



U.S. COMPOSITE PIPE SOUTH, LLC.

MEMBER OF KTI PIPE GROUP OF COMPANIES



FLOWTITE JACKING PIPE

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FLOWTITE

FLOWTITE
GRP PIPE
SYSTEMS



Trenchless Technology

Today's growing urban areas may make it impractical to make open trench excavations and disrupt the surface conditions in order to install, replace or renovate underground piping systems. "Trenchless" technology includes the lining of existing pipes, called "slip lining," where a new pipe is installed inside the existing deteriorating pipe. It can also include the microtunneling process of boring a hole and pushing or "jacking" the new pipe into the created excavation. U.S. Composite Pipe South has products/technology to meet these new application needs.

Flowtite Jacking Pipe

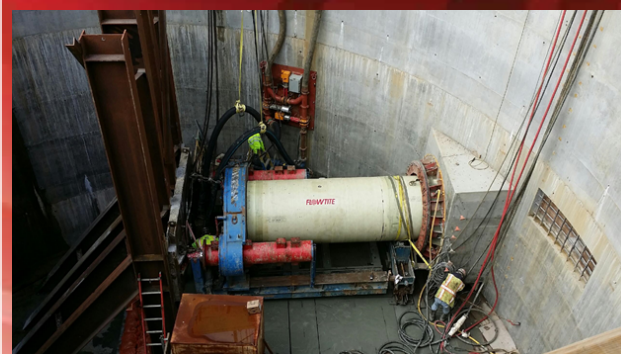
The Flowtite manufacturing process is unique in that it easily permits a custom product to be made to meet the specific project requirements. With the ability to make custom diameters and wall thickness, Flowtite can create the optimum pipe size to match the capacity of the equipment of the tunneling machines. This allows to have longer jacked pipe runs

Flowtite Sliplining Pipe

The Flowtite technology can create the optimum pipe size to match the inside diameter of an existing pipeline. This will provide the maximum flow capabilities while still permitting ease of installation.

The ability to manufacture variable lengths (standard length 10, 20 or 40 feet) can further help reduce installation time. Reduced installation time means lower installed costs and less "down-time" for the pipeline that is being rehabilitated.

Features	Benefits
Custom diameter capabilities	<ul style="list-style-type: none">Minimizes the loss of interior dimension of the existing pipe, maximizes flow capabilities
Custom lengths	<ul style="list-style-type: none">Easier, faster installation, less pipe line service down-time





Flowtite Jacking Pipe

The Flowtite jacking pipe is a Fiberglass Reinforced Polymer (FRP) pipe produced on the continuously advancing mandrel process, ensuring a consistently uniform product foot-by-foot. Immune to galvanic and electrolytic corrosion. Its proven resistance to the acidic environment found in a sanitary sewer speaks well for its use in waste water applications.

The Flowtite Jacking Pipe is manufactured using the continuous advancing mandrel process which represents the state of the art in FRP pipe production.

This process allows the use of continuous glass fiber reinforcements in the circumferential direction. For a buried conduit, the principle stress is in the circumferential direction; thus, incorporating continuous reinforcements in this direction and not just chopped discontinuous roving such as in a centrifugal casting process, yields a higher performing product at lower cost.

Using technology developed by material specialists, a very dense laminate is created that maximizes the contribution from three basic raw materials. Both continuous glass fiber rovings and chopped roving are incorporated for high hoop strength and axial reinforcement. A sand fortifier is used to provide increased stiffness with placement near the neutral axis in the core. With the Flowtite dual resin delivery system, the equipment has the capability of applying a special inner resin liner for severe corrosive applications while utilizing a less costly resin for the structural and outer portion of the laminate.

The Flowtite Jacking Pipes are supplied in standard lengths of 10 and 20 ft; however shorter lengths are available upon request.

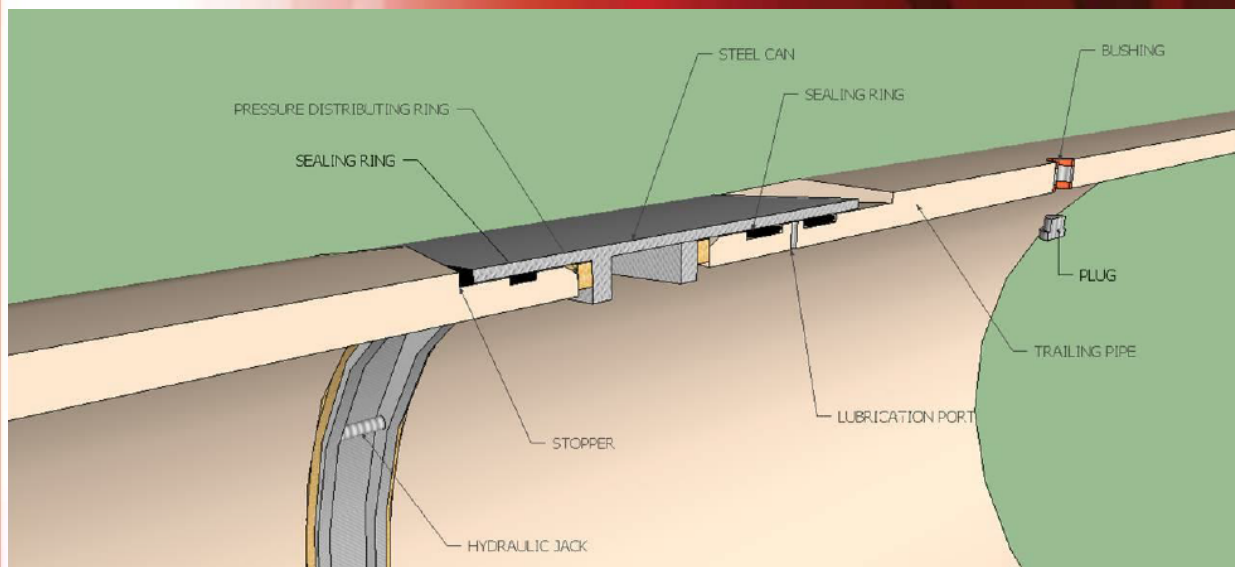




Grout Ports and Jacking Pipes for Intermediate Jacking Stations

The inclusion of intermediate jacking stations will allow the Flowtite Jacking Pipe to handle overall jacking lengths. When intermediate jacking stations are needed, special Flowtite "interjack" pipes can be manufactured with deep gasket grooves and thicker walls to accommodate this type of jacking technique. The installing contractor needs to supply the hydraulic jacking rams and the energizing medium.

In order to facilitate the installation process, the Flowtite Jacking Pipe can be supplied with grout ports for the introduction of bentonite lubricant.





Joint System

The standard joint for a Flowtite jacking pipe incorporates a push on full fiberglass collar which is mounted integral to the pipe wall. The fiberglass collar mates against an EPDM or Nitrile rubber gasket firmly joined to the pipe wall.

In order to ensure a uniform pressure transfer between the ends of the pipe, a ring made of soft wood is provided. The thickness of the wood ring is between 0.4 and 1.0 inch. Compression of the ring in high stress areas tends to redistribute any point load concentrations.

The joint is designed to meet the performance requirements as specified in ASTM D4161. The requirements in ASTM D4161 are some of the more stringent for any pipe system in the world.

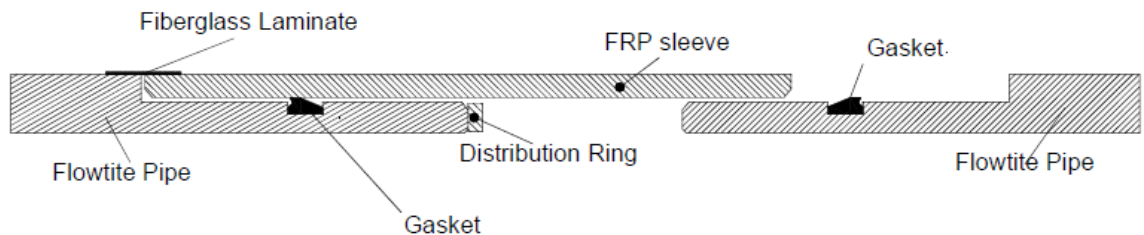
Additionally this joint has been tested to an external hydrostatic pressure of 120 psi . This is the equivalent to having the water table at 277 ' on the top of a buried pipe.





Jacking Pipe Dimensions

Nominal Diameter (in)	Nominal Pipe OD (in)	Pipe ID (in)	Wall Thickness (in)	Pipe Weight (lb/ft)	Allowable Pushing Force SF=2.5 (tons)	Allowable Pushing Force SF=3.0 (tons)
12	14.5	12.0	1.25	47	48	40
15	17.5	15.0	1.25	58	60	50
18	19.5	17.0	1.25	65	67	56
24	25.8	22.5	1.67	114	152	126
28	30.0	26.4	1.80	144	201	167
30	32.0	28.2	1.89	161	231	192
36	38.3	34.3	1.99	205	302	252
42	44.5	40.5	1.99	240	354	295
45	47.7	43.7	2.00	259	385	320
48	50.8	46.7	2.05	283	425	354
51	53.9	49.8	2.05	301	453	378
54	57.1	53.0	2.05	320	481	401
57	60.0	55.9	2.05	337	507	423
60	62.9	58.8	2.05	354	533	444
63	66.0	61.8	2.08	377	572	477
66	69.2	64.8	2.20	418	650	541
72	75.4	70.7	2.35	487	777	648
84	87.0	82.3	2.35	564	902	751



NOTE:

1. Different pipe dimensions are available upon request



Although the utmost care has been taken to ensure the accuracy of the contents of this brochure, **US**

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Customers must satisfy themselves of the suitability of a given product supplied or manufactured by **US Composite Pipe South**.



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