



FUTURE PIPE INDUSTRIES, INC.

RED BOX 1000

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.16	0.08	2.69	3.45	0.6	17	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.67	0.10	3.19	3.95	0.8	25	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.25	0.13	3.85	4.84	1.3	38	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.61	0.14	4.35	5.07	1.7	50	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.30	0.16	4.85	5.77	2.0	61	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	4.78	0.18	5.60	6.68	2.7	82	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	5.87	0.22	6.73	7.96	4.0	120	6-5/8" 8Rd Csg Long**IJ
7	6.21	6.11	6.71	0.25	7.10	8.61	4.8	143	7" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	6.71	0.25	7.73	9.32	5.4	161	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	8.47	0.31	9.73	11.78	8.6	258	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	9.56	0.36	10.85	13.08	10.8	325	10-3/4" 8Rd Csg***IJ
11-3/4	10.72	10.62	11.49	0.39	11.93	14.00	13.8	414	11-3/4" 8/6Rd Csg***TC
13-3/8	11.97	11.87	12.83	0.43	13.55	15.00	17.4	522	13-3/8" 8/6Rd Csg***TC
16	14.48	14.39	15.53	0.52	16.23	18.10	24.9	748	16" 6Rd Csg TC
18	16.60	16.50	17.80	0.60	18.74	21.45	33.9	1,016	18" 6Rd Csg TC
20	17.98	17.89	19.28	0.65	20.10	23.10	38.8	1,164	20" 6Rd Csg TC

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	1,000	1,250	310	8,000	0.649
2-7/8	1,000	1,250	350	12,500	0.387
3-1/2	1,000	1,250	370	19,000	0.249
4	1,000	1,250	340	22,500	0.214
4-1/2	1,000	1,250	310	31,000	0.163
5-1/2	1,000	1,250	330	39,500	0.125
6-5/8	1,000	1,250	330	59,000	0.084
7	1,000	1,250	330	76,500	0.064
7-5/8	1,000	1,250	330	77,500	0.064
9-5/8	1,000	1,250	310	121,000	0.042
10-3/4	1,000	1,250	310	154,000	0.033
11-3/4	1,000	1,250	240	81,500	0.037
13-3/8	1,000	1,250	240	101,500	0.030
16	1,000	1,250	240	148,500	0.020
18	1,000	1,250	240	194,000	0.015
20	1,000	1,250	240	208,000	0.013

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 1250

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.21	0.10	2.69	3.45	0.7	21	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.73	0.13	3.19	3.95	1.0	31	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.30	0.15	3.85	4.84	1.5	44	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.68	0.17	4.35	5.17	2.0	61	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.40	0.21	4.85	5.77	2.5	76	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	4.87	0.23	5.60	6.70	3.2	97	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	5.97	0.27	6.73	7.98	4.8	144	6-5/8" 8Rd Csg Long**IJ
7	6.21	6.11	6.83	0.31	7.10	8.61	5.8	173	7" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	6.83	0.31	7.73	9.35	6.4	192	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	8.63	0.40	9.73	11.81	10.3	309	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	9.76	0.45	10.85	13.12	13.1	394	10-3/4" 8Rd Csg***IJ
11-3/4	10.72	10.62	11.70	0.49	11.93	14.00	16.4	491	11-3/4" 8/6Rd Csg***TC
13-3/8	11.97	11.87	13.06	0.55	13.55	15.20	20.7	621	13-3/8" 8/6Rd Csg***TC
16	14.48	14.39	15.80	0.66	16.23	18.65	30.0	900	16" 6Rd Csg TC
18	16.60	16.50	18.11	0.76	18.74	22.30	40.8	1,223	18" 6Rd Csg TC
20	17.98	17.89	19.62	0.82	20.10	24.00	46.9	1,406	20" 6Rd Csg TC

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	1,250	1,570	640	10,500	0.467
2-7/8	1,250	1,570	670	16,000	0.295
3-1/2	1,250	1,570	600	22,500	0.221
4	1,250	1,570	640	29,000	0.169
4-1/2	1,250	1,570	640	41,000	0.118
5-1/2	1,250	1,570	600	49,500	0.101
6-5/8	1,250	1,570	590	72,500	0.069
7	1,250	1,570	590	76,500	0.052
7-5/8	1,250	1,570	590	86,500	0.052
9-5/8	1,250	1,570	580	140,500	0.033
10-3/4	1,250	1,570	600	161,500	0.025
11-3/4	1,250	1,570	450	103,500	0.029
13-3/8	1,250	1,570	450	129,000	0.023
16	1,250	1,570	450	167,000	0.016
18	1,250	1,570	450	194,000	0.012
20	1,250	1,570	450	208,000	0.010

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 1500

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.26	0.13	2.69	3.45	0.8	25	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.77	0.15	3.19	3.95	1.2	35	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.37	0.19	3.85	4.84	1.8	53	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.75	0.21	4.35	5.26	2.3	70	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.48	0.25	4.85	5.77	3.0	90	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	4.96	0.27	5.60	6.71	3.8	115	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	6.10	0.34	6.73	8.00	5.7	171	6-5/8" 8Rd Csg Long**IJ
7	6.21	6.11	6.97	0.38	7.10	8.61	6.9	208	7" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	6.97	0.38	7.73	9.38	7.6	227	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	8.80	0.48	9.73	11.84	12.0	361	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	9.94	0.54	10.85	13.15	15.3	459	10-3/4" 8Rd Csg***IJ
11-3/4	10.72	10.62	11.90	0.59	12.65	14.70	21.2	635	11-3/4 8/6Rd L Csg TC
13-3/8	11.97	11.87	13.29	0.66	13.55	15.65	24.3	728	13-3/8" 8/6Rd Csg***TC
16	14.48	14.39	16.08	0.80	16.23	19.20	35.2	1,057	16" 6Rd Csg TC
18	16.60	16.50	18.43	0.92	18.74	23.10	47.9	1,436	18" 6Rd Csg TC
20	17.98	17.89	19.97	1.00	20.10	24.80	55.1	1,653	20" 6Rd Csg TC

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	1,500	1,850	1,200	13,000	0.363
2-7/8	1,500	1,850	1,000	19,000	0.266
3-1/2	1,500	1,850	1,100	28,000	0.178
4	1,500	1,850	1,100	35,000	0.138
4-1/2	1,500	1,850	1,100	46,500	0.098
5-1/2	1,500	1,850	1,000	55,500	0.084
6-5/8	1,500	1,850	1,100	72,500	0.054
7	1,500	1,850	1,000	76,500	0.042
7-5/8	1,500	1,850	1,000	86,500	0.042
9-5/8	1,500	1,850	1,000	140,500	0.027
10-3/4	1,500	1,850	1,000	161,500	0.021
11-3/4	1,500	1,850	750	126,500	0.024
13-3/8	1,500	1,850	750	136,000	0.019
16	1,500	1,850	750	167,000	0.013
18	1,500	1,850	750	194,000	0.010
20	1,500	1,850	750	208,000	0.008

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 1750

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.29	0.15	2.69	3.45	0.9	27	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.83	0.18	3.19	3.95	1.4	41	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.44	0.22	3.85	4.84	2.0	61	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.81	0.24	4.35	5.33	2.6	78	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.57	0.29	4.85	5.95	3.5	105	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	5.06	0.32	5.60	6.74	4.4	131	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	6.21	0.39	6.73	8.02	6.6	197	6-5/8" 8Rd Csg Long**IJ
7	6.21	6.11	7.11	0.45	7.10	8.61	8.1	243	7" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	7.11	0.45	7.73	9.40	8.7	262	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	8.98	0.57	9.73	11.88	14.0	419	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	10.12	0.64	10.85	13.50	17.5	526	10-3/4" 8Rd Csg***IJ
11-3/4	10.72	10.62	12.11	0.70	12.65	15.20	24.2	727	11-3/4 8/6Rd L Csg TC
13-3/8	11.97	11.87	13.53	0.78	14.09	17.35	30.5	916	13-3/8 8/6Rd L Csg TC
16	14.48	14.39	16.37	0.95	16.99	22.20	46.0	1,379	16 6Rd Csg L TC
18	16.60	16.50	18.76	1.08	19.43	26.70	61.9	1,856	18 6Rd Csg L TC
20	17.98	17.89	20.33	1.17	21.03	30.00	74.2	2,225	20 6Rd Csg L TC

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	1,750	2,100	1,600	15,000	0.333
2-7/8	1,750	2,100	1,600	22,500	0.217
3-1/2	1,750	2,100	1,600	32,000	0.148
4	1,750	2,100	1,500	40,000	0.126
4-1/2	1,750	2,100	1,600	46,500	0.084
5-1/2	1,750	2,100	1,500	55,500	0.072
6-5/8	1,750	2,100	1,600	72,500	0.047
7	1,750	2,100	1,600	76,500	0.035
7-5/8	1,750	2,100	1,600	86,500	0.035
9-5/8	1,750	2,100	1,600	140,500	0.022
10-3/4	1,750	2,100	1,500	161,500	0.018
11-3/4	1,750	2,100	1,200	127,194	0.020
13-3/8	1,750	2,100	1,200	156,000	0.016
16	1,750	2,100	1,200	197,000	0.011
18	1,750	2,100	1,200	226,000	0.008
20	1,750	2,100	1,200	245,000	0.007

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 2000

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.34	0.17	2.69	3.45	1.1	32	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.89	0.21	3.19	3.95	1.6	47	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.51	0.25	3.85	4.84	2.3	70	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.88	0.28	4.35	5.33	3.0	90	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.65	0.34	4.85	5.77	4.0	119	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	5.17	0.37	5.60	6.76	5.1	152	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	6.33	0.45	6.73	8.13	7.5	226	6-5/8" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	7.25	0.52	7.73	9.43	10.0	299	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	9.15	0.65	9.73	12.20	15.9	476	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	10.33	0.74	10.85	14.05	20.1	603	10-3/4" 8Rd Csg***IJ

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	2,000	2,350	2,400	17,500	0.274
2-7/8	2,000	2,350	2,400	24,000	0.183
3-1/2	2,000	2,350	2,300	32,000	0.126
4	2,000	2,350	2,200	40,000	0.108
4-1/2	2,000	2,350	2,300	46,500	0.073
5-1/2	2,000	2,350	2,300	55,500	0.059
6-5/8	2,000	2,350	2,300	72,500	0.040
7-5/8	2,000	2,350	2,300	86,500	0.030
9-5/8	2,000	2,350	2,200	140,500	0.019
10-3/4	2,000	2,350	2,200	161,500	0.015

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 2250

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 212° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.38	0.19	2.69	3.45	1.2	35	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.93	0.23	3.19	3.95	1.7	52	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.58	0.29	3.85	4.84	2.6	79	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	3.96	0.31	4.35	5.33	3.3	100	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.74	0.38	4.85	5.93	4.5	135	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	5.26	0.42	5.60	6.77	5.7	170	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	6.46	0.52	6.73	8.40	8.6	257	6-5/8" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	7.39	0.59	7.73	9.72	11.3	338	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	9.32	0.74	9.73	12.65	17.8	535	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	10.52	0.83	10.85	0.10	20.7	620	10-3/4" 8Rd Csg***IJ

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	2,250	2,600	2,600	17,500	0.255
2-7/8	2,250	2,600	2,600	24,000	0.170
3-1/2	2,250	2,600	2,700	32,000	0.110
4	2,250	2,600	2,600	40,000	0.094
4-1/2	2,250	2,600	2,600	46,500	0.064
5-1/2	2,250	2,600	2,600	55,500	0.052
6-5/8	2,250	2,600	2,600	72,500	0.034
7-5/8	2,250	2,600	2,600	86,500	0.026
9-5/8	2,250	2,600	2,600	140,500	0.017
10-3/4	2,250	2,600	2,600	161,500	0.013

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 212° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM



FUTURE PIPE INDUSTRIES, INC.

RED BOX 2500

FIBERGLASS TUBING, CASING, AND LINERS
AROMATIC AMINE CURED EPOXY RESIN

Maximum service temperature is 210° F (100 ° C) **

DIMENSIONAL SPECIFICATIONS

February 2005

Nominal Size (inches)	Nominal I.D. (inches)	Minimum Drift Dia (inches)	Nominal O.D. (inches)	Nominal Wall (inches)	Pin Upset O.D. (inches)	Max Box OD* (inches)	Nominal Weight		Connection Type API 5B, Table 14*, 7**, 6*** Fourteenth Edition August 96
							(lbs/ft)	(lbs/ft)	
2-3/8	2.00	1.91	2.43	0.22	2.69	3.45	1.3	40	2-3/8" 8Rd EUE Long*IJ
2-7/8	2.47	2.37	2.99	0.26	3.19	3.95	2.0	59	2-7/8" 8Rd EUE Long*IJ
3-1/2	3.00	2.90	3.63	0.32	3.85	4.92	2.9	87	3-1/2" 8Rd EUE Long*IJ
4	3.33	3.24	4.03	0.35	4.35	5.43	3.7	111	4" 8Rd EUE Long* TC
4-1/2	3.98	3.89	4.83	0.42	4.85	6.10	5.0	151	4-1/2" 8Rd EUE Long*IJ
5-1/2	4.42	4.33	5.36	0.47	5.60	6.82	6.3	189	5-1/2" 8Rd Csg Long**IJ
6-5/8	5.43	5.33	6.59	0.58	6.73	8.68	9.6	289	6-5/8" 8Rd Csg Long**IJ
7-5/8	6.21	6.11	7.54	0.67	7.73	10.04	12.6	378	7-5/8" 8Rd Csg Long**IJ
9-5/8	7.84	7.75	9.50	0.83	9.73	13.15	19.9	596	9-5/8" 8Rd Csg*** IJ
10-3/4	8.85	8.76	10.72	0.94	10.85	14.35	26.1	782	10-3/4" 8Rd Csg***TC

*Depending on the application, smaller maximum box diameters are available.

Thread lengths may exceed API L4

PERFORMANCE AND RATINGS (-60 deg F to +150 deg F **)

30 ft Standard Joint Length

Nominal Size	Internal Pressure Rating (psi)	Mill Test Pressure (psi)	Collapse Rating (psi)	Axial Tension Rating (lbs)	Stretch vs Tension-Over-Pipe-Wt Stretch (ft) = Coeff. x P x L
2-3/8	2,500	2,850	2,900	17,500	0.217
2-7/8	2,500	2,850	2,900	24,000	0.147
3-1/2	2,500	2,850	2,900	32,000	0.103
4	2,500	2,850	2,900	40,000	0.083
4-1/2	2,500	2,850	2,900	46,500	0.057
5-1/2	2,500	2,850	2,900	55,500	0.047
6-5/8	2,500	2,850	2,900	72,500	0.030
7-5/8	2,500	2,850	2,900	86,500	0.023
9-5/8	2,500	2,850	2,900	140,500	0.015
10-3/4	2,500	2,850	2,900	157,500	0.012

Where: P = Tensile Load (1,000 lbs)

L = String Length (1,000 ft)

MECHANICAL & PHYSICAL PROPERTIES

TUBING/CASING BODY PROPERTIES	UNIT	VALUE	VALUE	TEST METHOD
		2-3/8 - 10-3/4	11-3/4 - 20	
Tensile Strength, Hoop	psi	31,300	31,300	ASTM D1599
Tensile Strength, Axial	psi	30,000	12,000	ASTM D2105
Modulus of Elasticity, Axial	10E+06 psi	3.0	2.0	ASTM D2105
Specific Gravity	---	1.9	1.9	ASTM D792
Density	lbs/in ³	0.07	0.07	ASTM D792
Thermal Conductivity	Btu/hr/ft ² /in/degF	2.4	2.4	ASTM C177
Thermal Expansion Coefficient (Linear)	10E-05in/in/degF	1.1	1.2	ASTM D696
Flow Factor	---	150	150	Hazen Williams

** De-rating required for service temperatures above 150° F (65 ° C) - Maximum service temperature is 210° F (100 ° C)



RED BOX CASING & TUBING SYSTEM



YELLOW BOX LINE PIPE SYSTEM

