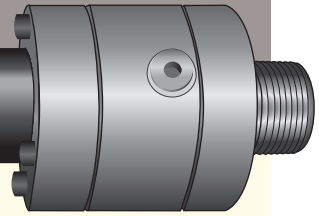




## CASE STUDY

UL1369 Listed Aboveground Fuel Piping - Retrofit  
Data Center Backup Generation.

- Saves Time
- Saves Money
- Increases Installation Options



**Product:**

**DoubleTrac®** Stainless Steel Double Containment Fuel Piping for UL1369 Listed Aboveground Fuel Piping - Retrofit Data Center Backup Generation.

**Project Team:** Mac-Miller Mechanical



2" DoubleTrac® Dual Fuel Oil Supply (FOS) and Fuel Oil Return (FOR) sweep 90.

DoubleTrac® piping by Omega Flex, Inc. has been installed in many data centers across the country. Backup power generation is crucial for supporting these data storage systems, enabling them to remain functional and continue to support digital technologies worldwide. The DoubleTrac® piping system's characteristics, including our UL 1369 listing and an exclusive ICC Seismic Resilience listing (ICC ESR-4565) for fuel piping, making it a match for critical control backup power generation applications.

As UL 1369 requirements are being adopted across the country in the 2021 International Mechanical Code and the 2021 International Fire Code, DoubleTrac® piping is becoming more prevalent in its use for above-ground fuel systems. UL 1369, with the use of metallic/nonmetallic composite piping systems require the fuel piping to be double-contained, UV stable, pass a 30-minute fire test, and to be continuously monitored. DoubleTrac® piping is currently the only US-made semi-rigid fuel piping system to meet these requirements. DoubleTrac® piping surpassed the 30-minute fire rating, testing and certifying the system to reach a 2-hour listing. This matches DoubleTrac® piping to UL2085-rated Aboveground Tanks for Flammable and Combustible Liquids.



2" DoubleTrac® Dual Fuel Oil Supply (FOS) and Fuel Oil Return (FOR) sweep 90 to double-wall stainless elbows.

The ICC Seismic Resilience test was applied to several Omega Flex, Inc. products, including DoubleTrac® piping. The system was supported as outlined in the Design and Installation Guide and was subjected to a simulated 6.7 magnitude earthquake via a large shake-table. DoubleTrac® piping retained full containment and functionality, where rigid single-wall piping failed in several places. The result is a fuel piping system fully listed and labeled with the ICC ESR-4565 stamp.

In this application, Mac-Miller Mechanical decided to use DoubleTrac® piping for its flexibility and ability to install quickly and easily adapt to a retrofit application in an existing large multi-story structure. This building's location made it a perfect candidate for a data center application. A massive mechanical renovation had to be accomplished to allow for multiple generators to be installed, along with an expansive cooling system to keep the servers running at peak efficiency.



2" DoubleTrac® Dual Fuel Oil Supply (FOS) and Fuel Oil Return (FOR) sweep 90 to double-wall stainless elbows.

Along with typical installation challenges, this project required the fuel piping to be installed alongside new and existing mechanical and electrical systems in a building that was not designed to be a data center. As a result, lots of angles and sweeping bends were needed to make the piping system adapt to the environment. The installers and GC were very happy with both the ease of installation and the speed with which they were able to complete the work. In this application, exclusive DoubleTrac® stainless double-walled 90-degree elbows were also used to make tight pathway changes without the need for transition sumps or difficult welding.

*(continued on back)*



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ISO 9001 Registered Company

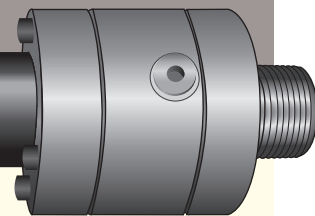
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## CASE STUDY

### UL1369 Listed Aboveground Fuel Piping - Retrofit Data Center Backup Generation.



*(continued from front)*



2" DoubleTrac® Dual Fuel Oil Supply (FOS) and Fuel Oil Return (FOR).

A huge benefit of using DoubleTrac® piping is the ability to purchase the DoubleTrac® piping in continuous long lengths that eliminate all the welded joints that are required for a rigid steel piping system. Having the ability to run a continuous section of fuel piping with no intermediate connections from point A to point B results in a reduction in potential leak points and fewer installation hours.

#### Features and Benefits of DoubleTrac® Piping

The DoubleTrac® double containment fuel piping system is optimized for installations in existing building structures. The outer shell is a smooth Nylon 12, which allows DoubleTrac® piping to slide easily over and around structures during installation. The outside diameter of the DoubleTrac® piping is equivalent to steel piping (NPS), so off-the-shelf pipe hangers and mounts can be used. DoubleTrac® piping is available in 1", 1 ½", and 2" sizes to accommodate most fuel system requirements. It is sold in off-the-shelf reel quantities for quick delivery and can be ordered in custom lengths to accommodate long continuous runs.

Type 316 stainless steel Tee and 90-degree fittings are available for multi-branch systems or installations requiring bending below the DoubleTrac® piping minimum bend radius. All DoubleTrac® fittings carry interstitial communication internally and are not required to be installed within a containment sump on above-ground applications.

DoubleTrac® piping's innovative double-wall design includes a primary interior layer of zero permeation, highly corrosion-resistant corrugated 316 stainless steel with an outer EFEP barrier layer bonded to a Nylon 12 protective layer. DoubleTrac® piping can be considered a "green product" because the stainless-steel piping has zero permeation, and the EFEP/Nylon 12 outer jacket has nearly zero permeation (.000001%). DoubleTrac® piping is a true future fuel piping system and is the best choice for fuel oil, low-sulfur diesel blends, biodiesel, gasoline, and aviation and jet fuels.

DoubleTrac® Piping and Fittings are UL 971A listed (Metallic Underground Fuel Piping for Flammable Fuels). and UL 1369 listed (Aboveground Piping for Flammable and Combustible Liquids).

DoubleTrac® piping passed a 2-hour Fire Test per UL 1369 Standard.

DoubleTrac® piping passed General-use Fuels, B100, DEF, and Ammonia Hydroxide per UL 1369 listing.

DoubleTrac® piping has a patented, mechanically field-attachable fitting that creates a metal-to-metal seal that requires NO O-Rings, which have a finite lifespan and can degrade over time.

DoubleTrac® piping, all sales are subject to our limited warranty, which is available at <https://omegaflexcorp.com/legal-information> and

Omega Flex, Inc. offers a team of in-house engineers to assist with DoubleTrac® piping layouts and answering technical questions. Omega Flex, Inc. offers no-cost training and certification of new installers.



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