FIBERSTRONG™

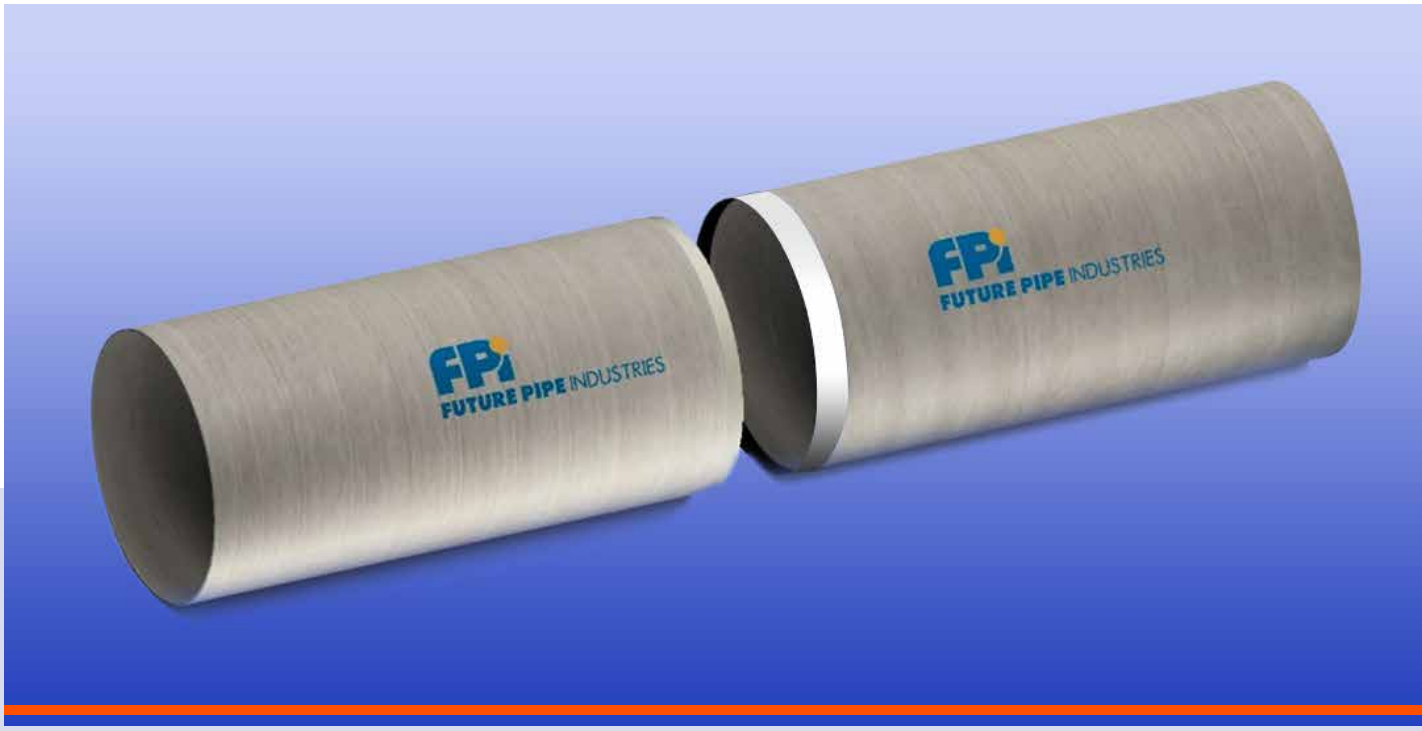
RELIABLE JACKING PIPE SYSTEMS IN POLYESTER AND VINYLESTER RESINS

Trenchless technologies and specially jacking is becoming a cost effective and environmental solution widely used where traffic disruption is not an option.

The success of a jacking project is highly dependent on the installation methodology but more importantly the selection of the pipe and jointing system used in order to ensure a high quality installation.

Our Fiberstrong™ Pipe Systems provides advantages given its light weight, corrosion and abrasion resistance in addition to enhanced hydraulic capacity.

Our jointing system utilizes a proprietary flexible joint with elastomeric sealing systems that can adapt to a variety of angular deviation in accordance to international standards.



FPi
FUTURE PIPE INDUSTRIES

APPLICATIONS

The main applications of Fiberstrong™ Jacking systems are as follows:

- Sanitary Sewage
- Storm Water
- Drains
- Industrial Waste Lines
- Pressure lines
- Irrigation
- Water Supply

ADVANTAGES OF FIBERSTRONG™ JACKING SYSTEMS

- Fiberstrong™ Jacking Pipe Systems can be supplied with or without grouting ports
- Reduced jacking loads due to smooth external surface
- Adaptable to a variety of installation equipment
- Can be produced in a variety of lengths and diameters according to project requirements
- Designed to meet project specific project loads

PRODUCT SPECIFICATIONS:

Fiberstrong™ Jacking Pipe Systems can be produced in a variety of stiffness classes ranging from SN20000 up to SN1000000 Pa (SN144 up to SN7200 psi) and with a maximum pressure rating up to PN10 bar (PN150 psig). The standard outside diameters (OD) are as listed below:

Table 1: Standard product range

Diameter Range (DN)* (mm)			
616	960	1499	2160
650	1026	1535	2250
718	1099	1638	2400
752	1299	1720	2453
820	1280	1842	2555
860	1348	1937	
924	1434	2047	

***Custom diameters can be supplied from DN 400 up to DN 4000**

Diameter Range (DN)* (in)			
25.8	42.9	57.1	75.4
28.0	44.5	60.0	81.6
30.0	45.9	62.9	87.0
32.0	47.7	66.0	88.6
34.0	50.8	69.2	94.3
38.3	53.9	72.5	99.5

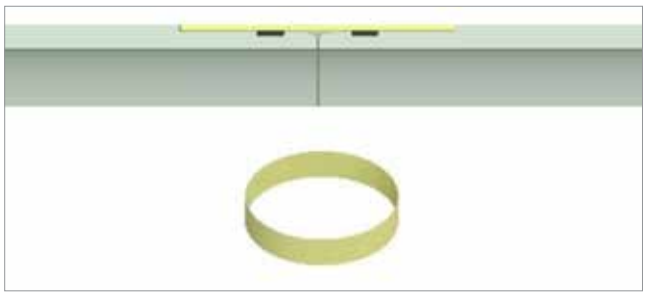
***Custom diameters can be supplied from DN 16 up to DN 156**

APPLICABLE STANDARDS

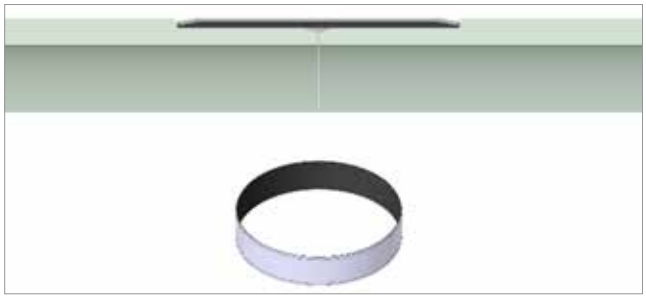
The applicable design standards include:

- **ASTM D 3262** Glass Fiber (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
- **ASTM D 3517** Glass Fiber (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe
- **AWWA C950** Fiberglass Pressure Pipe
- **AWWA M45** Fiberglass Pipe Design
- **ISO 10639** Plastics Piping Systems for Pressure and Non-Pressure Water Supply-Glass-Reinforced Thermosetting Plastics (GRP) Systems Based on Unsaturated Polyester (UP) Resin
- **ISO 10467** Plastics Piping Systems for Pressure and Non-Pressure Drainage and Sewerage-Glass-Reinforced Thermosetting Plastics (GRP) Systems Based on Unsaturated Polyester (UP) Resin
- **ISO 25780** Plastics Piping Systems for Pressure and Non-Pressure Water Supply, Irrigation, Drainage or Sewarage -Glass-Reinforced Thermosetting Plastics (GRP) Systems Based on Unsaturated Polyester (UP) Resin. Pipes with flexible joints intended to be installed using jacking techniques

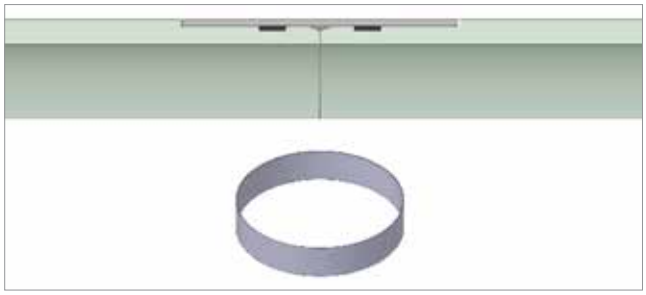
JOINTING SYSTEM



Fiberstrong™ - GRP collar grooved spigots and elastomeric gaskets - FC



Stainless steel coupler with integrated gasket - SSCR



Stainless steel collar with grooved spigots and elastomeric gaskets - SSC

Jacking compressive load and Stiffness
Metric Series – SSCR joint

OD (mm)	Min. Pipe Wall Thickness (mm)	Allowable Jacking Load (TM) Straight Pushing (SF = 3.5)	Pipe Stiffness SN (Pa)	Weight (kg/m)
616	41.10	150	329,000	159
650	39.22	150	252,000	158
718	37.08	150	156,000	165
752	35.79	150	132,000	167
820	33.43	150	87,000	171
860	32.25	150	68,000	174
924	45.78	250	145,000	264
960	44.55	250	124,000	267
1026	42.19	250	86,000	271
1099	39.96	250	62,000	275
1229	36.70	250	36,000	285
1280	35.61	250	31,000	288
1348	43.84	350	48,000	373
1434	41.77	350	34,000	378
1499	40.38	350	28,000	383
1535	51.12	450	50,000	496
1638	48.68	450	36,000	505
1720	46.93	450	29,000	511
1842	51.55	550	32,000	602
1937	49.61	550	25,000	610
2047	56.46	650	28,000	732
2160	60.80	750	31,000	834
2250	64.44	850	34,000	920
2400	66.79	950	31,000	1019
2453	69.12	1050	29,000	1077
2555	69.46	1150	24,000	1127

Jacking compressive load and Stiffness
Imperial Series – SSCR joint

OD (in)	Min. Pipe Wall Thickness (in)	Allowable Jacking Load (US Tons) Straight Pushing (SF = 3.5)	Pipe Stiffness SN (psi)	Weight (lb/ft)
25.8	1.54	160	1,770	107
28.0	1.46	160	1,160	110
30.0	1.41	160	910	114
32.0	1.32	160	640	114
34.0	1.27	160	480	117
38.3	1.75	270	850	182
42.9	1.66	270	510	194
44.5	1.57	270	410	190
45.9	1.53	270	360	192
47.7	1.44	270	270	188
50.8	1.40	270	220	195
53.9	1.73	380	330	254
57.1	1.64	380	240	257
60.0	1.93	490	320	318
62.9	1.92	490	280	331
66.0	1.85	490	230	336
69.2	2.14	600	290	407
72.5	2.03	600	230	405
75.4	1.95	600	180	405
81.6	2.22	710	200	499
87.0	2.58	930	260	618
88.6	2.54	930	240	619
94.3	2.63	1,040	220	683
99.5	2.52	1,040	170	691