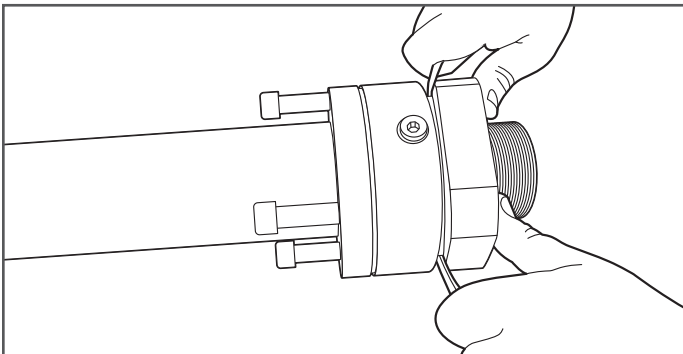
1. Loosen the hex cap screw using a ratchet and the appropriate size hex driver.



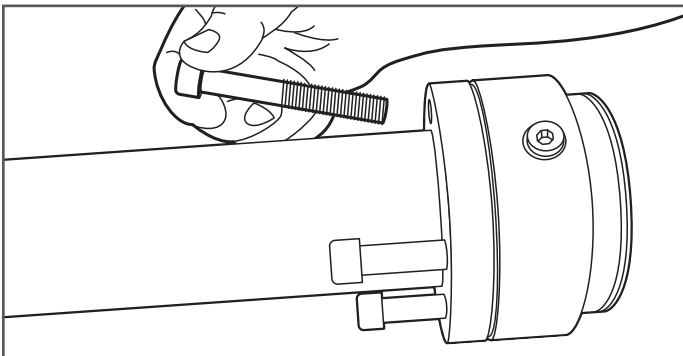
2. Pry off NPT or SF DoubleTrac fitting front adaptor using a flat tip screwdriver or flat pry bar.

**⚠ CAUTION**

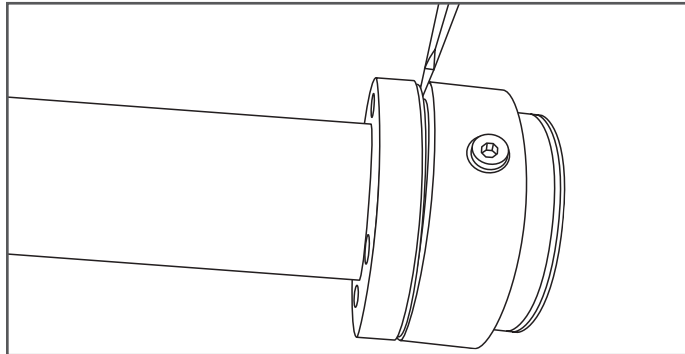
**NOTE: Use extreme care.**



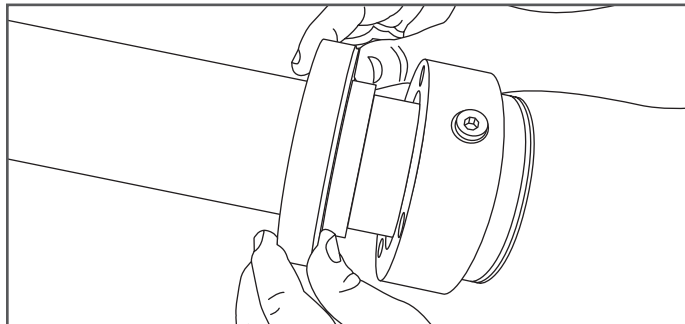
3. Remove all of the hex cap screws.



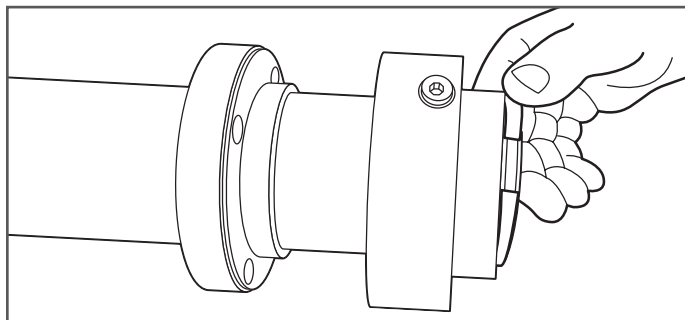
4. Pry the back section of the DoubleTrac fitting using a flat tip screwdriver or flat pry bar.



5. Once the back section is pried apart from the middle section of DoubleTrac fitting, slide the back section far enough to allow the middle section of DoubleTrac fitting to slide back exposing the split rings.



6. With the split rings exposed, remove split rings from DoubleTrac fitting.

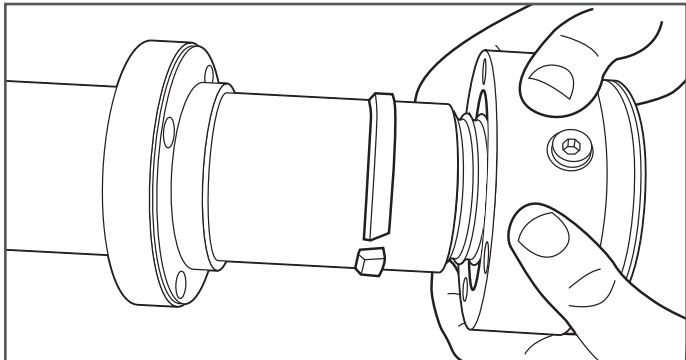




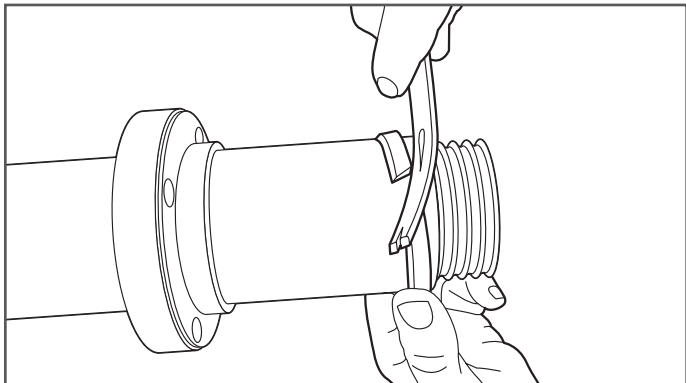
7. Remove middle section of DoubleTrac fitting.

**CAUTION**

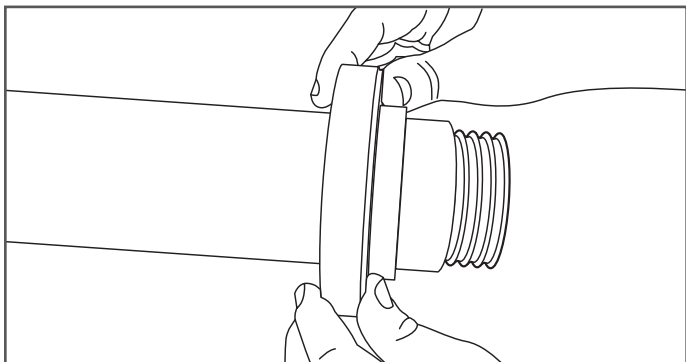
**NOTE: The jacket lock will remain on the outer nylon 12 jacket of the DoubleTrac pipe.**



8. Using a flat tip screwdriver or flat pry bar, open up jacket lock and remove.

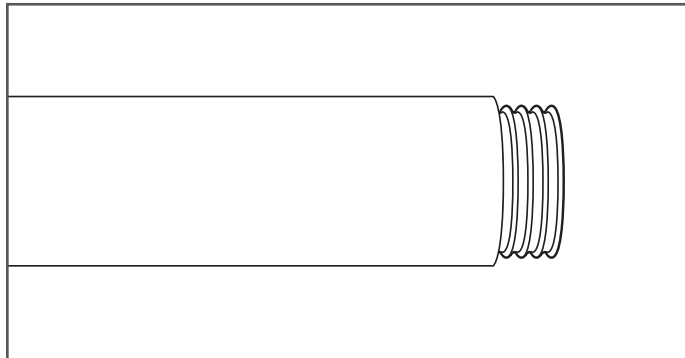


9. Remove back section of DoubleTrac fitting.

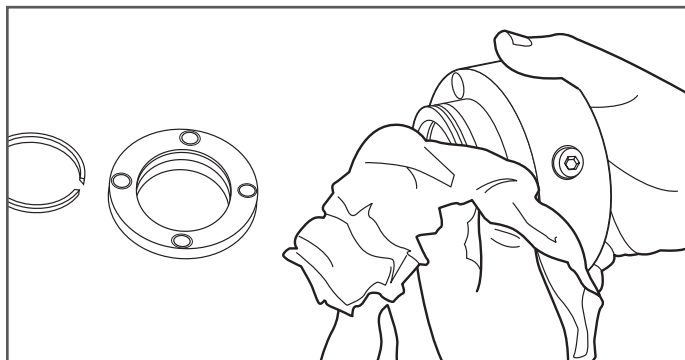


**SECTION 9.0 - INSPECTION OF DOUBLETRAC FITTING COMPONENTS**

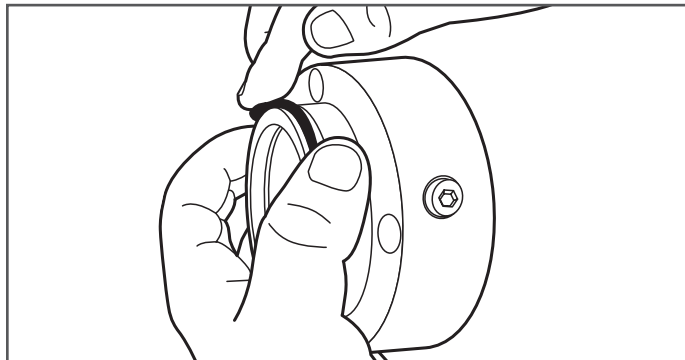
1. After all of the DoubleTrac fitting sections are removed. Inspect the Nylon 12 outer jacket and the AutoFlare of the primary piping for any visible defect.



2. Prior to reattaching DoubleTrac fitting, thoroughly wipe clean all of the fitting components.

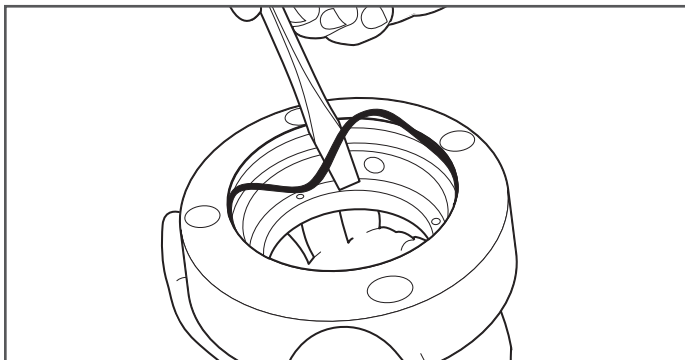


3. Remove outer O-ring on the middle section of DoubleTrac fitting. Inspect O-ring for tears, scuffs, or any visible defect. Replace O-ring as needed.

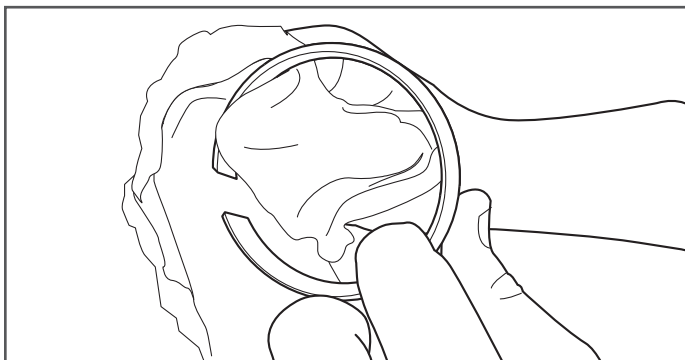


Important Information Follow All Instructions

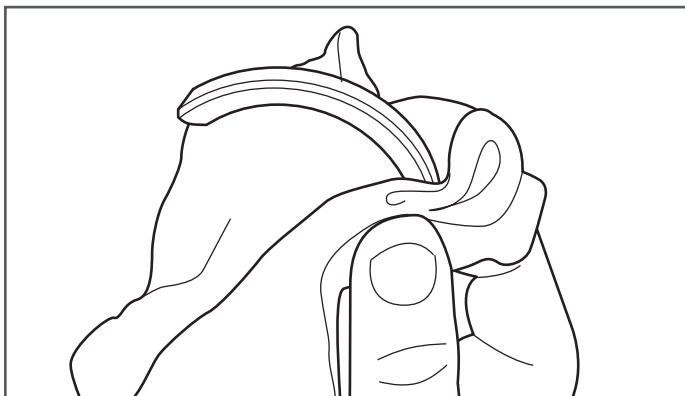
4. Remove inner O-ring on the middle section of DoubleTrac fitting. Inspect O-ring for tears, scuffs, or any visible defect. Replace O-ring as needed.



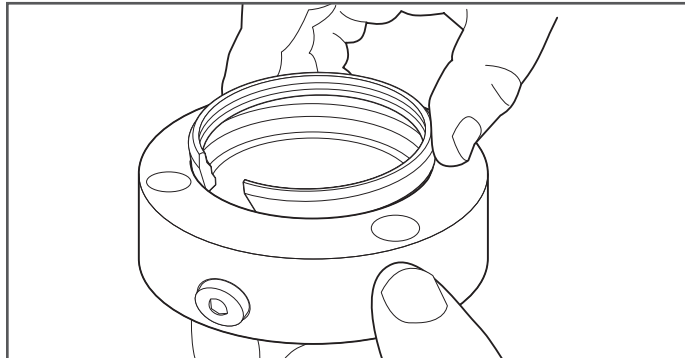
5. Wipe jacket lock off and inspect for any visible defect.



6. Wipe the split rings off and inspect for any visible defect.



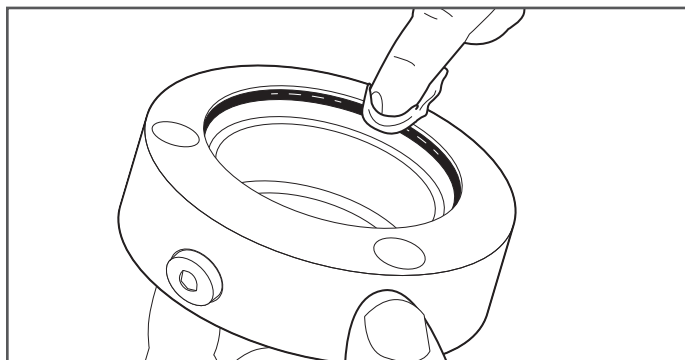
7. Insert jacket lock into the middle section of DoubleTrac fitting.



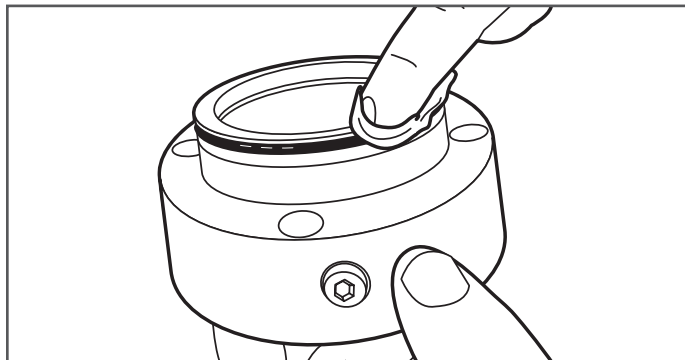
**CAUTION**

**NOTE: Beveled/tapered edge of jacket lock must face outward toward the back section of DoubleTrac fitting.**

8. After installing or reinstalling outer O-ring. Use clean bearing grease or lithium grease. Apply an ample amount of grease to outer O-ring.

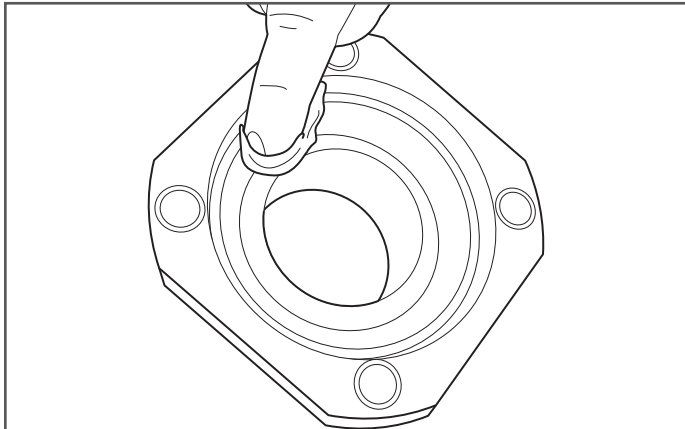


9. After installing or reinstalling inner O-ring. Use clean bearing grease or lithium grease. Apply an ample amount of grease to inner O-ring.

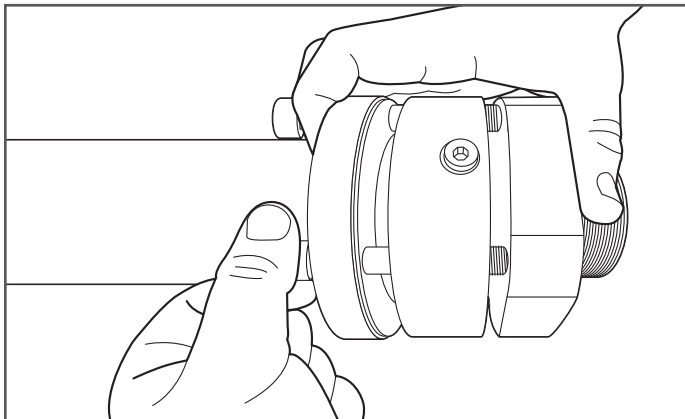


**Important Information Follow All Instructions**

10. Use clean bearing grease or lithium grease and coat the interior surface of DoubleTrac fitting front adaptor.



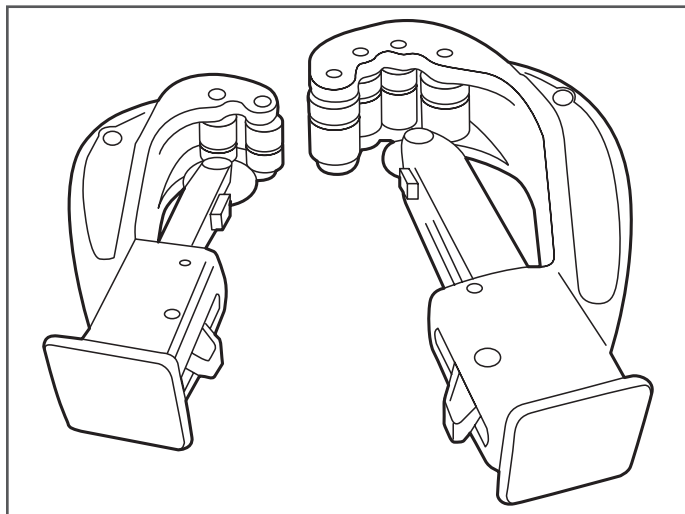
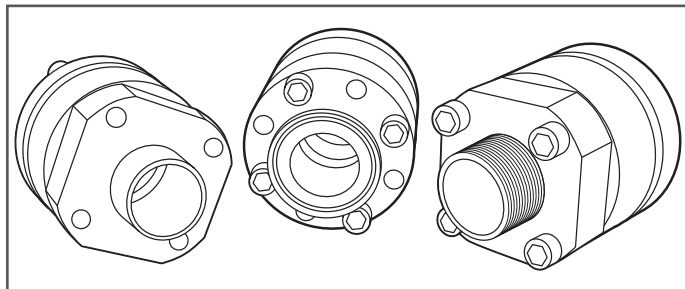
11. Assemble the three sections of the DoubleTrac fitting. The DoubleTrac fitting is ready to reinstall. Follow assembly of DoubleTrac fitting instructions beginning on page 4 of the *DoubleTrac Design and Installation Guide*.



**SECTION 10.0 - INSTALLING DOUBLETRAC IN A CONFINED SPACE**

A number of different styles of field attachable fittings have been engineered specifically for confined space installations.

Additionally, shortened tubing cutters have been developed to aid in tight installations.



**PLEASE CONTACT OMEGAFLEX ENGINEERING  
FOR ASSISTANCE WITH CONFINED SPACE  
INSTALLATIONS 1-800-355-1039**



**Important Information Follow All Instructions**

**SECTION 11.0 - TIGHTNESS TESTING OF SECONDARY CONTAINMENT PIPING**

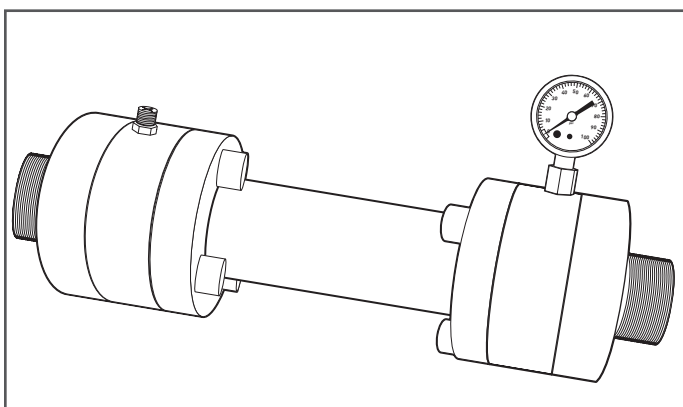
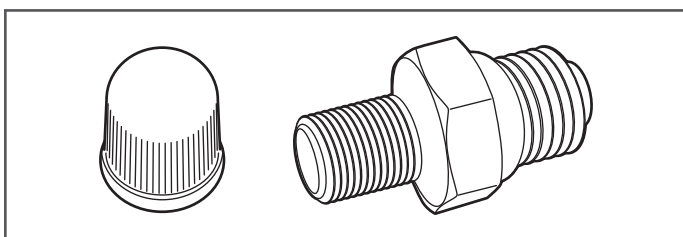
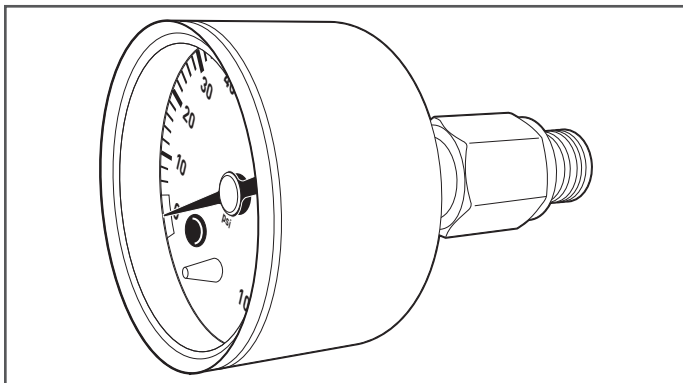
For tightness testing of DoubleTrac piping, the secondary piping (Interstitial space) is pressurized with air up to 50 psig for a minimum of 30 minutes with no loss of pressure allowed. All joints should be wetted with a non-corrosive leak test solution and inspected for bubbles. The use of “soap” solutions is not permitted with stainless steel piping due to the corrosion potential of chlorinated compounds.

The installer shall deliver a copy of the test results to the site owner or operator, who shall keep a copy of all final test results.

**NOTE: When testing the secondary, the primary is also being tested.**

**CAUTION**

**NOTE: When performing a tightness test, the piping must be completely isolated from the rest of the system.**



**SECTION 12.0 - TIGHTNESS TESTING OF PRIMARY PIPING**

Before the piping system is backfilled, it must be isolated from the tanks and subjected to a pipe tightness test on the primary and secondary piping.

For tightness testing of DoubleTrac® piping, the primary piping is pressurized with air to a level of 1.5 times the maximum operating pressure of the system. Maintain this pressure for a minimum of one hour, making sure there is no drop in pressure.

**SECTION 13.0—INSTALLATION OF CHECK VALVE**

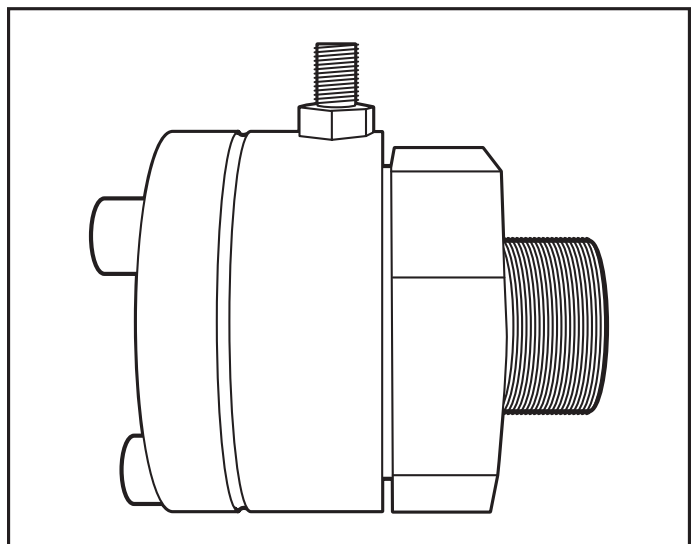
Once all testing has been completed, a check valve gets installed into the secondary port of DoubleTrac fitting.

**CAUTION**

**NOTE: Do not overtighten check valve.**

**CAUTION**

**NOTE: If check valves are not installed, then the plug which originally came with the fitting must be installed. Prior to releasing for service, either a plug or check valve must be installed. Failure to do so voids all warranty.**



**Important Information Follow All Instructions**

**SECTION 14.0—PIPE BURIAL, TRENCHING AND BACKFILL REQUIREMENTS**

Provide a trench width equal to the pipe diameter plus six inches on each side. Separate multiple lines by at least 4 inches. The distance between any piping and the trench excavation walls must be at least 6 inches. For example, an installation of three 2" diameter pipes, the trench would be 26" wide and a minimum of 26" deep.

Whenever possible, product lines should be run in a single trench between the tank area and pump dispenser island area. Vent lines between the tank and the structure to which the aboveground vent lines are attached should also be installed in a single trench. Where more than one trench is required, piping should not cross over each other or cross over underground, above ground and marina tanks.

The trench bottom must be sloped uniformly from the dispensers back to the tanks or sumps at a minimum slope of 1/8 inch per foot and be free of any sharp or protruding hard objects. The trench bottom must be graded with a minimum of six inches of backfill such as washed sand, or pea gravel.

For backfilling, provide a minimum level of clean backfill between the top of the pipe and the surface as provided in Table 6.

**Table 6**

Surface Pavement	Min. Depth of Pavement	Min. Level of Clean Backfill
Unpaved	N/A	18"
Asphalt	2"	8"
Reinforced Concrete	4"	4"

**⚠ CAUTION**

**Native back fill materials should never be used.**

**SECTION 15.0 – PENETRATION BOOT**

OmegaFlex recommends the boots shown in tables 7 and 8 to properly mate up with DoubleTrac piping. These boots have been evaluated to proper sizing, although other boots and manufacturers might also be compatible. All boots must meet local, state, and federal regulations for bulk petroleum storage and piping.

**Table 7 - DoubleTrac Pipe Size-Recommended Fittings for Single Wall Sumps**

DoubleTrac Pipe Size	O.D. Nom	Bravo Part No.	Diversified Part No.	Chase Pipe Fitting	Omegaflex Part No.
1"	1.55	UGF-10-OFLX	B 3.5-1.6	UGF-OFDT-B6-1.6	UGF-EF-16
1-1/2"	2.30	UGF-15-OFLX	B 3.5-2.4	UGF-OFDT-B6-2.4	UGF-EF-24
2"	2.93	UGF-20-OFLX	B 5-3.0	UGF-OFDT-B6-3.0	UGF-EF-32

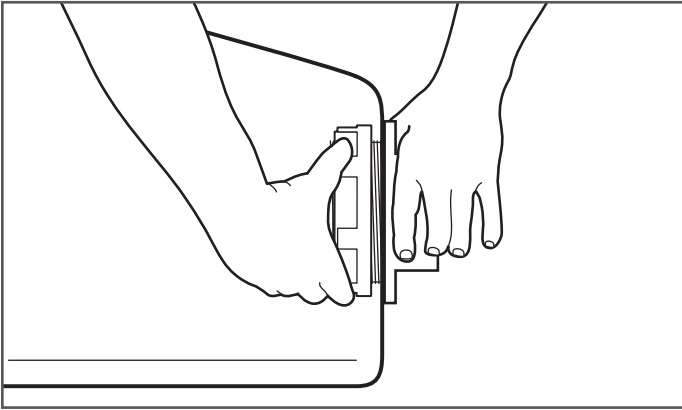
**Table 8 - DoubleTrac Pipe Size - Recommended Fittings for Double Wall Sumps**

DoubleTrac Pipe Size	O.D. Nom	S.A. Bravo Part No.	Diversified Products Part No.
1"	1.55	UGF-10-OFLX-D	U8M-1.6
1-1/2"	2.30	UGF-15-OFLX-D	U8M-2.4
2"	2.93	UGF-20-OFLX-D	U8M-3.0

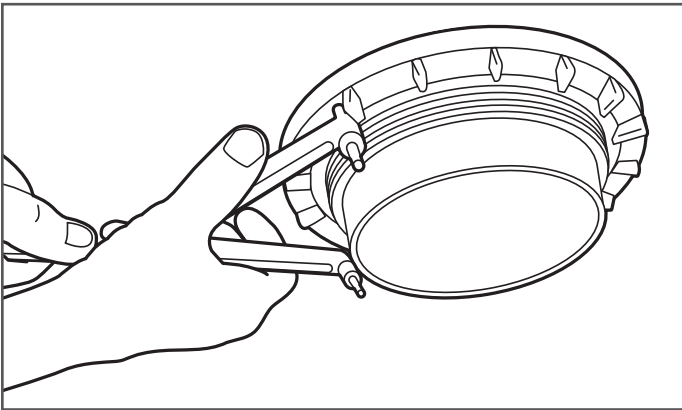


**Important Information Follow All Instructions**

6. On the interior of sump thread locking nut onto body.



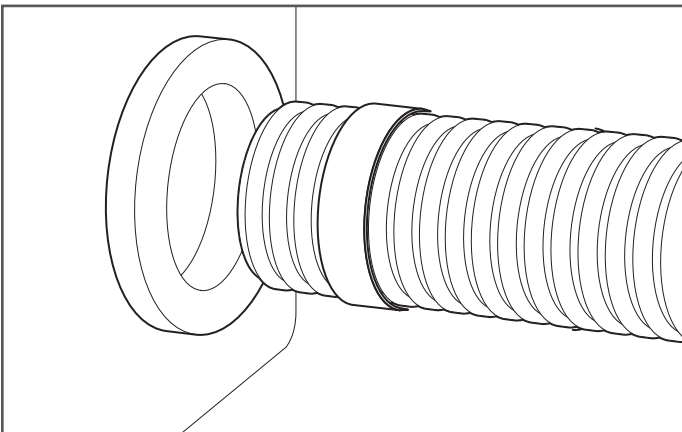
7. Using Part No. UGF-SPW (Spanner Wrench) tighten locking nut until Snug.



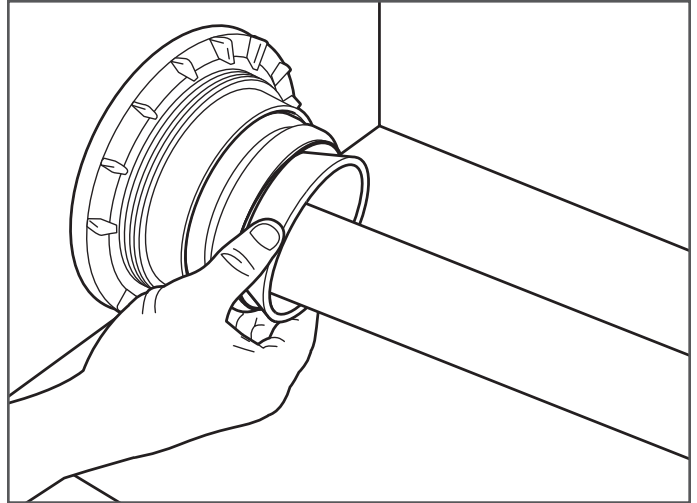
**⚠ CAUTION**

**Do not overtighten locking nut.**

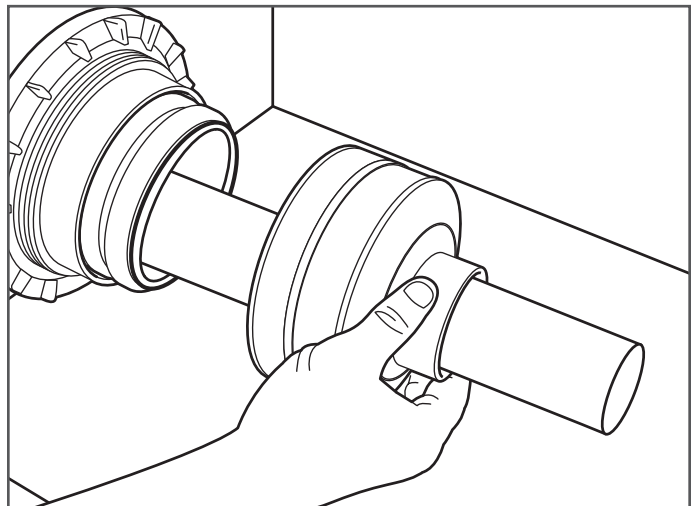
8. Leave three corrugations exposed and install rubber clamping ring into following corrugation. Slide chase pipe into entry fitting.



9. After inserting DoubleTrac® piping into chase piping to the center point of sump. Insert Chase Pipe Crush guard into the inside of chase piping.



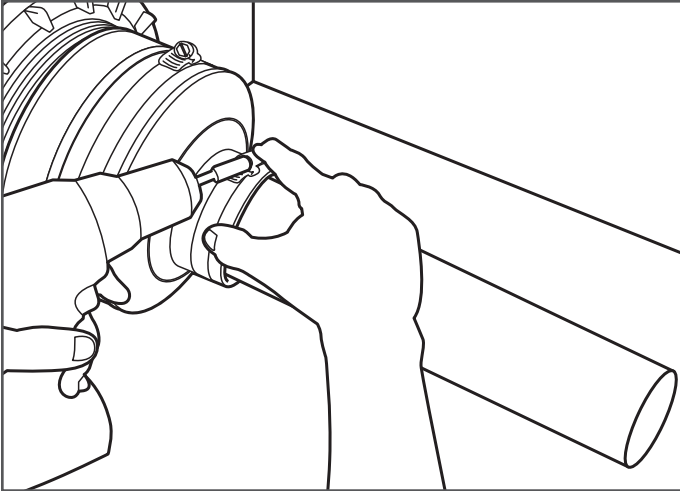
10. Slide rubber boot over DoubleTrac® piping and ensure the rubber boot bottoms out onto the rubber edge of entry fitting.





**Important Information Follow All Instructions**

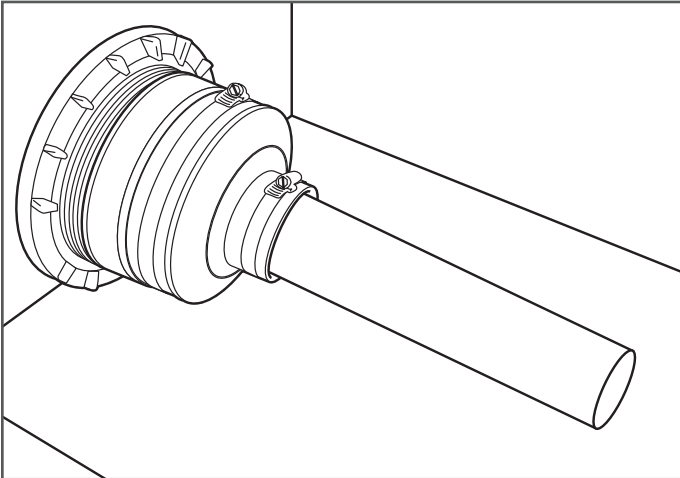
11. Using a 5/16" Nut Driver/Drill tighten the band clamps.



**⚠ CAUTION**

**Do not overtighten band clamps.**

12. Refer to Page 4 of the *DoubleTrac Design and Installation Guide* for the instruction on how to install DoubleTrac BF fitting.



**SECTION 17.0 – ROUTINE MAINTENANCE AND VISUAL INSPECTIONS - PROBLEMS**

It is recommended that a visual inspection of the inside of all containment sumps be completed at least once per month. Fuel leaks collected in containment sumps must be reported immediately and investigated by the site owner. If leakage or damage to the piping system is suspected, OmegaFlex must be notified immediately.

All sumps must be kept free of fuel, water and debris. When changing fuel filters at the dispenser, make sure any spilled product is cleaned out of the bottom of the dispenser sump to prevent possible fire hazard.

**⚠ CAUTION**

**Ignoring or disabling leak detection alarms can lead to further damage and possible failure of the system.**

**Failure to remove fuel and liquids from the containment sumps may compromise the performance and integrity of the sump and its associated fittings (entrance boots) and seals over prolonged periods of time.**

**SECTION 18.0 – OmegaFlex Inc. Contact Information**

OmegaFlex Inc. can be contacted if there are any questions concerning the installation, maintenance or repair of DoubleTrac® piping system. Please contact OmegaFlex customer service and 1-800-355-1035 or on the web at [www.omegaflex.com](http://www.omegaflex.com) or [www.doubletrac.net](http://www.doubletrac.net).

APPENDIX A

**DoubleTrac® Piping Guide for Above Ground Applications**

**Overview**

DoubleTrac's® innovative double wall design includes a primary interior layer of zero-permeation, highly corrosion resistant corrugated stainless steel with an outer EFEP barrier layer bonded to a Nylon 12 protective layer. The unmatched strength of stainless steel combined with the superior chemical resistance of EFEP in the secondary barrier layer provide a highly durable design utilizing proven materials in the industry. The interstitial space provides continuous monitoring for leak detection—making DoubleTrac® the industry's most effective Zero Permeation piping solution. This piping is suitable for use in marinas, harbors, fuel terminals, fuel oil lines, and emergency generator feed and return lines.

**Operating Parameters**

SIZE	1"	1.5"	2"
MAX WORKING PRESSURE (psig)	125 Primary 50 Secondary	100 Primary 50 Secondary	75 Primary 50 Secondary
MINIMUM BEND RADIUS (inches)	12	24	32
WEIGHT (lbs / ft)	0.75	1.50	2.00
OPERATING TEMPERATURE (deg F)	-40 / 150		

**Application Basics**

All installations must be performed by a trained operator. Typically each installation is unique and requires some level of review; however there are some general guidelines that are applicable to all installations. Inspect all piping, fittings and components when they arrive at the job site. Any piping that has been cut, crushed, or otherwise subjected to physical damage during transportation or storage shall be discarded and never used. The piping and fittings shall be handled in such a manner that will not cause any unnecessary damage. Keep all components in the original packaging until ready for use. Inspect fittings prior to installation.

Maintaining a continuous slope from the dispenser to the tank is oftentimes not possible; specifically regarding marina refueling systems. Maintain a uniform slope for as much of the piping as feasible, whether the slope is toward the tank or toward the dispenser. To the extent practical, minimize the number of times the direction of the piping slope changes.

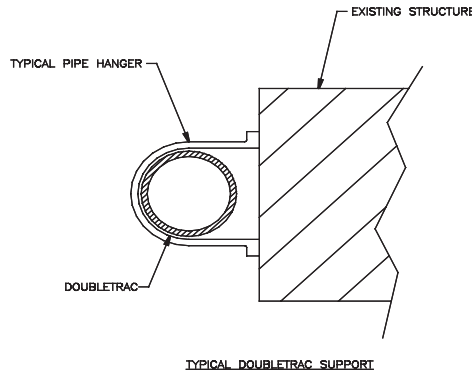
In particular, marinas have some specific requirements. Additionally, refer to the DoubleTrac® design and installation guide (DBT-001) for proper fitting assembly technique.

**Outdoor Installations**

When installed outdoors, the DoubleTrac piping must be adequately protected from puncture, shear, crush or other physical damage threats, including possible damage from:

- vehicular or pedestrian traffic, corrosion,
- twisting, bending, kinking, chafing, or other excessive or prolonged movement of the piping,
- construction and excavation,

When installed along the side of a structure in an exposed condition, the DoubleTrac piping shall be installed in a location which will not subject the piping to mechanical damage. NOTE: For support and protection, OmegaFlex recommends that outside runs along the side of a building be clipped securely to the wall or other structural component every six feet. Typical supports are Unistrut conduit hangers, “U” bolts, PVC pipe couplers, or Hosebuns.



**Marina Installations**

**Fixed Dock**

When installing DoubleTrac® on a fixed dock, the piping may be run along the side or underneath it. In either case, the routing must be such that it cannot be damaged, crush, kinked during normal use of the dock. The piping must be supported evenly along the entire run; supports are required every six feet. Typical supports are Unistrut conduit hangers, “U” bolts, PVC pipe couplers, or Hosebuns.

**Floating Dock**

Floating docks are unique and require OmegaFlex Engineering to determine if DoubleTrac® can be used along the gangway. In many cases DoubleTrac® can be used along the gangway because the tidal surge is not significant enough to cause fatigue or premature failures.

When Omega Flex Engineering determines DoubleTrac® cannot be used along the gangway, the dock to shore connection should be an approved flexible connector.

DoubleTrac® can be installed along the length of the floating dock portion. The routing must be such that DoubleTrac® cannot be damaged, kinked, or crushed during normal use of the dock. The piping must be supported evenly along the entire run; supports are required a minimum of every six feet. Typical supports are Unistrut conduit hangers, "U" bolts, PVP pipe couplers, or Hosebuns.

**⚠ CAUTION**  
**Please contact OmegaFlex Engineering Department for flexible double contained dock connectors at 1-800-355-1039.**

**Routine Maintenance and Visual Inspections**

It is recommended that a visual inspection of all components as well as the inside of all containment sumps be completed at least once per month. Typical monthly inspections include, but are not limited to:

- visual inspection of piping: no visible damage to the outer jacket such as cracks, crushing, kinking, or puncture
- visual inspection of all mounting hardware: all hardware must be intact and securely mounted in the original location
- visual inspection of DoubleTrac fittings: no visible damage to fittings, no sign of leakage, any vent/test port fittings or bypass hoses should be show no sign of crushing, kinking, or puncture.

Fuel leaks collected in containment sumps must be reported immediately and investigated by the site owner. If leakage or damage to the piping system is observed or suspected, OmegaFlex must be notified immediately. All sumps must be kept free of fuel, water and debris. When changing fuel filters at the dispenser, make sure any spilled product is cleaned out of the bottom of the dispenser sump to prevent possible fire hazard.

**Contact Information**

OmegaFlex Inc. can be contacted if there are any questions concerning the installation, maintenance or repair of DoubleTrac® piping system. Please contact OmegaFlex customer service and 1-800-355-1035 or on the web at [www.omegaflex.com](http://www.omegaflex.com) or [www.doubletrac.net](http://www.doubletrac.net).



**LIMITED WARRANTY- Installation Form**

**Warranty Disclaimer:** The DoubleTrac Limited Warranty is only valid if this form is received by the DoubleTrac Customer Service Team within 30 days after installation is complete.

**Contractor**

**Installation Site**

Name \_\_\_\_\_ Name \_\_\_\_\_  
Address \_\_\_\_\_ Address \_\_\_\_\_  
Email \_\_\_\_\_  
Phone \_\_\_\_\_ Installation Date \_\_\_\_\_  
Fax \_\_\_\_\_ Completion Date \_\_\_\_\_  
Distributor \_\_\_\_\_  
Installer's State Certification No. \_\_\_\_\_ Installer's Training Cert No.: \_\_\_\_\_

**Piping**

1. What size pipe was used? (*Circle one*) 1" 1.5" 2"  
2. Was any other underground piping used other than DoubleTrac? (*Circle one*) Yes No

If so, what kind?

3. What types of fuels are to be stored? (*Circle all that apply*)

Gasoline Gasohol Diesel Ethanol Methanol Fuel Oil Bio-diesel  
Other \_\_\_\_\_

**Please circle yes or no to the following:**

4. Was the site contaminated before installation? Yes No  
If yes: (a) Was the site fully remediated? Yes No  
(b) Did the site receive clearance from government authorities? Yes No  
(c) What is the name of the environmental contractor? \_\_\_\_\_

5. Were all piping and fittings inspected for damage before and after installation? Yes No  
6. Was approved backfill material used? Yes No  
7. Was the Installation Manual followed? Yes No  
8. Was any direct bury pipe crossed over? Yes No If so were crossover supports used? Yes No  
9. Were all Self-Flaring Fittings tightened to spec? Yes No  
10. Was the DoubleTrac Primary Pipe pressure tested? Yes No  
11. Was the DoubleTrac Interstitial Space pressure tested? Yes No  
12. Was Chase Pipe used? Yes No  
13. Was the Secondary Jacket left open to atmosphere after testing? Yes No

**Pipe Entry Points (please provide)**

Name of Boot Manufacturer \_\_\_\_\_  
All Boot part numbers \_\_\_\_\_  
Circle yes or no: Was the exact size hole drilled for each entry boot? Yes No  
Were all band clamps secured? Yes No Were the entry boot nuts properly tightened? Yes No

**Dispenser Sumps (please provide)**

Name of Dispenser Sump Manufacturer \_\_\_\_\_  
All Dispenser Sump part numbers \_\_\_\_\_  
Circle yes or no: Were sumps inspected for damage before and after installation? Yes No  
Were the instructions followed? Yes No

**Tank Sumps (please provide)**

Name of Tank Sump Manufacturer \_\_\_\_\_  
All Tank Sump part numbers \_\_\_\_\_  
Contractor Signature \_\_\_\_\_ Date \_\_\_\_\_



**DoubleTrac® Pre-Installation Check List**

The following items should be completed before OmegaFlex® personnel arrive on site for training:

- Two week minimum lead time for OmegaFlex personnel to be on site
- All existing product removed
- All ancillary equipment set i.e. tanks & sumps
- All ground work completed i.e. trenches dug or supports hung
- DoubleTrac pipe and fittings are on site

*Please fill out the following information:*

Contact for DoubleTrac Installation \_\_\_\_\_

Company Name \_\_\_\_\_

Telephone \_\_\_\_\_

Project Name \_\_\_\_\_

Project Type (*circle*)    UST    AST    Retail Marina    Emergency generator/boiler

Requested installation Date \_\_\_\_\_

Sign \_\_\_\_\_

Date \_\_\_\_\_

Please fax form to **610.524.6484**

## LIMITED WARRANTY- Above Ground and Marina

PRODUCT	LENGTH OF WARRANTY
DoubleTrac petroleum pipe & fittings	15 years

Omega Flex, Inc. warrants to the purchaser of the DoubleTrac® piping system that the products listed above (the “Product”) when installed in above ground applications or on fixed or floating docks will be free from defects in material or workmanship for period stated above, as measured from the date of shipment from DoubleTrac. This excludes DoubleTrac dock connectors which are covered under a separate warranty.

If upon examination, the Product is shown to have a defect in material or workmanship during the warranty period, DoubleTrac will, at its option, either repair or replace that part of the Product which is shown to be defective, or issue a credit for the amount of the defective product that may be applied to future orders of the Product.

### **This limited warranty does not apply:**

- If the Product has been subjected to misuse or neglect, has been accidentally or intentionally damaged, or has been altered or modified in any way.
- If the Product has been repaired by anyone who is not a DoubleTrac authorized service representative.
- If the Product has not been installed in accordance with the DoubleTrac installation guidelines.
- If the Product has been installed with unauthorized third party components, except those components that are recommended for use with DoubleTrac in the DoubleTrac installation guide.
- To any costs or expenses incurred during investigation, removal or reinstallation of the defective Product, including without limitation any costs or expenses for clean-up, downtime, or lost profits.
- To any damage or impairment of the Product caused by any casualty, including without limitation fires, storms, floods, earthquakes, or acts of God.
- To any workmanship of the installer of the Product.

### **This limited warranty is conditional upon:**

- Receipt of a written warranty claim during the applicable warranty period.
- Installment of the Product by an individual who has received factory authorized training on the installation and proper use of DoubleTrac.
- All site and warranty registration forms are completed and received by DoubleTrac within 30 days of installation.
- All piping and connections are installed with an approved leak detection device in each tank and dispenser sump.
- A sump inspection log or EPA checklist is maintained and provided to DoubleTrac on request.
- DoubleTrac receives notice of warranty claim within 24 hours of any known or suspected failure of the Product.

Product can only be returned with prior written approval from DoubleTrac. All returns must be freight prepaid. Manufacturer will inspect the alleged defective part, and provide the customer with the results of that inspection whether or not in the reasonable opinion of DoubleTrac, that there exists a defect in material or workmanship. Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

### **IMPORTANT**

This limited warranty is in lieu of all other warranties, either express or implied, and all such other warranties, including without limitation implied warranties of merchantability or fitness for a particular purpose, are hereby disclaimed and excluded from this limited warranty.

### **LIMITATION OF LIABILITY**

In no event will DoubleTrac be liable in any way for (a) any consequential, special, or incidental damages of any nature whatsoever, or (b) any amounts in excess of the selling price of the Product or any parts thereof found to be defective.

## LIMITED WARRANTY- Below Ground

PRODUCT	LENGTH OF WARRANTY
DoubleTrac petroleum pipe & fittings	30 years

Omega Flex, Inc. warrants to the purchaser of the DoubleTrac® piping system that the products listed above (the “Product”) when installed in below ground applications will be free from defects in material or workmanship for period stated above, as measured from the date of shipment from DoubleTrac.

If upon examination, the Product is shown to have a defect in material or workmanship during the warranty period, DoubleTrac will, at its option, either repair or replace that part of the Product which is shown to be defective, or issue a credit for the amount of the defective product that may be applied to future orders of the Product.

### This limited warranty does not apply:

- If the Product has been subjected to misuse or neglect, has been accidentally or intentionally damaged, or has been altered or modified in any way.
- If the Product has been repaired by anyone who is not a DoubleTrac authorized service representative.
- If the Product has not been installed in accordance with the DoubleTrac installation guidelines.
- If the Product has been installed with unauthorized third party components, except those components that are recommended for use with DoubleTrac in the DoubleTrac installation guide.
- To any costs or expenses incurred during investigation, removal or reinstallation of the defective Product, including without limitation any costs or expenses for clean-up, downtime, or lost profits.
- To any damage or impairment of the Product caused by any casualty, including without limitation fires, storms, floods, earthquakes, or acts of God.
- To any workmanship of the installer of the Product.

### This limited warranty is conditional upon:

- Receipt of a written warranty claim during the applicable warranty period.
- Installment of the Product by an individual who has received factory authorized training on the installation and proper use of DoubleTrac.
- All site and warranty registration forms are completed and received by DoubleTrac within 30 days of installation.
- All piping and connections are installed with an approved leak detection device in each tank and dispenser sump.
- A sump inspection log or EPA checklist is maintained and provided to DoubleTrac on request.
- DoubleTrac receives notice of warranty claim within 24 hours of any known or suspected failure of the Product.

Product can only be returned with prior written approval from DoubleTrac. All returns must be freight prepaid. Manufacturer will inspect the alleged defective part, and provide the customer with the results of that inspection whether or not in the reasonable opinion of DoubleTrac, that there exists a defect in material or workmanship. Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

### IMPORTANT

This limited warranty is in lieu of all other warranties, either express or implied, and all such other warranties, including without limitation implied warranties of merchantability or fitness for a particular purpose, are hereby disclaimed and excluded from this limited warranty.

### LIMITATION OF LIABILITY

In no event will DoubleTrac be liable in any way for (a) any consequential, special, or incidental damages of any nature whatsoever, or (b) any amounts in excess of the selling price of the Product or any parts thereof found to be defective.



**Omega Flex, Inc.**  
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[www.omegaflex.com](http://www.omegaflex.com)  
ISO 9001 Registered Company

**Corporate Offices**  
13 Court Street, Suite 1001, Middletown, CT 06457  
860-704-6820 • Fax 860-704-6830

DBT-001 REV 8/17





Manufacturer of flexible metal hose and gas piping products



## DoubleTrac ASME / NFPA / CFC / MSS Compliance

### ASME B31.1:

- DoubleTrac is in compliance with ASME B31.1 specifically:
- ASME B31.1, specifies approved materials, Table 126.1 Lists ASTM A240 as an approved material. DoubleTrac primary pipe is manufactured from stainless steel per ASTM A240 which puts it in compliance.

### ASME B31.3:

- DoubleTrac is in compliance with ASME B31.3 specifically:
- ASME B31.3, specifies approved materials, Appendix A, Specification Index, lists ASTM A240 as an approved material. DoubleTrac primary pipe is manufactured from stainless steel per ASTM A240 which puts it in compliance.

### ASME B31.4:

- DoubleTrac is in compliance with ASME B31.4 specifically:
- ASME B31.4, specifies approved materials, Table 423-1-1, lists ASTM A240 as an approved material. DoubleTrac primary pipe is manufactured from stainless steel per ASTM A240 which puts it in compliance.

### ASME B31.9:

- DoubleTrac is in compliance with ASME B31.9 specifically:
- ASME B31.4, specifies approved materials, in Mandatory Appendix I, and listed materials in ASME B31.1. ASME B31.1, specifies approved materials, Table 126.1 Lists ASTM A240 as an approved material. DoubleTrac primary pipe is manufactured from stainless steel per ASTM A240 which puts it in compliance.

### NFPA 30 Section 27:

- DoubleTrac is in compliance with NFPA 30 specifically:
- NFPA 30 Section 27.4.1 Materials Specifications: Material must meet ASME B31.1, which compliance is addressed above.
- NFPA 30 Section 27.4.6.1 Nonmetallic Piping: Additionally pipe materials shall be in accordance with UL 971, of which, DoubleTrac is listed to UL971A, which puts it in compliance.

#### NFPA 37 Chapter 6.8:

- DoubleTrac is in compliance with NFPA 37 Chapter 6.8 specifically, 6.8.1 specifies compliance to NFPA 30 which has been addressed above.
- Additions, NFPA 37 6.8.1 specifies that piping must be steel, which DoubleTrac pipe is stainless steel, per ASTM A240. This is in compliance with NFPA 30 Section 27 which refers to ASME B31.1, and ASTM A240 is an approved material per table 126.1 in ASME B31.1.

#### 2010 CFC Section 3403.6 Piping Systems:

- DoubleTrac is in compliance with 2010 CFC3403.6
- Specifically, 3403.6.2.1 states nonmetallic piping must be per NFPA Section 27.4.6, which specifies compliance to UL971 for which DoubleTrac is UL Listed.
- 3403.6.10 Pipe Joints – DoubleTrac fittings on the primary pipe are a mechanical metal to metal seal, not reliant on the plastic portion to maintain a seal. The primary pipe to fitting joint does not utilize any O-rings or gaskets and will not leak during a fire.
- 3403.6.2.1 Clauses 1 through 3 are addressed by the design/installation.

#### 2013 CFC Section 5703.6 Piping Systems:

- DoubleTrac is in compliance with 2013 CFC5703.6
- Specifically, 5703.6.2.1 states piping must be in accordance with the standards listed in Table 5703.6.2 ASME B31.1, ASME B31.3, ASME B31.4, and ASME B319.9, compliance to each of those is listed above.
- 5703.6.2 States that all nonmetallic piping must be per NFPA 30 Section 27.4.6, which specifies compliance to UL971 for which DoubleTrac is UL Listed.
- 5703.6.10 Pipe Joints – DoubleTrac fittings on the primary pipe are a mechanical metal to metal seal, not reliant on the plastic portion to maintain a seal. The primary pipe to fitting joint does not utilize any O-rings or gaskets and will not leak during a fire.
- 5703.6.2.1 Clauses 1 through 3 are addressed by the design/installation.

#### MSS SP-69:

- This has now been incorporated in MSS SP-58. Although this is not specifically a design requirement for DoubleTrac; the recommendation is that the installers utilize hanger Type 11 or Type 12 to facilitate mounting and securing DoubleTrac to the appropriate structure. These clamp types are readily available from a number of suppliers.