



PIPE LOAD TABLES

1 1/2" SCHEDULE 40 - STEEL PIPE .145" - SIMPLY SUPPORTED

SECTION PROPERTIES		
Thickness	t	0.145 in
Outside diameter	OD	1.9 in
Outside radius	R	0.95 in
Inside diameter	ID	1.61 in
Inside radius	r	0.805 in
Cross-Section Area	A	0.799 in ²
Moment of Inertia	I _x	0.310 in ⁴
Centroid distance	c	0.95 in
Elastic Section Modulus	Z	0.326 in ³
Plastic Section Modulus	S	0.448 in ³
Linear Weight		2.72 lb/ft

MATERIAL PROPERTIES		
Alloy	ASTMA53	Grade A
Ultimate Strength	F _u	48000 psi
Yield Strength	F _y	30000 psi
Modulus of Elasticity	E	29000000 psi
ALLOWABLE LOAD		
Safety Factor	SF	4 : 1
Bending Moment (Z)	M	326 lbf.ft
Bending Moment (S)	M	448 lbf.ft
Shear	V	4797 lbf
Deflection	Δ	L / 80

			Maximum UDL Load		Max. Centre Point Load		Max. Third Point Loads		Max. Quarter Point Load	
ACTUAL SPAN	THEROTICAL WEIGHT	ALLOWABLE DEFLECTION	MAX. ALLOWABLE LOAD	ANTICIPATED DEFLECTION	MAX. ALLOWABLE LOAD	ANTICIPATED DEFLECTION	MAX. ALLOWABLE LOAD	ANTICIPATED DEFLECTION	MAX. ALLOWABLE LOAD	ANTICIPATED DEFLECTION
ft	lb	in	PLF	in	LBS	in	LBS	in	LBS	in
2	5.44	0.30	895	0.04	895	0.03	671	0.04	448	0.03
3	8.16	0.45	398	0.08	597	0.06	448	0.08	298	0.08
4	10.88	0.60	224	0.14	448	0.11	336	0.15	224	0.14
5	13.6	0.75	143	0.22	358	0.18	269	0.23	179	0.21
6	16.32	0.90	99	0.32	298	0.26	224	0.33	149	0.31
7	19.04	1.05	73	0.44	256	0.35	192	0.45	128	0.42
8	21.76	1.20	56	0.57	224	0.46	168	0.59	112	0.55
9	24.48	1.35	44	0.73	199	0.58	149	0.74	99	0.69
10	27.2	1.50	36	0.90	179	0.72	134	0.92	90	0.85
11	29.92	1.65	30	1.08	163	0.87	122	1.11	81	1.03
12	32.64	1.80	25	1.29	149	1.03	112	1.32	75	1.23
13	35.36	1.95	21	1.52	138	1.21	103	1.55	69	1.44
14	38.08	2.10	18	1.76	128	1.41	96	1.80	64	1.67
15	40.8	2.25	16	2.02	119	1.61	90	2.06	60	1.92
16	43.52	2.40	14	2.30	112	1.84	84	2.35	56	2.18
17	46.24	2.55			105	2.07			53	2.46
18	48.96	2.70			99	2.32				
19	51.68	2.85			94	2.59				
20	54.4	3.00			90	2.87				