

# UST Certification Refresher Altoona, IA November 19 & 20, 2015

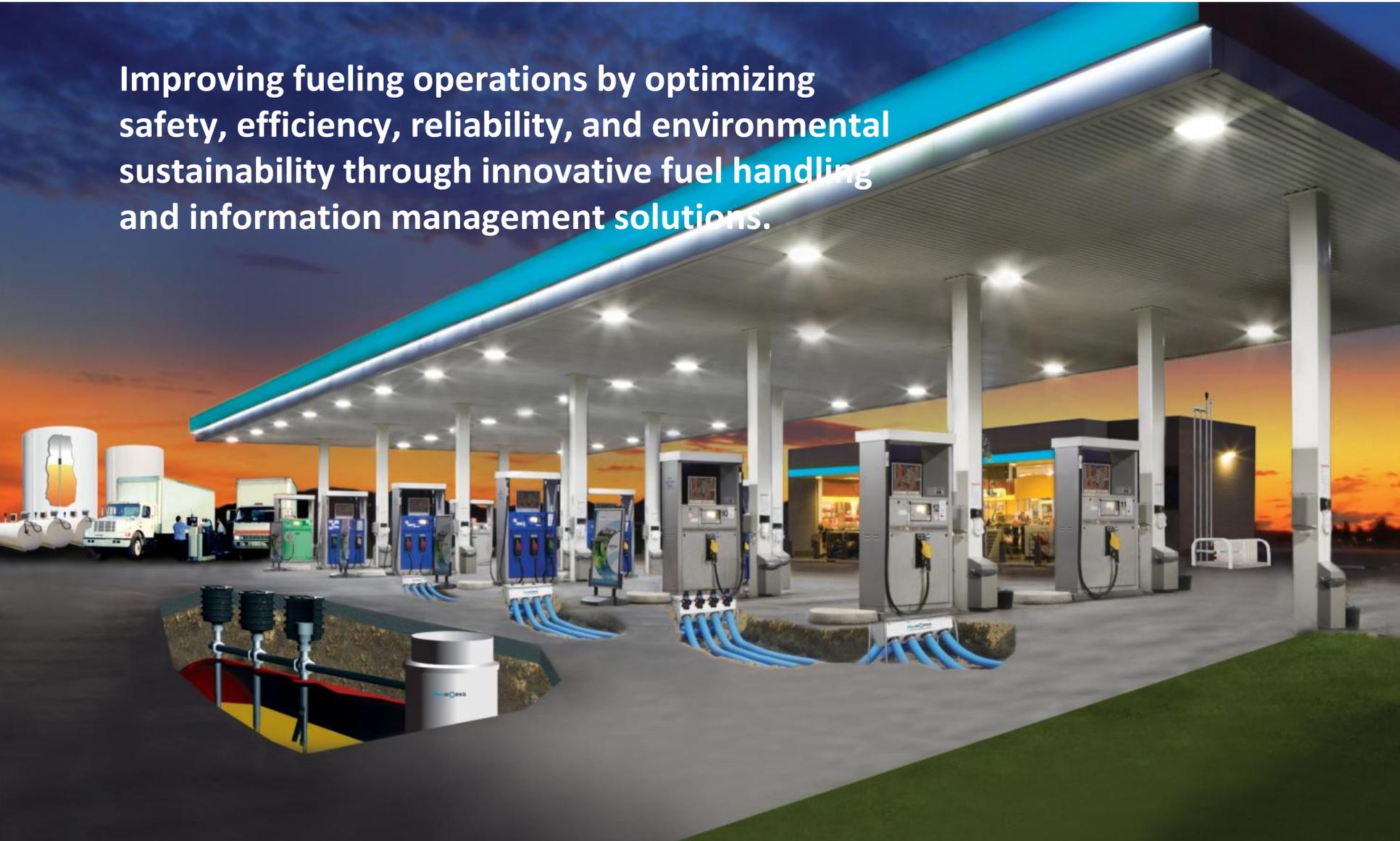


**Leading the Way**  
in Fueling Innovation Worldwide



## OPW Global Mission

Improving fueling operations by optimizing safety, efficiency, reliability, and environmental sustainability through innovative fuel handling and information management solutions.





## Environmental Sustainability is a Cornerstone of OPW's Purpose & Product Offering

### Environmentally Safe Refueling Systems That Promote:

- Clean Air
- Clean Water
- Safe Consumer Environments



Vapor Recovery  
Products



Spill  
Prevention



Overfill  
Protection



Fuel Transfer &  
Containment



Tank  
Monitoring



CleanEnergy  
Fueling Products

**OPW below ground products are designed to be accessible all the time**

**Always:**

**Access – Able**

**Monitor – Able**

**Maintain – Able**

**Repair – Able**

**Replace – Able**

**WITHOUT BREAKING CONCRETE**



## 1-2200 Spill Container- Why the Market Needs this Product

- New EPA Spill Containment Requirements:
  - Periodic testing of spill containers
  - Some states may require double wall spill containers in the future
- Over 500,000 direct bury spill containers in the ground that will have to be tested for the first time
- Customers will migrate to an affordable, repairable replacement

### 1-2100

Industry Standard Direct Bury Spill Container

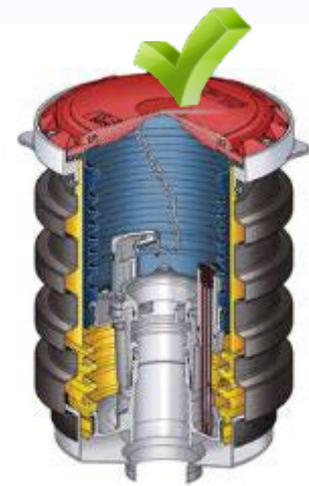


**Affordable Single Wall Repairable Spill Container**



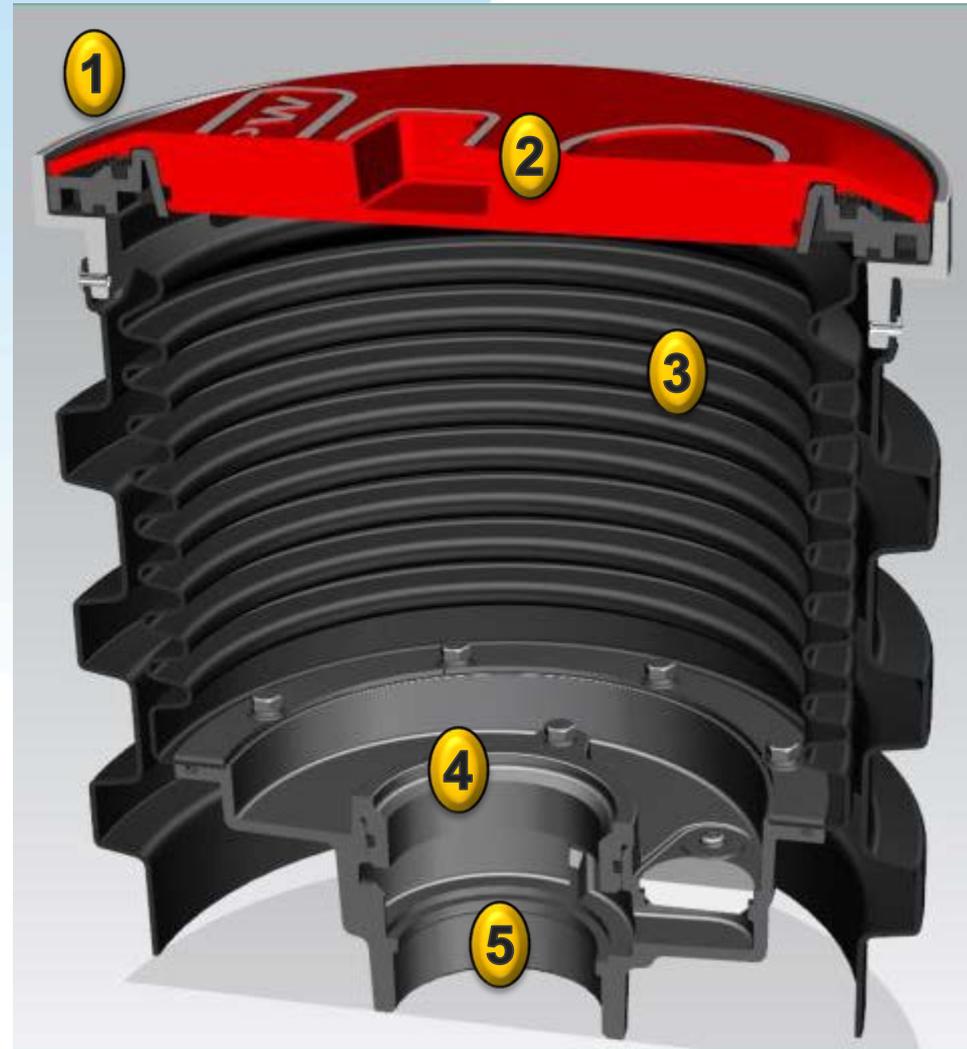
### DW EDGE (1-3100)

Best In Class Double Wall Replaceable Spill Container



## 1-2200 Product Features

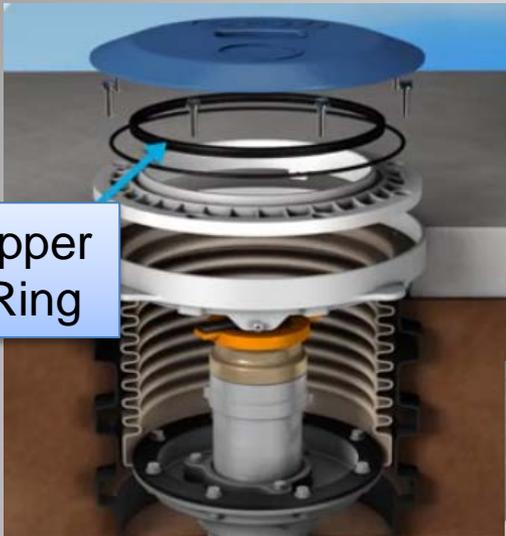
- Competitively Priced Just Above 1-2100 Series
- Key Features:
  - 1 Snowplow Ring-less Cover
  - 2 Handle in Cover
  - 3 Replaceable Bellows
  - 4 Unique Flange Adapter- Allows quick and easy removal of overfill valve without torquing base
  - 5 Built In Face Seal Adapter



# 1-2200: Easily Replaceable Bellows

1

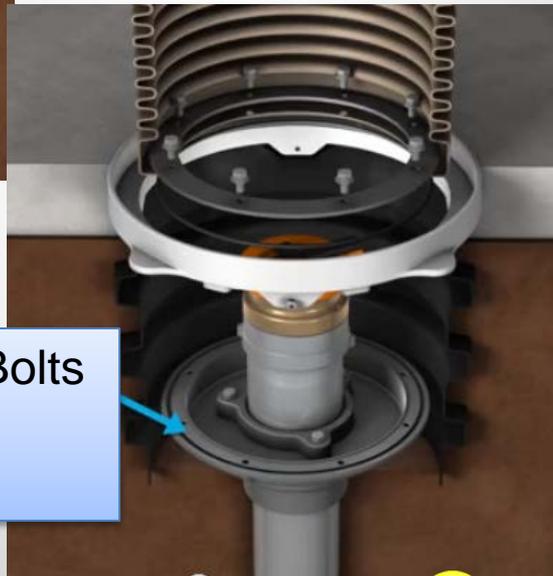
Remove Upper Bolts and Ring



Replace Bellows in 3 Easy Steps  
No Removal of Base Needed to Replace Bellows

2

Remove Lower Bolts and Ring and Remove Bellows



3

Replace Bellows, Reinstall Upper and Lower Rings



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*in Fueling Innovation Worldwide*

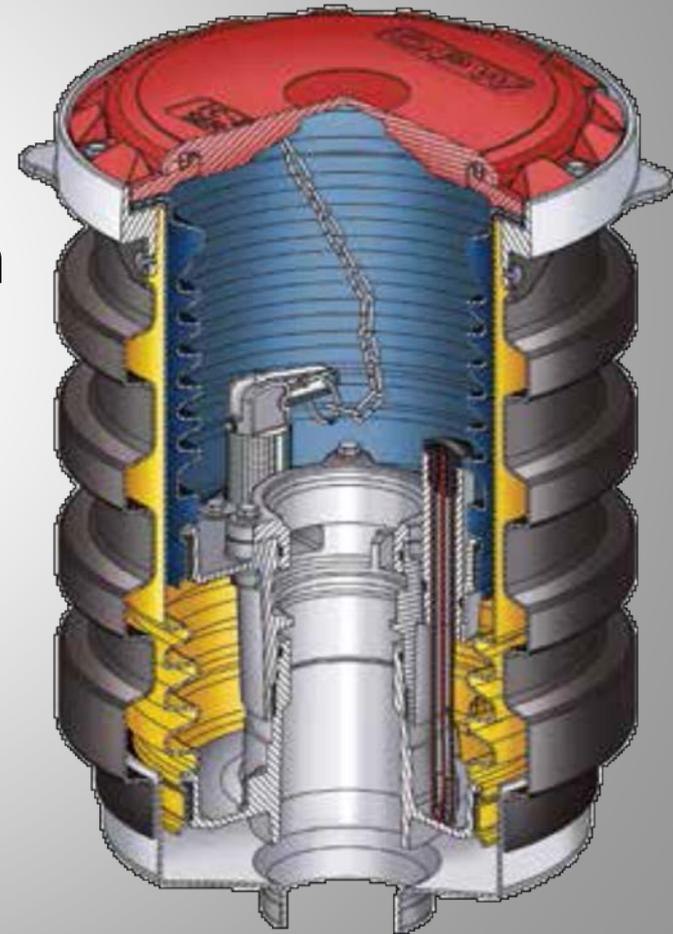


# EDGE Double Wall Spill Container



# EDGE Double-Wall Spill Container

- ❖ Installs in same space as single wall bucket
- ❖ Top mounted vacuum test port
- ❖ Visual float gauge
- ❖ Patented ledge design- smooth machined sealing face for drop tube
- ❖ Removable adapter – for quick and easy access to drop tube

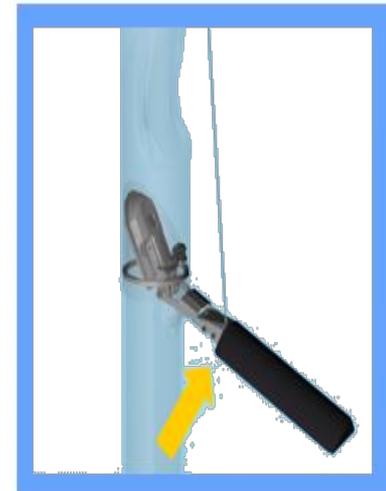


# 71SO Testable Overfill Valve



# 71SOT testable overflow valve

- ❖ Allows overflow valve to be functionally tested without removing from the ground:
  - Simple test avoids an hour of removal and reinstallation time for 2 techs
  - Eliminates opportunity to damage float and critical seals for vapor tightness while removing valve from riser
- CARB EVR and DEQ approved

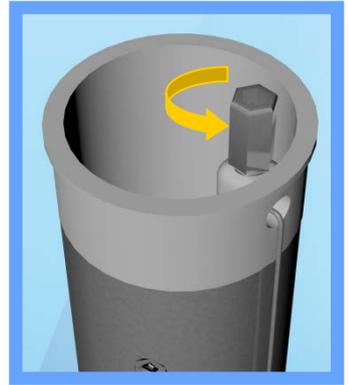


*The easiest, quickest, and most cost efficient way to ensure that your overfill valves will operate when called upon....verifiable without removing them from the tanks. CARB EVR approved.*

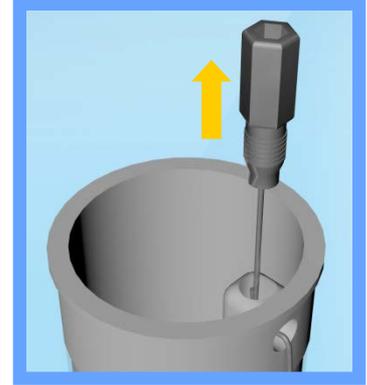
# Testable 7150-T Overfill Prevention Valve



**Loosen Test Plug**



**Lift Float with Cable to Simulate Fill**



**Validate Proper Poppet Operation**



**Leading the Way**  
*in Fueling Innovation Worldwide*



A **DOVER** COMPANY



**Leading the Way**  
in Fueling Innovation Worldwide

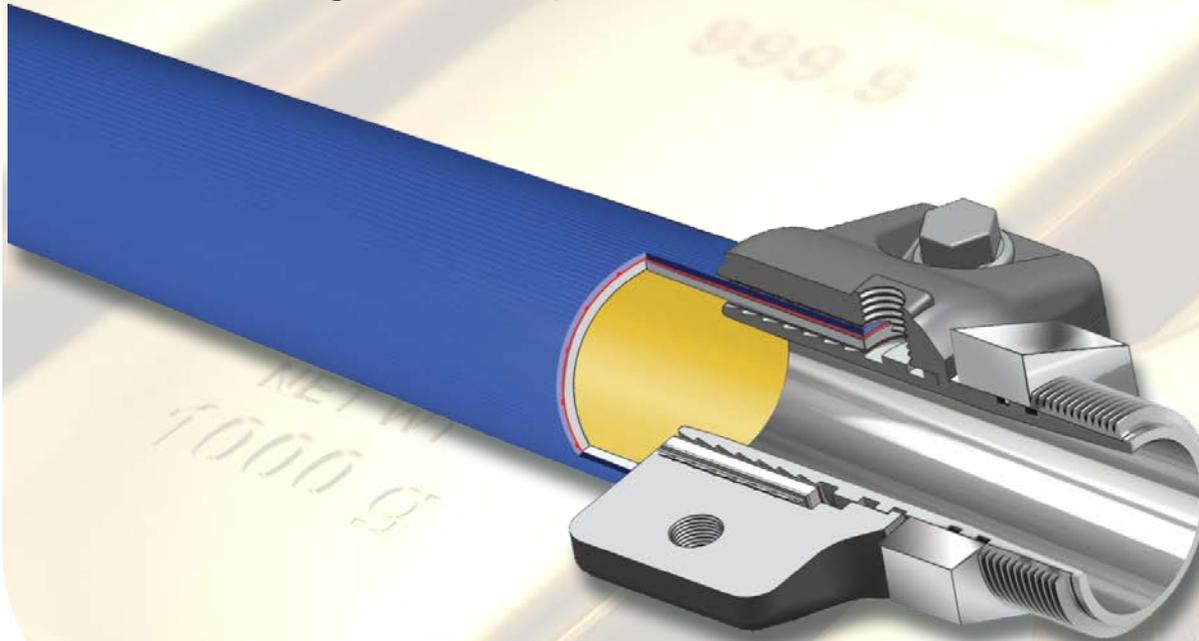


# **FlexWORKS**

**BY OPW FUELING CONTAINMENT SYSTEMS**

*Innovative Fueling Solutions*

- ❖ 50 Years of Unmatched Chemical Resistance Performance Packed into One Unique Pipe - KYNAR® (PVDF) + OPW = 18 Years of Excellence in Underground Pipe Performance.

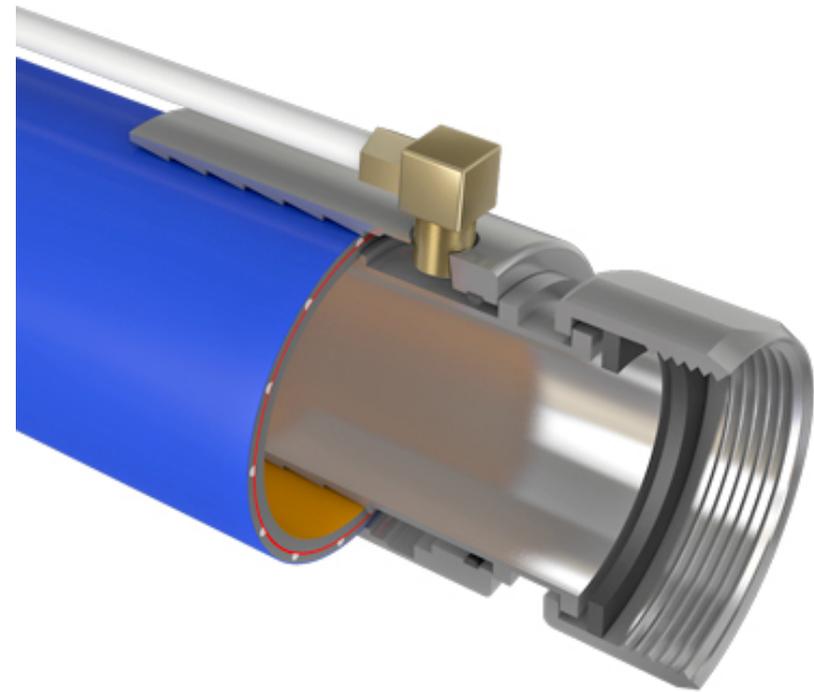


- ❖ Approved for all fuels
- ❖ Bonded Construction

## DPC – Double Wall Pipe Couplings

### ❖ **Benefits:**

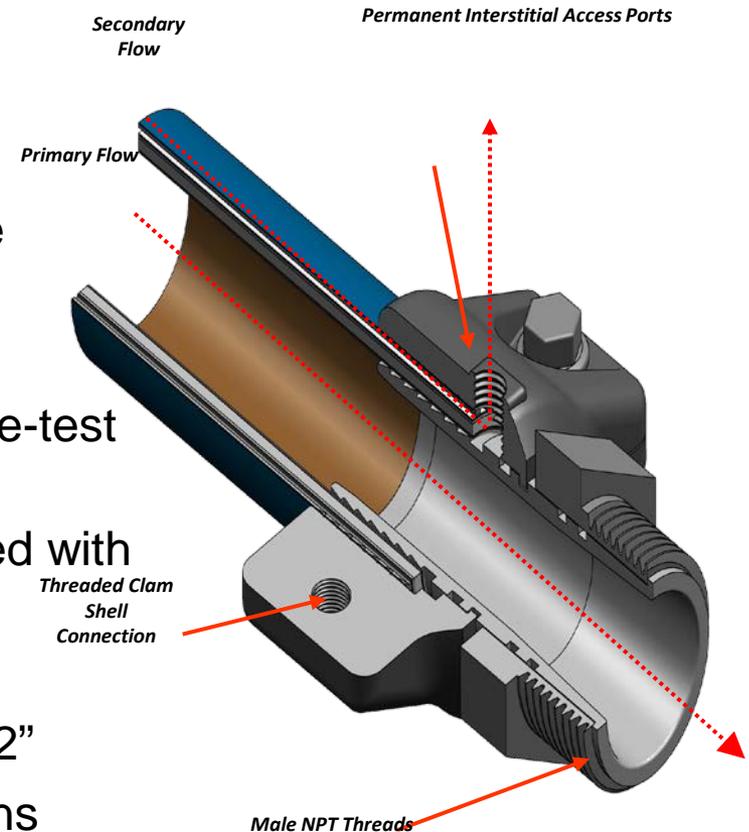
- Creates an interconnected interstitial system that may be continuously monitored or periodically tested
- No rubber test boots
- No trimming back of the secondary pipe jacket
- All stainless steel construction



## Swivel Bolt-On Coupling

### ❖ Benefits:

- No trimming back of the secondary pipe jacket
- No test boot required
- Provides quick and effective means to re-test secondary containment
- NPT male thread allows fitting to be used with standard plumbing fittings.
- Quick and easy to install
- Currently available in 3/4", 1", 1-1/2" and 2"
- Compatible for E85 and DEF applications



# The Loop System



## Why?....The Loop System

### To Attain a Higher Level of Environmental Protection

- Enhance Long Term System Reliability
- Enhance the ability of contractors to attain a quality installation
- Enhance the ability of owners to inspect, maintain, monitor, identify and easily repair any potential problem that may develop before there is an environmental or safety issue.

## What?....The Loop System

**An evolutionary underground piping system that eliminates more than 50% of field fabrication and the associated problems.**

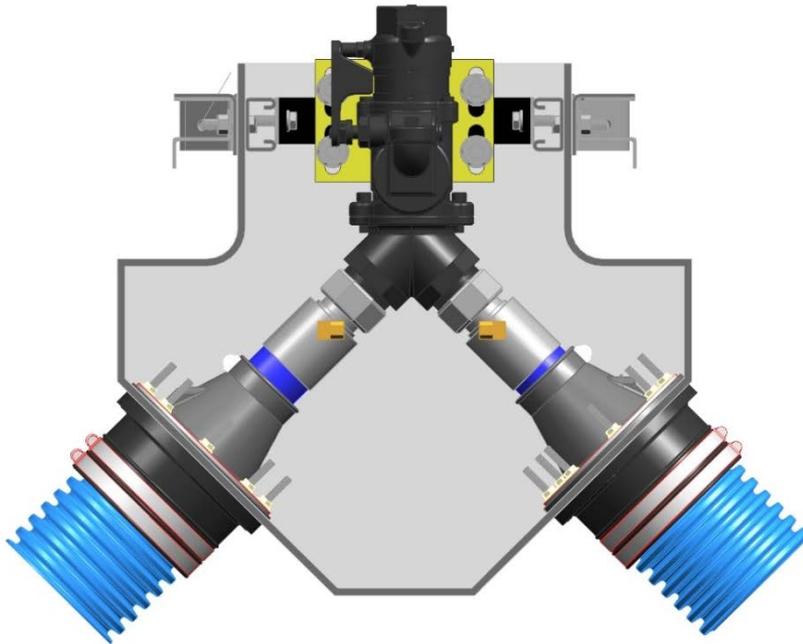
This unique fuel delivery system minimizes:

- ❖ Complexity of Piping Installation
- ❖ Site Assembly Labor
- ❖ Piping Connections (Leak Points)

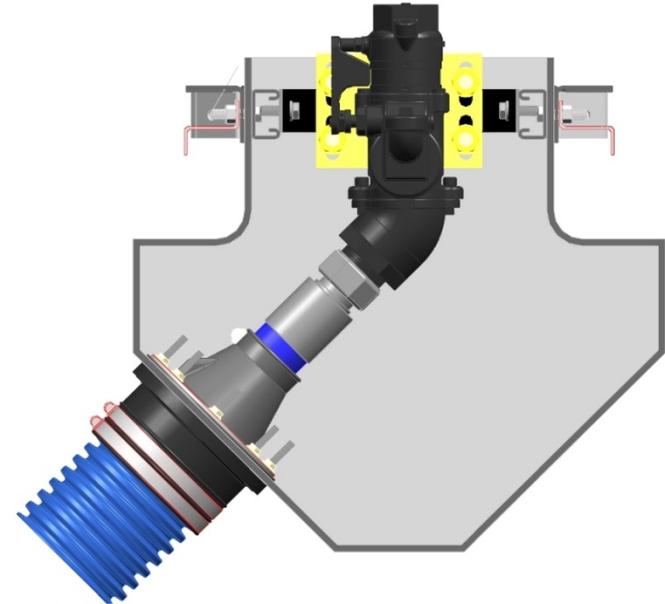


## Loop System Components

### *Quick Connect Dispenser Sumps*



**Junction Dispenser Sumps**

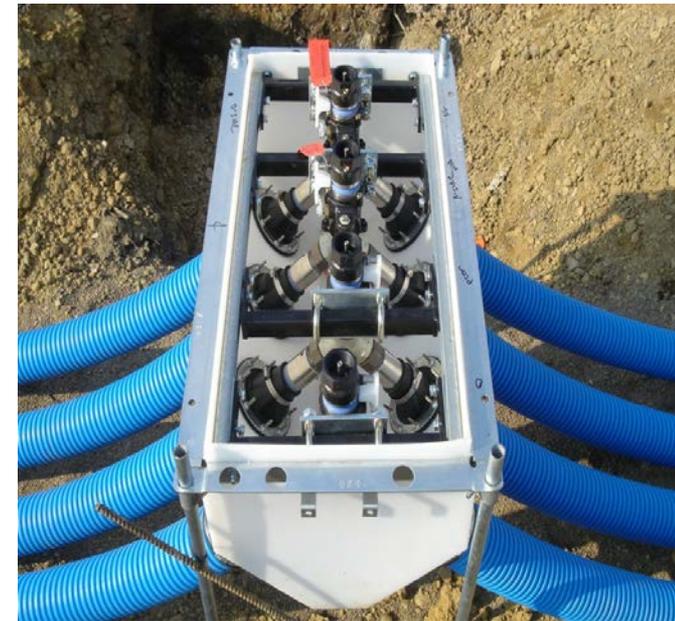


**Terminating Dispenser Sumps**

## Loop System Components

### **Quick Connect Prefabricated Shallow Dispenser Sumps**

- *Shallow Dispenser Sumps – Minimize Water Table/Backfill Forces*
- *Adjustable Legs - Allow Grade Adjustment*
- All piping connections are contained within a sump
- All connections are visually and physically accessible from above ground without removing the dispenser



## The Loop System...What's in it for Me??

### Site Owner

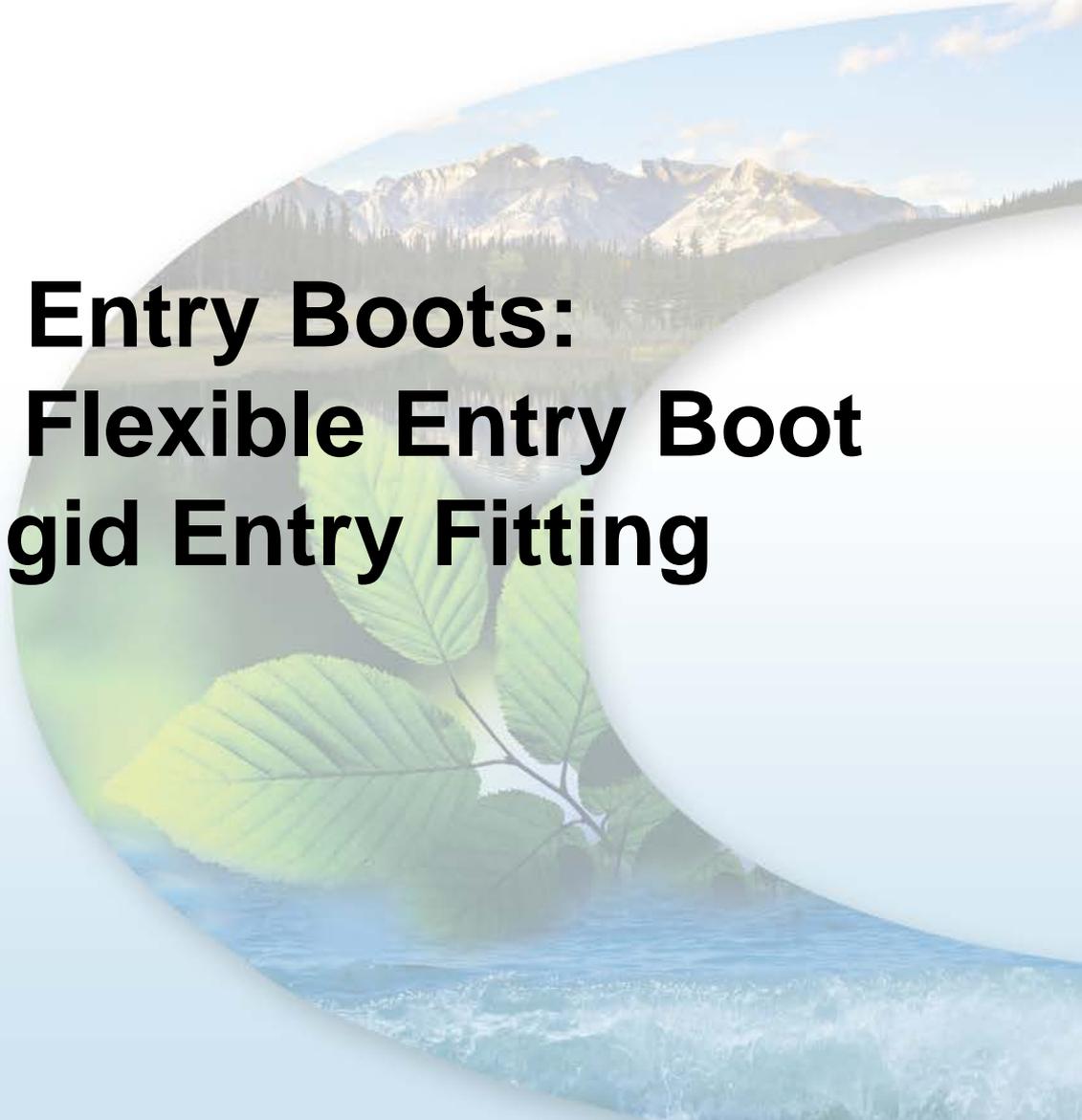
- Less Contractor Dependent Installation + Top of The Line Components = Better Site Integrity and Performance
- Total Accessibility to all Underground Equipment without Excavation = Lower Cost of Ownership

### Contractor

- Reduced Installation Complexity + Quick Installation and Testing = Less Opportunity for Errors and Call Backs and more opportunity for a Profitable Job

### Regulator

- Better Installation + Better Components + Better Maintenance and Monitoring Capability = No Gas in the Ground

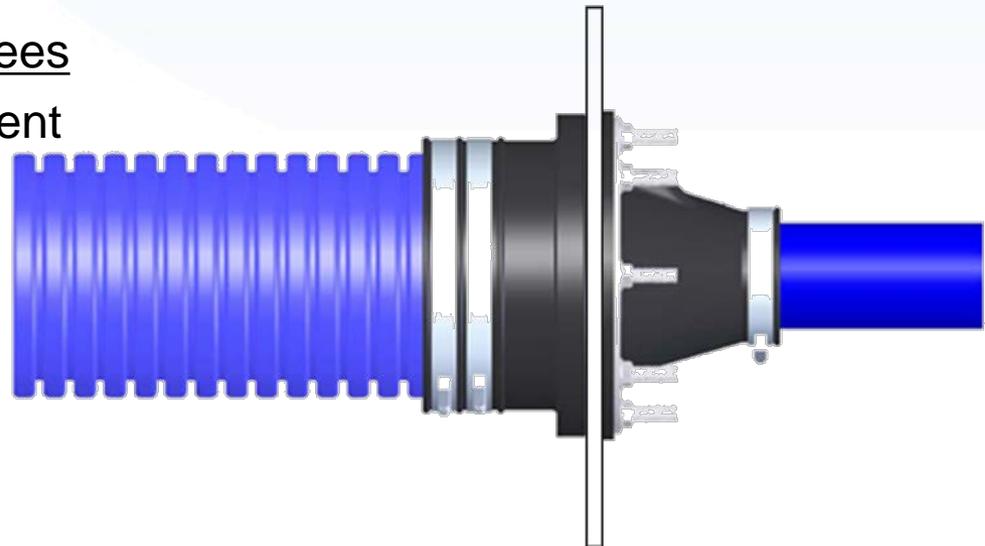


**Sump Entry Boots:  
DEB-Double Flexible Entry Boot  
“REF” Rigid Entry Fitting**

## DEB – Double Flexible Entry Boots

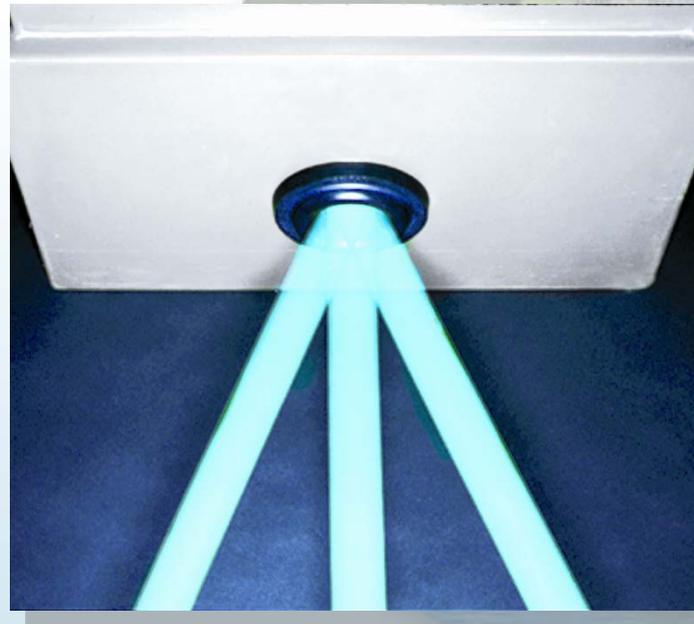
### Features and Benefits

- Available in a variety of sizes and designs to accommodate rigid and flexible piping, ducting and conduit
- Incorporates both internal and external band clamps to provide additional sealing in harsh environments
- Installation on flat or round surface
- Firmly fastens and seals to the sump wall using steel studs, fasteners and a galvanized compression ring
- Angled entries up to 15 degrees
- Provides clean dry environment



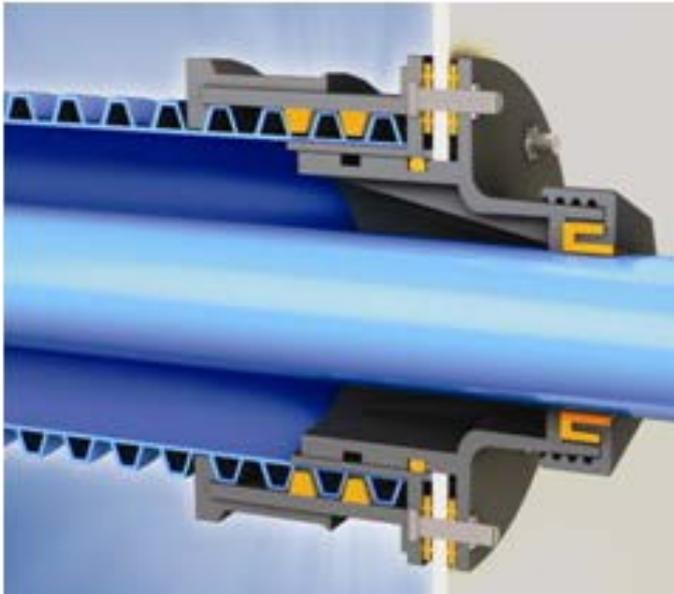
## Maximum 15° Angle Entry

- Do not exceed the maximum 15° angle of entry
- If alignment and correct hole saw are not used, the 15° angle of entry is compromised.



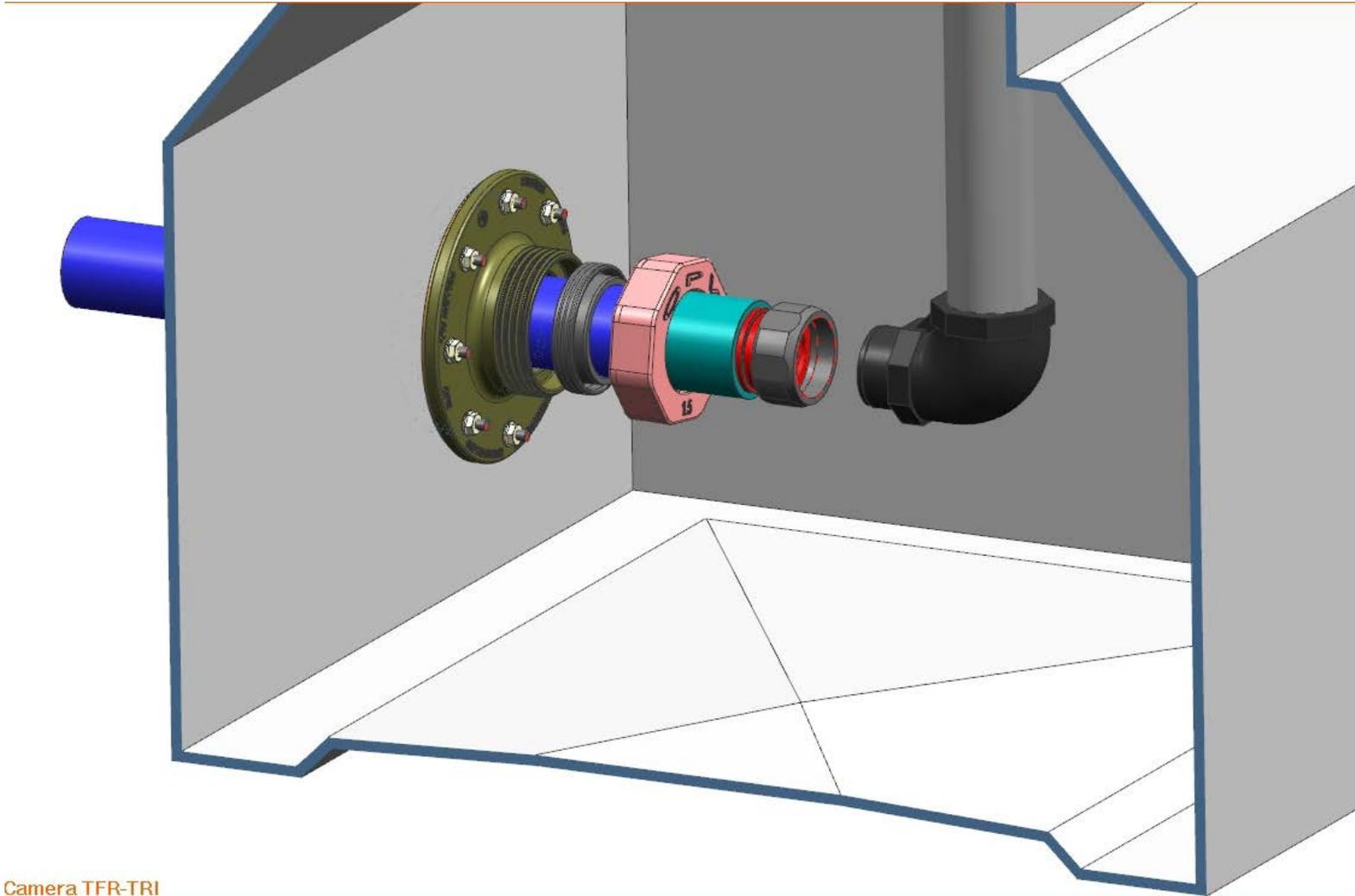
## The “REF” Rigid Entry Fitting

*A Rigid Entry Fitting...with no exposed rubber... that accommodates for ground movement.*



- **Sealing redundancy throughout – Maximum containment and unmatched protection from water intrusion**
- **Preserves total accessibility - For maintenance, testing, and repair**
- **Maintains flexibility to accommodate pipe and ground movement**
- **Hard shell exterior - To weather the elements and abuse of the underground environment**
- **Available in ¾” and 1” conduit entry fittings and for 1-1/2” and 2” primary pipe**

# The "REF" Rigid Entry Fitting



## REF – Rigid Entry Fitting





# Fibrelite



# What is Fibrelite?

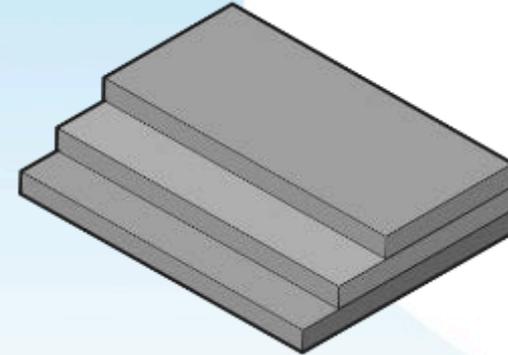
The first company in the world to design an easily removable, watertight FRP composite manhole cover for the retail fueling sector, after 30 years Fibrelite still remains number one in the market, supplying globally innovative designs.

## How are other composite covers designed?

**Typical Composite Cover**  
(typically less than 1" thick)



**Typical Composite Design**  
(layered fiberglass matting)

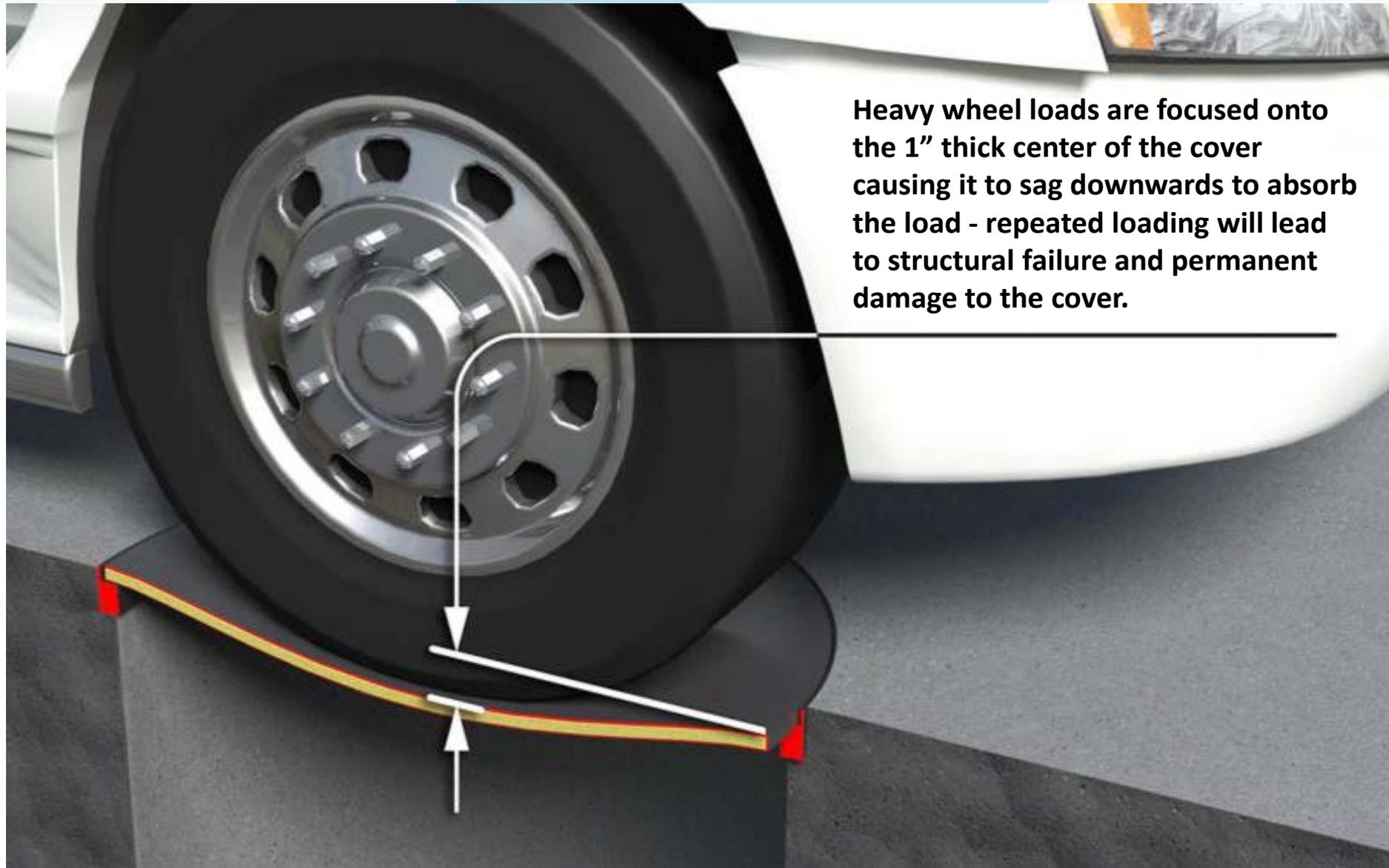


**Layered Composite Cover Design is Like Plywood and, just like plywood, heavy loads will cause it to sag**



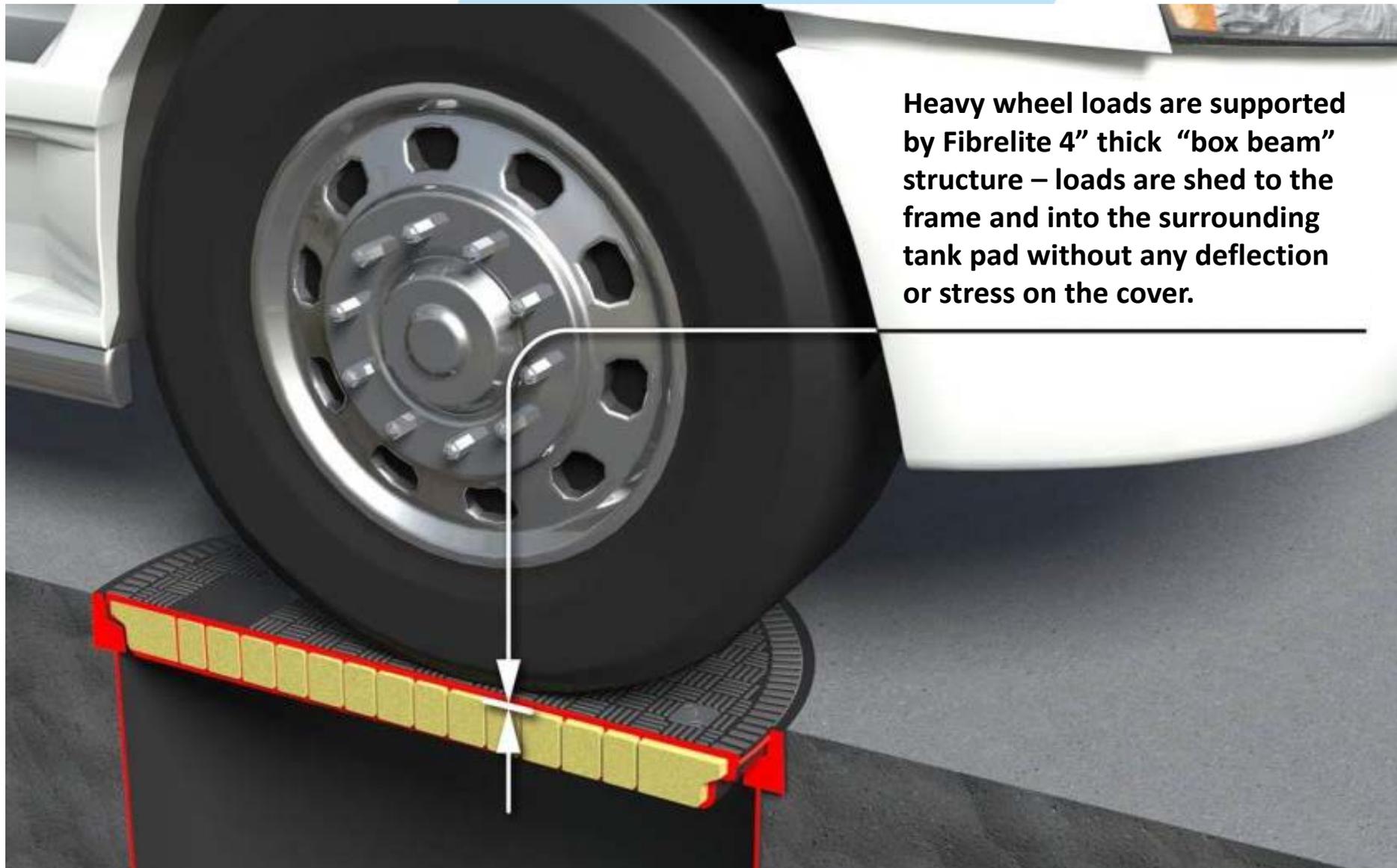
## Handling Heavy Loads - Competitive Covers

Heavy wheel loads are focused onto the 1" thick center of the cover causing it to sag downwards to absorb the load - repeated loading will lead to structural failure and permanent damage to the cover.



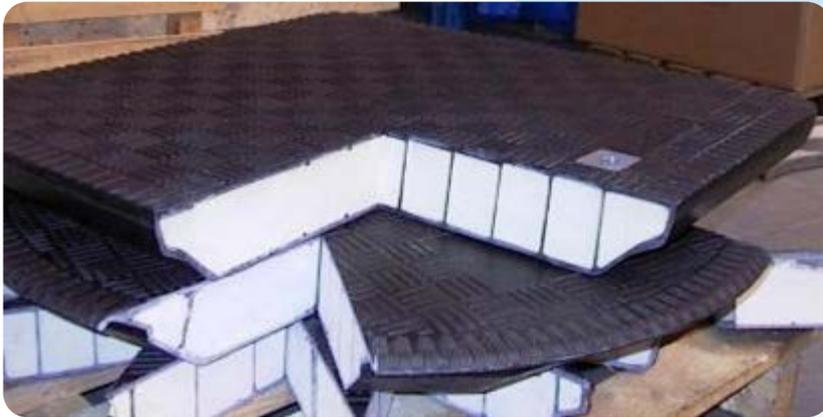
## Handling Heavy Loads - Fibrelite

Heavy wheel loads are supported by Fibrelite 4" thick "box beam" structure – loads are shed to the frame and into the surrounding tank pad without any deflection or stress on the cover.



## Why is the Fibrelite Cover Design Stronger? The “Box Beam”

Every Fibrelite Cover has multiple “Box Beam” girders that work together to support and distribute loads



Box beam girders or joists are a basic part of structural design and are used to transfer loads to supporting walls or columns



## The Most Watertight Cover Available

The silicone gasket on every FL cover seals between the top edge of the cover and the face of the frame creating a watertight seal.



## Ancillary Costs of Water Intrusion -- Corrosion



**Dry Sumps = Limited corrosion**

**Wet Sumps + Fuel with Ethanol = Accelerated corrosion  
caused by corrosive acids created by microbial growth**

# Fiberglass Tank Sumps

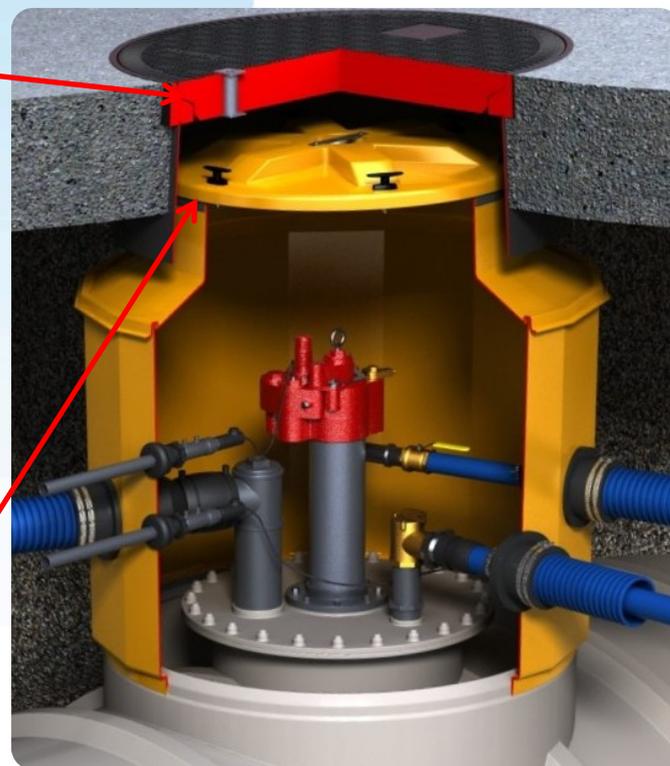


## Fibrelite Fill and Turbine Sumps



“multi ridge” gasket design for all Fibrelite covers

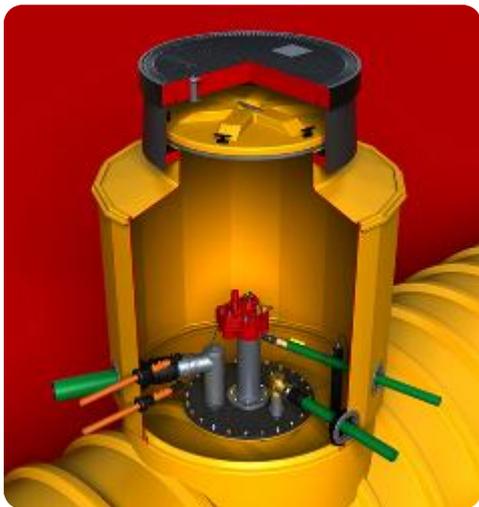
Watertight spill platform for fill sump prevents water intrusion into fill sump. Easy removal for sump access.



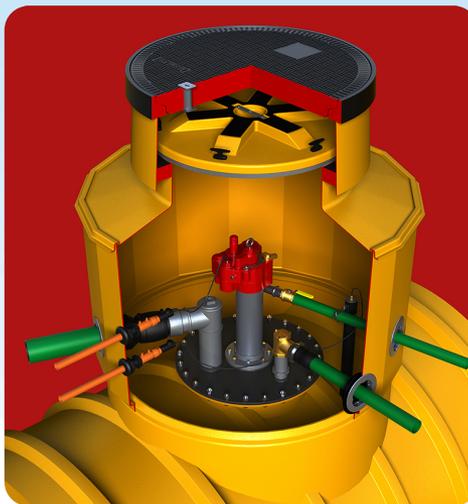
Turbine sump lid prevents water intrusion into turbine sump. Robust, long lasting design.

## Fibrelite's Wide Range of Tank Sumps

**45" Diameter Watertight Sump for 42" FRP Tank Collar**



**52" Diameter Watertight Sump for 48" FRP Tank Collar**



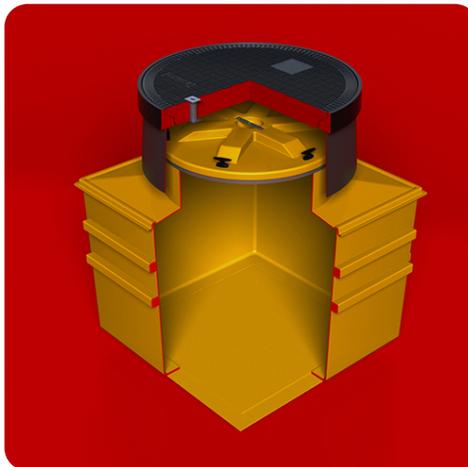
**52" Diameter Watertight Fill Sump Kit for 48" FRP Tank Collar**



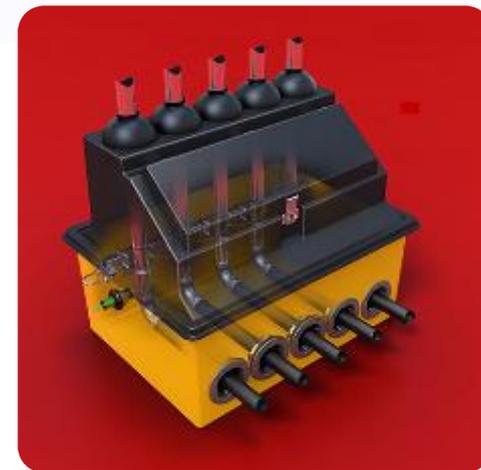
**45" Octagonal Watertight Tank Sump**



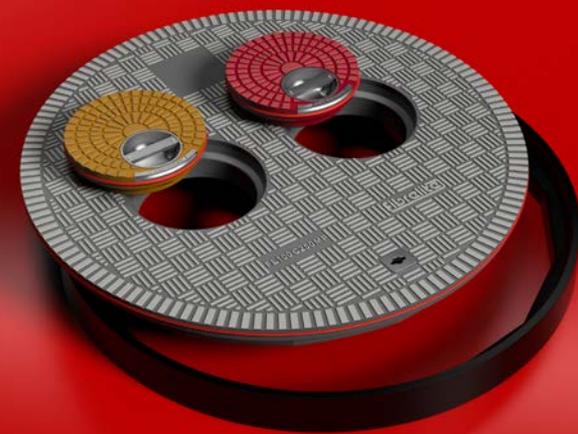
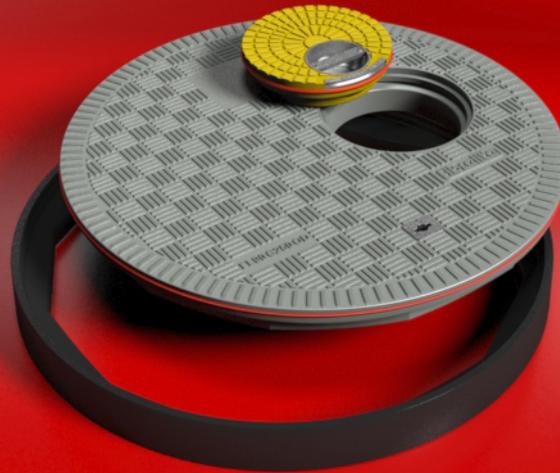
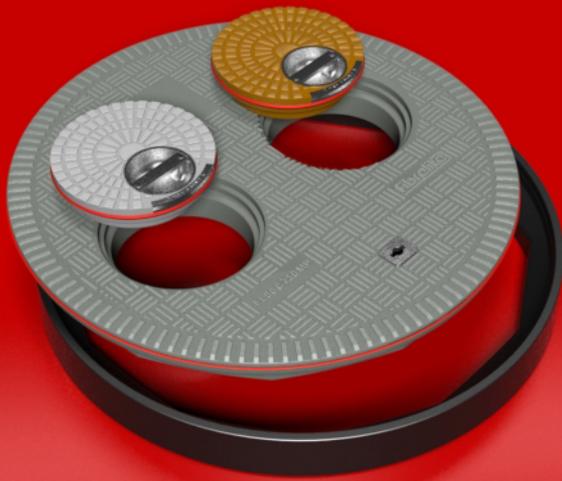
**45" Square Watertight Transition Sump**



**Vent Transition Sump**



## The Only Composite Multiport Or Single Port Cover



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in Fueling Innovation Worldwide



# Thank You!

