

SOLUFORCE® RLP



REINFORCED LINE PIPE

SoluForce®

SOLUFORCE® RLP (REINFORCED LINE PIPE)

SOLUFORCE® RLP is a new product offering from PipeLife International's proven line of high pressure pipe systems for oil and gas field use known as SOLUFORCE® RTP (Reinforced Thermoplastic Pipe). RTP has been manufactured and used extensively since 2000 with over 700 miles installed worldwide in Europe, the Middle East, Africa and S.E. Asia.

The concept of a non-corrosive pipe system for high pressure hydrocarbon applications came about through the demand from oil and gas companies that proactively participated in the development and qualification of RTP in conjunction with PipeLife. In 1998 a JIP (Joint Industrial Project) was created bringing together manufacturers, users (such as Saudi Aramco, Petrobras, Shell & BP) and testing institutes to develop a standard to meet their demands. Out of the JIP was developed the API standard (API RP 15S) in 2006.

SOLUFORCE® RLP is a non-metallic pipe qualified for use in high pressure Water, Oil and Gas applications. RLP is independently certified by DNV (Det Norske Veritas) of Norway, a third party certification company, to API RP 15S standards.

Manufactured by PipeLife in Siloam Springs, Arkansas, SOLUFORCE® RLP is supplied on disposable wooden reels which are easily transported by either road or ship. Subsequently there are no reel deposits or reel rental charges.

SOLUFORCE® RLP comes with a complete coupling and fitting system. We provide installation equipment and certified installation technicians wherever the customer requires. Training of third party crews is available on demand. Couplings and end fittings are supplied in either 316L stainless steel or thermoplastic.

SOLUFORCE® is a business unit within the PipeLife International group of companies based in Vienna, Austria and benefits from belonging to one of the world's largest and oldest plastic pipe manufacturers.

SOLUFORCE® RLP is the most economical, non-corrosive and dependable composite pipe on the market today!





★ SILOAM SPRINGS



★ PipeLife Plant
Siloam Springs, Arkansas

SUMMARY

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SOLUFORCE® RLP WATER

REINFORCED LINE PIPE



SOLUFORCE® RLP

DATA SHEET WATER SERVICE

Nominal Diameter / Nominal Pressure Rating		2"/1500	3"/1000	4"/750	4"/1000	6"/1000
PRESSURE RATINGS						
Bursting Pressure						
LCL 20 years / 150 °F (20 years burst strength, ASTM 2992)	[psig]	2422	1755	1363	2045	1842
Short term burst strength, 150 °F	[psig]	4611	3422	2596	3886	3495
Water Service (safety factor according to DNV recommendations)						
Maximum Allowable Operating Pressure (MAOP), 150 °F	[psig]	1907	1381	1073	1610	1450
Maximum Allowable Operating Pressure (MAOP), 100 °F	[psig]	2383	1727	1342	2010	1813
Water Service (0.67 default safety factor according to API RP 15s)						
Maximum Allowable Operating Pressure (MAOP), 150 °F	[psig]	1614	1170	909	1363	1228
Maximum Allowable Operating Pressure (MAOP), 100 °F	[psig]	2018	1462	1136	1704	1535
AXIAL LOAD CAPACITY						
Maximum Allowable Tensile Load (during installation and service)	[Lbs]	3150	5122	7126	7126	12232
Minimum Tensile Breaking Load	[Lbs]	4726	7683	10689	10689	18348
DIMENSIONS						
Internal diameter	[inches]	1.89	2.87	3.86	3.70	5.39
Outer diameter	[inches]	2.80	3.86	4.92	4.92	6.85
Minimum bending radius in storage reels	[ft]	2	3	4	4	4
Minimum bending radius in operation	[ft]	2	3	4	4	5
Weight of pipe	[Lbs/ft]	<2	<3	<4	<4	<6
Length per reel (+/-10%)	[ft]	3150	2350	1225	1225	550
HYDRAULIC FLOW PARAMETERS						
Hazen Williams flow coefficient		150	150	150	150	150
Darcy Weisbach equivalent surface roughness	[inches]	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006

WATER UPGRATING TABLE

°F	Temperature Upgrading Factor
32	1.59
75	1.38
85	1.33
100	1.25
120	1.15
140	1.05
150	1.00

SOLUFORCE® RLP OIL AND GAS

REINFORCED LINE PIPE



SOLUFORCE® RLP DATA SHEET OIL AND GAS SERVICE

Nominal Diameter / Nominal Pressure Rating		2"/1500	3"/1000	4"/750	4"/1000	6"/1000
PRESSURE RATINGS						
Bursting Pressure						
LCL 20 years / 150 °F (20 years burst strength, ASTM 2992)	[psig]	2422	1755	1363	2045	1842
Short term burst strength, 150 °F	[psig]	4611	3422	2596	3886	3495
Oil and Gas (Hydrocarbon) Service (0.5 default safety factor, according to API RP 15S)						
Maximum Allowable Operating Pressure (MAOP), 150 °F	[psig]	1211	877	682	1022	921
Maximum Allowable Operating Pressure (MAOP), 100 °F	[psig]	1513	1097	852	1278	1151
AXIAL LOAD CAPACITY						
Maximum Allowable Tensile Load (during installation and service)	[Lbs]	3150	5122	7126	7126	12232
Minimum Tensile Breaking Load	[Lbs]	4726	7683	10689	10689	18348
DIMENSIONS						
Internal diameter	[inches]	1.89	2.87	3.86	3.70	5.39
Outer diameter	[inches]	2.80	3.86	4.92	4.92	6.85
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Length per reel (+/-10%)	[ft]	3150	2350	1225	1225	550
HYDRAULIC FLOW PARAMETERS						
Darcy Weisbach equivalent surface roughness	[inches]	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006

SOLUFORCE® RLP CONNECTION SYSTEM

SOLUFORCE® RLP MIDLINE COUPLINGS AND WELD NECK FITTINGS



- 316L Stainless Steel Midline Coupling



- 316L Stainless Steel Weld Neck end fitting with schedule 40 end preparation

CUSTOMER SUPPLIED FLANGES AND TEES



- 316L Stainless Steel Lap Joint flange with stub end



- 316L Stainless Steel Raised Face Weld Neck flange



- 316L Stainless Steel tee

SOLUFORCE® RLP STEM & FERRULE FITTING SYSTEM

The SOLUFORCE® RLP fitting system is comprised of a 316L stainless steel stem insert and a carbon steel Zn-Ni coated ferrule which are crimped onto the pipe forming a robust and easily installed connection.

SOLUFORCE® RLP CONNECTION SYSTEM

MIDLINE COUPLING AND END FITTINGS FIELD CONNECTED WITH HAND TOOLS



CRIMPING MACHINE



Open



Closed

- Secure 3000 psi hydraulic crimping force
- One crimp process ensures tightest crimp connection possible
- Convenient field transport
- Safe operation

SOLUFORCE® RLP INSTALLATION

REINFORCED LINE PIPE



SOLUFORCE® RLP INSTALLATION

EQUIPMENT CERTIFICATION AND TRAINING

- Certification and training of third party crews is available and encouraged
- Equipment leasing and purchase is available

DISPOSABLE WOODEN REELS



- Pipe is delivered on disposable wooden reels
- No reel deposit charges
- No reel rental charges
- No reel return
- Substantially lower transportation costs than other spooled pipe products

DEPLOYMENT TRAILER



- Dual axels
- Outboard wheels easily convert to inboard for over-the-road transportation
- Self-loading reel design

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www.soluforce-rlp.com

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