

# Z-Flex ST

## PIPE DESIGNED FOR HIGH-PRESSURE APPLICATIONS

### Installation and Lifecycle Costs

- Reduction of installation crews by 50% to 75% and up to 50% savings in installation costs compared to steel pipes.
- No sand bedding required.
- 20 years of UV resistance in service or storage.
- Can be recovered and reused up to 5 times.

### Operational Envelope Extension

- Lower operational costs due to no corrosion.
- Compatible with up to 50% aromatics and cycloalkanes.
- High-density polyethylene (HDPE) liner provides excellent chemical resistance.
- Innovative bonded design allows usage under dynamic pressure load conditions.
- Aramid fiber maintains its properties during coiling and deployment due to its abrasion resistance.

### Reliability and Safety

- Manufactured exceeding API 15S standard requirements.
- Connectors are manufactured from nickel-coated carbon steel or stainless steel.
- Bonded design eliminates the risk of liner collapse.

### ZOXI Services

- Engineering services for selecting the right product for your project.
- Installation services and technical support, including planning.
- Contractor training for deployment and installation of connectors.
- Pipeline recovery services.

### Colour

white.

**65 °C**

**(149 °F)**

Maximum operating temperature.

**2500 psi**

**(ANSI 1500)**

Maximum operating pressure for 4 inches.

**1500 psi**

**(ANSI 900)**

Maximum operating pressure for 6 inches.

### Applications

Oil, gas, and water.

H<sub>2</sub>S y CO<sub>2</sub> (100%)

### Diameters

2, 3, 4 y 6 inches.

# Z-Flex ST

## Pipe Composition

1. High-density polyethylene (HDPE)
2. Polyethylene adhesive.
3. Aramid fiber.
4. Polyethylene filler
5. High-density polyethylene (HDPE).

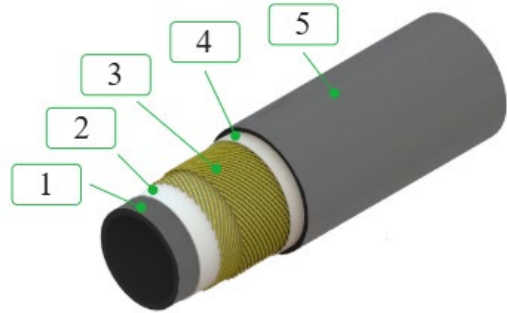


Table 1 – Hydraulic design data

Parameter	Value	Units
Roughness	0.0015	mm
Maximum liquid velocity	4.5	m/s
Maximum gas velocity	18.3	m/s

Table 2 – K-Factors for coupling connectors

Nominal diameter (in)	K-factor
2	0.41
3	0.30
4	0.27
6	0.25

Table 3 – Material properties

Parameter	Value	Units
Thermal expansion coefficient	$87 \times 10^{-6}$	m/m °C
Methane permeability	$3 \times 10^{-7}$	cm <sup>3</sup> / cm.s.MPa

Table 4 – Operating pressures and dimensions

Nominal diameter (in)	NPR range (psi)	Outer diameter [mm]	Inner diameter [mm]	Liner thickness [mm]	Reel Length [m]	Linear Weight [kg/m]
2	400 -1000	77	50	5.2	2000	2.5
2	1500-2250	80.5	50	5.2	2000	3
3	400-1000	103	74	5.5	1500	3.5 - 3.65
3	1500-2000	107	74	5.3	1350	4.1 - 4.3
4	400-1000	130	99	6.2	750	4.8 - 5.2
4	1500-2000	136	99	6	750	5.9 - 6.2
4	2500	140	99	6	650	7.5
6	400	183	150	7.2	330	7.8
6	750-1000	186.5	150	7	330	8.8- 9.1
6	1500	195	150	7	330	10.8

# Z-Flex ST

**Table 5 – Short code for connectors by pressure rating.**

Nominal diameter [in]	Serie #	NPR range [psi]	Layers	Flange connectors	Coupling connectors
2	300 - 600	400 -1000	2	Z22FF	Z22FC
2	900 - 1500	1500-2250	4	Z24FF	Z24FC
3	300-600	400-1000	2	Z32FF	Z32FC
3	900	1500-2000	4	Z34FF	Z34FC
4	300-600	400-1000	2	Z42FF	Z42FC
4	900	1500-2000	4	Z44FF	Z44FC
4	1500	2500	6	Z46FF	Z46FC
6	300	400	2	Z62FF	Z62FC
6	400-600	750-1000	4	Z64FF	Z64FC
6	900	1500	6	Z66FF	Z66FC

**Table 6 – Minimum operational bending radii**

Nominal diameter (inches)	2	3	4	6
MBR (m)	1.4	2.0	2.5	3.0

