Wheatland Tube Co. Schedule 10 Pipe

Table-1

Schedule 10 (A-135, Gr. A) Pipe Properties													
Pipe NPS In.	**Pipe 't' In.**	**Pipe ID 'd' In.**	**Pipe OD 'D' In.**	**Inside Area 'Ai' In^2**	**Metal Area 'Am' In^2**	**Wt Per ft. 'w_1' Lb.**	**Wt of Water. 'w_2' Lb.**	**Moment of Inertia 'I' In^4**	**Section Mod. 'S' In^3**	**Radius of Gyration 'r' In**	**Weight 'w' Lb/Ft w_{1+} w_2**	**Hanger Span Ft. (max)**	**Trapeze Load P Lb. = w+250**
1	0.109	1.097	1.315	0.945	0.413	1.41	0.41	0.08	0.12	0.43	1.81	15	277
1 1/4	0.109	1.442	1.660	1.633	0.531	1.81	0.71	0.16	0.19	0.55	2.51	15	288
1 1/2	0.109	1.682	1.900	2.222	0.613	2.09	0.96	0.25	0.26	0.63	3.05	15	296
2	0.109	2.157	2.375	3.654	0.776	2.64	1.58	0.50	0.42	0.80	4.22	15	313
2 1/2	0.120	2.635	2.875	5.453	1.039	3.53	2.36	0.99	0.69	0.97	5.89	15	338
3	0.120	3.260	3.500	8.347	1.274	4.34	3.61	1.82	1.04	1.20	7.95	15	369
4	0.120	4.260	4.500	14.253	1.651	5.62	6.17	3.96	1.76	1.55	11.79	15	427
5	0.134	5.295	5.563	22.020	2.285	7.78	9.53	8.43	3.03	1.92	17.31	15	510
6	0.134	6.357	6.625	31.739	2.733	9.30	13.73	14.40	4.35	2.30	23.03	15	595
8	0.188	8.249	8.625	53.443	4.983	16.96	23.13	44.36	10.29	2.98	40.08	15	851
10	0.188	10.374	10.750	84.525	6.238	21.23	36.58	87.02	16.19	3.73	57.80	15	1117

Table-2

NFPA 13 (2022) Table 17.3.1(a) Schedule 10 Section Modulus Required (minimum) for Trapeze Members ($in.^3$)											
	Nominal Diameter of Schedule 10 Pipe Being Supported										
Span of Trapeze 'a' ↓	**1 In.**	**1 ¼ In.**	**1 ½ In.**	**2 In.**	**2 ½ In.**	**3 In.**	**4 In.**	**5 In.**	**6 In.**	**8 In.**	**10 In.**
	Section Modulus Required (Minimum)										
1'-6"	0.08	0.08	0.09	0.09	0.10	0.11	0.13	0.15	0.18	0.26	0.34
2'-0"	0.11	0.11	0.12	0.13	0.14	0.15	0.17	0.20	0.24	0.34	0.45
2'-6"	0.14	0.14	0.15	0.16	0.18	0.21	0.25	0.30	0.36	0.50	0.69
3'-0"	0.16	0.17	0.18	0.19	0.20	0.22	0.26	0.31	0.36	0.51	0.67
4'-0"	0.22	0.22	0.24	0.25	0.27	0.30	0.34	0.41	0.48	0.68	0.89
5'-0"	0.27	0.28	0.30	0.31	0.34	0.37	0.43	0.51	0.60	0.85	1.12
6'-0"	0.33	0.34	0.35	0.38	0.41	0.44	0.51	0.61	0.71	1.02	1.34
7'-0"	0.38	0.39	0.41	0.44	0.47	0.52	0.60	0.71	0.83	1.19	1.56
8'-0"	0.43	0.45	0.47	0.50	0.54	0.59	0.68	0.82	0.95	1.36	1.79
9'-0"	0.49	0.50	0.53	0.56	0.61	0.66	0.77	0.92	1.07	1.53	2.01
10'-0"	0.54	0.56	0.59	0.63	0.68	0.74	0.85	1.02	1.19	1.70	2.23
The Table is based on a maximum bending stress of 15 ksi and a midspan concentrated load from 15 ft of water-filled pipe, plus 250 lb.											

Wheatland Tube
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Table-3

ZONE OF INFLUENCE LOAD CAPACITY (Lb) AT THE CENTER OF THE SPAN Lateral Sway Brace Spacing (Ft)[a] on Schedule 10, (A135, Gr. A) Pipe, (Fy = 30 ksi)[f]					
Pipe Diameter (In)	**20[b]**	**25[b]**	**30[c]**	**35[c]**	**40[d]**
1	111	89	73	63	52
1 1/4	176	141	116	99	83
1 1/2	241	193	158	136	114
2	390	312	256	219	183
2 1/2	641	513	420	360	301
3	966	773	633	543	454
4	1634	1307	1071	918	769
5	2814	2251	1844	1581	1324
6[e]	4039	3231	2647	2269	1900

Notes:

[a] The Tables for the maximum load *Fpw* in zone of influence (ZOI) are based on specific configurations of mains and branch lines.

[b] Assumes branch lines at center of pipe span and near each support.

[c] Assumes branch lines at third-points of pipe span and near each support.

[d] Assumes branch lines at quarter-points of pipe span and near each support.

[e] Larger diameter pipe may be used when justified by engineering analysis.

[f] ASTM A135 & A795 have a minimum yield strength (Fy) = 30 ksi. Effect on overall stresses in the pipe due to operational stresses is not considered.