



# “LIFT-OFF” PIPE SUPPORTS PRODUCT OVERVIEW

Next Generation Pipe Support and Corrosion Barrier

August 2019



# “Lift-Off” Pipe Supports- Development

## Current Generation

- Pipe and pipe support corrosion at the point load
- Failing pipe supports
- High life cycle cost
- High TIC
- Can lead to premature piping and equipment failure.

- Trapped Water
- Water absorption
- Electric conductivity
- Material degradation
- Flammable
- Reactive

## “Lift-Off” Pipe Supports: design parameters

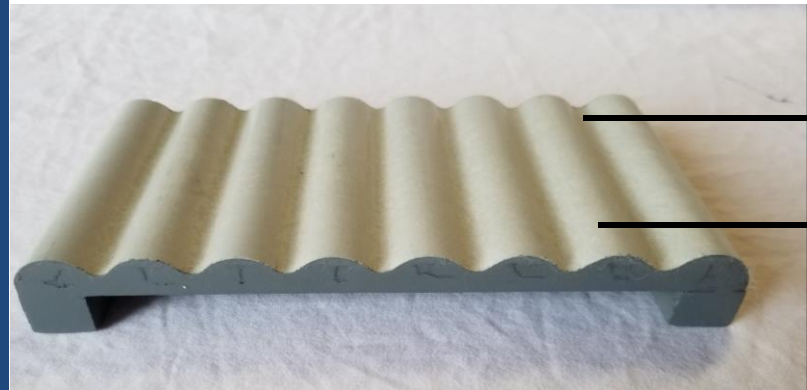
- Eliminate Corrosion
- Provide better support
- Easy to Install
- Quality / Dependable Delivery
- Lower life cycle cost
- Non-bolting/screws.
- Electrical isolation
- High loads
- Low  $\mu$

## Our “LOR” Range of Support Solutions

- High strength isolating composite material
- Synthetic resins combined with glass reinforcements
- Innovative Design to address performance
- Proven Installations
- Patented design
- Low TIC
- Custom designs
- $\mu= 0.11$ (pipe to LOR)
- $\mu=0.8$  (LOR to base)
- UV protected



# Lift Off Pipe – LOR Pipe Support



Troughs drain water

Lobes spread the load



Guides maintain alignment, when installing.

Non-slip coating maintains position

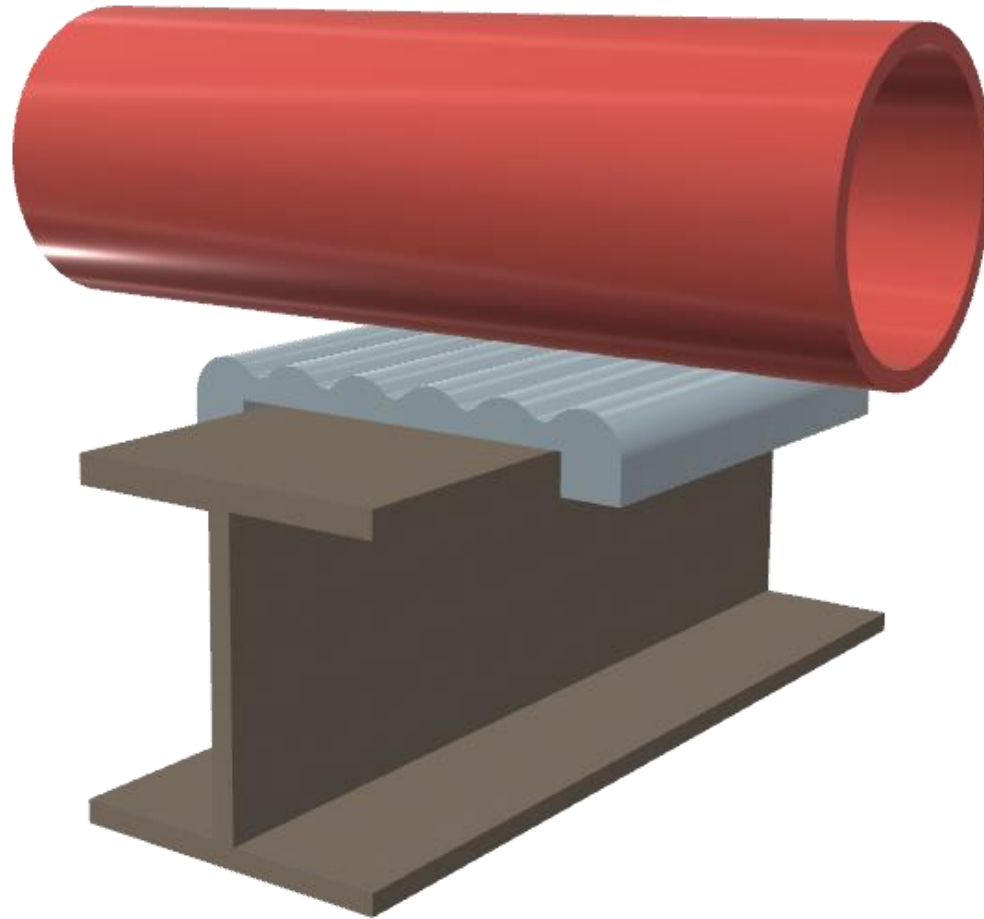


Simple “set and forget” pipe support and corrosion barrier

- High Spec Composite Material
- High Tensile Strength – Will not extrude
  - Non-Conductive – Does not promote electrolysis
  - Non-Flammable and **HIGH ACID RESISTANCE.**
  - Beam sizes up to 14”
  - Pipe sizes up to 48”
  - Ease of Installation – Lift, Set, Lower, Next
  - Colored coded for service (optional).



# Standard LOR design:



# Pipe On Pipe Separation Barriers: Lift-Off Rest Pipe (LORP)

- This development came about from various clients requiring a separation between the various elements and mitigating corrosion on both surfaces.
- We manufacture the LORP to suit various sizes of support trestle/bent pipe diameters.
- Does not require any particular fixing method, but epoxies, bolting and other forms may be used, but not required.





# Lift-Off Pipe Support Separation Barrier Lift-Off Rest U-Bolt Application (LORA)

- LORA applies to U-Bolt or guide applications.
- Used where separation between the line and support steel is a requirement.
- Low profile with our standard 1/2" low profile barrier.
- Supplied with a single or double heavy-duty U-Bolt configuration.



# Lift Off Pipe – Material Specifications

General Information		Procedure	Specifications
Color			Blue
Max Service Temp			550°F (288 C) Intermittent
Low Service Temperature:			-265°F (-165°C)
Continuous Use Temp			412°F (211°C)
Form			Profile
Mechanical Properties			
Flexural Strength	ASTM D790		31,000 psi
Tensile	ASTM D638		>11,000 psi
Compressive Strength @ 75° F (24° C)	ASTM D695		49,000 psi
Compressive Modulus	ASTM D695		1,800,000 psi
IZO Impact Strength (notched)	ASTM D256		8 Ft. lb./in.
Flexural / Bending Strength	ASTM D790		29,000 psi
Physical Properties			
Water Absorption	ASTM D570		0.2% by weight
Specific Gravity	ASTM D792		123 lbs./ft <sup>3</sup>
Coefficient of Thermal Expansion			
Across Thickness	ASTM D696		11.62 ln/ln°C x 10 <sup>5</sup>
Across Surface	ASTM D696		2.21 ln/ln°C x 10 <sup>5</sup>
Thermal Conductivity	ASTM C177		Ca. 0.30 W/m°K
Flame-Resistance Properties			
UL Subject 94	UL 94		HB
<b>NOTE:</b> The above values are measured and are believed to be accurate. However final determination regarding the suitability of material should be evaluated by the end user.			



# Lift Off Pipe – Company Model

- Patented material and design
- Manufacturing process
  - *Blanks produced to specified widths*
  - *Final profiles cut, inspected and finished*
  - *Packed and shipped worldwide*
- Design support and site services
- Mechanical; Durability and integrity specialists
- Installation support: Marine, Storage, Refining, Chemical
- Inspection; spares; logistic services

*Innovative, Dependable, pipe supports/corrosion barriers*





# Installations





## OTHER INSTALLATIONS



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