

Applications

- Production Lines or Injection Lines
- Oil, Gas, Saltwater
- Transfer Lines or Disposal Lines
- CO₂ and Sour Services
- Pipeline Rehabilitation

Product Description

- **Sizes** - 2 through 12 inches
- **Pressure** - Up to 3,000 psi (20.7 MPa)
- **Temperature** -
 - Anhydride = up to 150°F (65.6°C) Max.
 - Aliphatic Amine = up to 200°F (93.3°C) Max.
- **Resin System** - Anhydride and Aliphatic Amine Cured Epoxy
- **Reinforcement** - Premium Fiberglass
- **Joining Systems** - O-ring
- **Joint Length** - 30-37 feet (9-11 mts) nominal
- **Fittings** - A variety of filament wound threaded fittings are available

High Pressure Design

(Standard Design)

- **Design Life** - 20 years at full rating
- **Design Temperature** - 150° F (65.6°C)
- **Wall Thickness** - Nominal
- **Hoop Stress** - Average Long-Term Hydrostatic Strength (LTHS), ASTM D2992-B
- **100% Factory Hydro Test** - All sizes 1.25 times the Series pressure rating

Benefits

- Corrosion Control
- Reduced Paraffin & Scale Build-Up
- Reduced Installation Costs
- Reduced Maintenance Cost
- Improved Flow Efficiency

Joining System

- **SP** - 4 thread-per-inch round form (SP) or buttress (SPH) thread with O-ring seal
- **SPH** - 4 thread-per-inch round form (SP) or buttress (SPH) thread with O-ring seal
- **SS** - 2 thread-per-inch mechanical joint with O-ring seal
- **SS HP** - 2 thread-per-inch mechanical joint with O-ring seal

View of Joint Illustrations



Anhydride

Series 500

500 psi (3.4 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
6	150	SPH	6.10	154.9	6.30	160.0	0.10	2.5	2.72	4.0	7.49	190.2	317	96.6	6400	1951	W

Series 800

750 psi (5.5 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
3	80	SP	3.00	76.2	3.16	80.3	0.09	2.3	0.99	1.5	4.12	104.6	159	48.5	2400	732	W
4	100	SP	3.91	99.3	4.11	104.4	0.12	3.0	1.59	2.4	5.18	131.6	207	63.1	4100	1250	W
6	150	SPH	6.10	154.9	6.42	163.1	0.18	4.6	3.68	5.5	7.67	194.8	322	98.1	9700	2957	W

Series 1000

1000 psi (6.9 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
3	80	SP	3.00	76.2	3.20	81.3	0.12	3.0	1.22	1.8	4.18	106.2	162	49.4	3200	975	W
4	100	SP	3.91	99.3	4.17	105.9	0.16	4.1	1.89	2.8	5.24	133.1	210	64.0	5200	1585	W
6	150	SPH	6.10	154.9	6.50	165.1	0.25	6.4	4.20	6.2	7.79	197.9	314	95.7	11500	3505	W
8	200	SS HP	7.49	190.2	7.97	202.4	0.24	6.2	6.59	9.8	9.48	240.7	400	121.9	17600	7983	W
10	250	SS HP	9.84	249.9	10.48	266.2	0.32	8.2	10.60	15.8	12.30	312.5	527	160.6	31500	14288	W
12	300	SS HP	11.81	300.0	12.58	319.5	0.39	9.8	15.04	22.4	14.41	366.0	631	192.3	43600	19777	W

Series 1250

1250 psi (8.6 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
2	50	SP	1.95	49.5	2.11	53.6	0.10	2.5	0.64	1.0	2.96	75.2	106	32.3	1600	488	W
3	80	SP	3.00	76.2	3.25	82.6	0.15	3.8	1.46	2.2	4.24	107.7	165	50.3	4100	1250	W
4	100	SP	3.91	99.3	4.23	107.4	0.20	5.1	2.24	3.3	5.41	137.4	213	64.9	6300	1920	W
6	150	SPH	6.10	154.9	6.60	167.6	0.31	7.9	5.21	7.8	7.97	202.4	331	100.9	15000	4572	W
8	200	SS HP	7.49	190.2	8.10	205.7	0.31	7.8	7.88	11.7	9.70	246.3	406	123.8	21800	9888	W
10	250	SS HP	9.84	249.9	10.65	270.5	0.41	10.5	13.13	19.5	12.59	319.7	533	162.5	37100	16828	W
12	300	SS HP	11.81	300.0	12.78	324.6	0.49	12.4	18.11	26.9	14.74	374.4	639	194.8	53600	24313	W

Anhydride - Cont'd

Series 1500

1500 psi (10.3 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
2	50	SP	1.95	49.5	2.14	54.4	0.12	3.0	0.81	1.2	3.02	76.7	109	33.2	2200	671	W
3	80	SP	3.00	76.2	3.30	83.8	0.19	4.8	1.73	2.6	4.36	110.7	168	51.2	5000	1524	W
4	100	SP	3.91	99.3	4.30	109.2	0.24	6.1	2.58	3.8	5.53	140.5	216	65.8	7400	2256	W
6	150	SPH	6.10	154.9	6.71	170.4	0.38	9.7	6.54	9.7	8.57	217.7	337	102.7	18600	5669	W
8	200	SS HP	7.49	190.2	8.23	209.0	0.37	9.5	9.21	13.7	9.92	252.0	412	125.6	26100	11839	W
10	250	SS HP	9.84	249.9	10.82	274.8	0.49	12.4	15.65	23.3	12.88	327.4	542	165.2	45700	20729	W
12	300	SS HP	11.81	300.0	12.99	329.9	0.59	14.9	22.11	32.9	15.08	383.1	651	198.4	67200	30482	W

Series 1750

1750 psi (12.1 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
2	50	SP	1.95	49.5	2.18	55.4	0.14	3.6	0.82	1.2	3.08	78.2	109	33.2	2200	671	W
3	80	SP	3.00	76.2	3.35	85.1	0.22	5.6	1.77	2.6	4.48	113.8	168	51.2	5000	1524	W
4	100	SPH	3.91	99.3	4.37	111.0	0.29	7.4	2.98	4.4	5.70	144.8	219	66.8	8600	2621	W
6	150	SPH	6.10	154.9	6.82	173.2	0.36	9.1	7.67	11.4	8.81	223.8	344	104.9	22300	6797	W
8	200	SS HP	7.49	190.2	8.36	212.3	0.44	11.1	11.07	16.5	10.16	258.1	420	128.0	32700	14832	W
10	250	SS HP	9.84	249.9	10.99	279.1	0.58	14.7	18.32	27.3	13.18	334.9	551	167.9	54500	24721	W
12	300	SS HP	11.81	300.0	13.20	335.3	0.69	17.6	25.38	37.8	15.44	392.1	660	201.2	77800	35290	W

Series 2000

2000 psi (13.8 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
2	50	SP	1.95	49.5	2.21	56.1	0.13	3.3	0.99	1.5	3.14	79.8	113	34.4	2800	853	W
3	80	SP	3.00	76.2	3.41	86.6	0.20	5.1	2.03	3.0	4.55	115.6	171	52.1	5900	1798	W
4	100	SPH	3.91	99.3	4.44	112.8	0.26	6.6	3.64	5.4	5.82	147.8	225	68.6	10900	3322	W
6	150	SPH	6.10	154.9	6.93	176.0	0.41	10.4	8.40	12.5	9.12	231.6	347	105.8	24200	7376	W
8	200	SS HP	7.49	190.2	8.50	215.9	0.51	12.9	12.48	18.6	10.4	264.2	427	130.2	37200	16874	W
10	250	SS HP	9.84	249.9	11.17	283.7	0.67	16.9	21.08	31.4	13.5	342.8	560	170.7	63600	28848	W
12	300	SS HP	11.81	300.0	13.41	340.6	0.80	20.3	29.09	43.3	15.8	401.3	673	205.1	92100	41776	W

Anhydride - Cont'd

Series 2250

2250 psi (15.5 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
3	80	SP	3.00	76.2	3.46	87.9	0.23	5.8	2.32	3.5	4.67	118.6	174	53.0	6900	2103	W
4	100	SPH	3.91	99.3	4.51	114.6	0.30	7.6	4.02	6.0	5.95	151.1	228	69.5	12200	3719	W
6	150	SS HP	5.85	148.6	6.75	171.4	0.45	11.4	8.94	13.3	8.65	219.7	340	103.6	26800	8169	W
8	200	SS HP	7.49	190.2	8.64	219.5	0.65	16.4	15.51	23.1	10.90	276.9	439	133.8	46800	21228	W
10	250	SS HP	9.84	249.9	11.35	288.3	0.85	21.6	26.94	40.1	14.15	359.5	579	176.5	82600	37467	W
12	300	SS HP	11.81	300.0	13.63	346.1	0.91	23.1	32.45	48.3	16.21	411.7	682	207.9	103400	31516	W

Series 2500

2500 psi (17.2 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
2	50	SP	1.95	49.5	2.29	58.2	0.17	4.3	1.20	1.8	3.33	84.6	116	35.4	3500	1067	W
3	80	SP	3.00	76.2	3.52	89.4	0.26	6.6	2.62	3.9	4.79	121.7	177	53.9	7800	2377	W
4	100	SPH	3.91	99.3	4.58	116.3	0.34	8.6	4.64	6.9	6.61	167.9	231	70.4	13500	4115	W
6	150	SS HP	5.85	148.6	6.86	174.2	0.50	12.8	9.58	14.3	8.83	224.3	343	104.5	28800	8778	W
8	200	SS HP	7.49	190.2	8.78	223.0	0.65	16.4	15.51	23.1	10.90	276.9	439	133.8	46800	21228	W
10	250	SS HP	9.84	249.9	11.54	293.1	0.85	21.6	26.94	40.1	14.15	359.5	579	176.5	82600	37467	W

Series 2750

2750 psi (17.2 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
3	80	SP	3.00	76.2	3.57	90.7	0.29	7.4	2.92	4.3	4.92	125.0	180	54.9	8800	2682	W
6	150	SS HP	5.85	148.6	6.97	177.1	0.56	14.2	10.72	16.0	9.03	229.4	350	106.7	32700	9967	W
8	200	SS HP	7.49	190.2	8.92	226.6	0.72	18.2	17.23	25.6	11.17	283.7	448	136.6	54100	24539	W

Series 3000

3000 psi (20.7 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
6	150	SS HP	5.85	148.6	7.09	180.0	0.62	15.7	11.93	17.8	9.28	235.7	356	108.5	36700	11186	W
8	200	SS HP	7.49	190.2	9.07	230.4	0.79	20.1	18.78	27.9	11.44	290.6	455	138.7	59200	26853	W

Series 3250

3250 psi (22.4 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
6	150	SS HP	5.85	148.6	7.20	183.0	0.68	17.2	13.14	19.6	9.48	240.8	363	110.6	40800	12436	W

Anhydride- Cont'd

Series 3500

3500 psi (24.1 MPa)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
6	150	SS HP	5.85	148.6	7.32	186.0	0.74	18.7	14.43	21.5	9.74	247.4	369	112.5	45100	13746	W

Aliphatic Amine

Series 500

500 psi (3.4 MPa) @ 150°F (65.6°C), 450 psi (3.4 MPa) @ 180°F (82.2°C), 400 psi (2.8 MPa) @ 200°F (93.3°C)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
8	200	SS	7.74	196.6	8.01	203.5	0.14	3.6	3.6	5.4	9.39	238.5	401	122.2	9600	4355	S
10	250	SS	9.84	249.9	10.2	259.1	0.18	4.6	6.7	10.0	12.1	307.3	510	155.4	15900	7212	S
12	300	SS	11.81	300	12.23	310.6	0.21	5.3	8.7	12.9	14.1	358.1	611	186.2	22400	10161	S

Series 800

800 psi (5.5 MPa) @ 150°F (65.6°C), 700 psi (4.8 MPa) @ 180°F (82.2°C), 650 psi (4.5 MPa) @ 200°F (93.3°C)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
8	200	SS	7.74	196.6	8.18	207.8	0.22	5.6	5.5	8.2	9.63	244.6	409	124.7	15600	7076	S
10	250	SS	9.84	249.9	10.41	264.4	0.28	7.1	9.8	14.6	12.35	313.7	520	158.5	25600	11612	S
12	300	SS	11.81	300	12.48	317	0.33	8.4	12.6	18.7	14.4	365.8	624	190.2	36100	16375	S

Series 1000

1000 psi (6.9 MPa) @ 150°F (65.6°C), 900 psi (6.2 MPa) @ 180°F (82.2°C), 850 psi (5.9 MPa) @ 200°F (93.3°C)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
8	200	SS	7.74	196.6	8.29	210.6	0.28	7.1	6.9	10.3	9.79	248.7	415	126.5	19900	9027	S
10	250	SS	9.84	249.9	10.56	268.2	0.36	9.1	11.9	17.7	12.5	317.5	528	160.9	32500	14742	S
12	300	SS	11.81	300	12.65	321.3	0.42	10.7	15.4	22.9	14.7	373.4	633	192.9	45800	20775	S

Series 1250

1250 psi (8.6 MPa) @ 150°F (65.6°C), 1100 psi (7.6 MPa) @ 180°F (82.2°C) 1050 psi (7.2 MPa) @ 200°F (93.3°C)

Pipe Size		Thread Type	Pipe Dimensions								Connection Diameter		Minimum Bending Radius		Short-Term Tensile Rating		Mfg. Loc.*
			Inside Diameter		Outside Diameter		Nominal Wall Thickness		Pipe Weight								
in	mm		in	mm	in	mm	in	mm	lbs/ft	kg/m	in	mm	ft	m	lbs	kgs	
8	200	SS	7.74	196.6	8.45	214.6	0.36	9.1	8.6	12.8	10	254	422	128.6	25700	11658	S
10	250	SS	9.84	249.9	10.74	272.8	0.45	11.4	14.6	21.7	12.8	325.1	537	163.7	41400	18779	S
12	300	SS	11.81	300	12.86	326.6	0.53	13.5	19.2	28.6	15	381	643	196	57800	26218	S

Typical SLT* Properties

Axial Modulus	psi	1.87 x 10 ⁶
	GPa	12.9
Hoop Modulus	psi	3.58 x 10 ⁶
	GPa	24.7
Shear Modulus	psi	1.6 x 10 ⁶
	GPa	11
Poisson's Ratio		
V _{ah}		0.36
V _{ha}		0.69
Coefficient of Thermal Expansion		
Axial	in/in/°F	11.0 x 10 ⁻⁶
	mm/mm/°C	19.8 x 10 ⁻⁶
Hoop	in/in/°F	6.2 x 10 ⁻⁶
	mm/mm/°C	11.2 x 10 ⁻⁶
Thermal Conductivity	BTU/ft·hr·°F	0.23
	W/m·°C	0.4
Specific Gravity		2
Absolute Roughness	in	0.00021
	mm	0.00533
Hazen-Williams Coefficient		150

* Ambient standard laboratory testing

Performance Ratings vs. Temperature

ASTM D 2992-B		Anhydride	Aliphatic Amine
		150°F (65.6°C) 20 Year Life, LCL (Lower Confidence Limit)	psi MPa

The standard pressure ratings are for non-cyclic, water, and hydrocarbon service. A service factor of 0.67 is required for gas service. If customers elects to use other safety factors, consult NOV Fiber Glass Systems. For other applications, consult NOV Fiber Glass Systems engineering.

Anhydride = up to 150°F (65.6°C)

Aliphatic Amine = up to 200°F (93.3°C)

Aromatic Amine = up to 212°F (100°C)

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Pipe Capacity

Pipe Size	Inside Diameter		Capacity	
	In	mm	Bbls/1,000ft.	(m3/km)
2	1.95	49.5	3.7	1.9
3	3.00	76.2	8.7	4.5
4	3.91	99.3	14.9	7.7
6	5.85	148.6	33.2	17.3
6	6.10	154.9	36.1	18.9
8	7.49	190.2	54.4	28.4
8	7.74	249.9	58.1	30.3
10	9.84	249.9	94.1	49.1
12	11.81	300.0	135.5	70.7

Joining System Information

Pipe Size	Thread Type	Pin Upset O.D.		Thread Length		Make Up Length Loss		O-Ring Dash Number
		In	mm	In	mm	In	mm	
2	SP	2.73	69.3	4.50	114.3	4.50	114.3	226
3	SP	3.91	99.3	4.50	114.3	4.50	114.3	236
4	SP	4.91	124.7	4.50	114.3	4.50	114.3	244
4	SPH	5.02	127.4	4.50	114.3	4.50	114.3	346
6	SP	7.36	186.9	4.50	114.3	4.50	114.3	260
6	SS HP	7.69	195.3	9.00	228.0	8.75	222.3	439
8	SS	8.86	225.0	5.00	127.0	4.75	120.7	369
8	SS HP	9.38	238.0	9.00	228.0	8.75	222.3	445
10	SS	11.25	156.5	6.16	156.5	5.43	137.9	449
10	SS HP	11.95	303.0	9.00	228.0	8.75	222.3	450
12	SS	13.27	174.0	6.85	174.0	6.11	155.2	453
12	SS HP	13.88	352.0	9.00	228.0	8.75	222.3	454

All pipe products are hydrotested to 1.25 times maximum recommended operating pressure. Material selection is based on the desired operating temperature and chemical compatibility of NOV Fiber Glass Systems constituents with fluids.

***Manufacturing Location**

W = Wichita S = San Antonio

Fiber Glass Systems

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API 15HR-0001 / 15HR-0004

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