

# Allowable Batten Loads

BATTEN	WT/FT	LOAD TYPE	CRITERIA	SPAN BETWEEN LIFT LINES								
				8'	9'	10'	11'	12'	13'	14'	15'	
<b>1" Sched. 40</b>	1.68	Uniform	Strength	27	21	17	14	11	9	8	7	lb/ft
		Uniform	Deflection	20	13	9	7	5	4	3	2	lb/ft
		Point	Strength	93	82	74	67	62	57	53	49	lb
		Point	Deflection	56	44	36	29	25	21	18	16	lb
<b>1 1/4" Sched. 40</b>	2.27	Uniform	Strength	48	37	30	24	20	17	14	12	lb/ft
		Uniform	Deflection	45	31	22	16	12	9	7	5	lb/ft
		Point	Strength	160	142	128	116	107	98	91	85	lb
		Point	Deflection	124	98	79	65	55	47	40	35	lb
<b>1 1/4" Sched. 80</b>	3	Uniform	Strength	61	48	38	31	26	21	18	15	lb/ft
		Uniform	Deflection	56	39	28	20	15	11	9	6	lb/ft
		Point	Strength	206	183	165	150	137	127	118	110	lb
		Point	Deflection	155	123	99	82	69	59	51	44	lb
<b>1 1/2" Sched. 40</b>	2.72	Uniform	Strength	66	52	41	34	28	23	20	17	lb/ft
		Uniform	Deflection	72	50	36	26	20	15	12	9	lb/ft
		Point	Strength	221	196	176	160	147	136	126	118	lb
		Point	Deflection	197	155	126	104	87	74	64	56	lb
<b>1 1/2" Sched. 80</b>	3.63	Uniform	Strength	86	67	54	44	36	30	26	22	lb/ft
		Uniform	Deflection	91	63	45	33	25	19	15	11	lb/ft
		Point	Strength	288	256	230	209	192	177	164	153	lb
		Point	Deflection	250	197	160	132	111	95	82	71	lb
<b>2" Sched. 40</b>	3.66	Uniform	Strength	113	89	71	58	48	41	34	30	lb/ft
		Uniform	Deflection	156	109	78	58	44	34	27	21	lb/ft
		Point	Strength	374	332	299	272	249	230	213	199	lb
		Point	Deflection	421	333	269	223	187	159	137	120	lb

- All loads listed at the allowable static loads based on the requirements on ANSI E1.6-1 Powered Hoist Systems section 6.6.
- Characteristic load assumed to be 125% of the static load.
- Batten strength is limited so that the load imposed by the characteristic load does not exceed 75% of the allowable strength per AISC 360-05 (Specification for Steel Buildings - Allowable Stress Design).
- Batten deflection is limited so that the calculated deflection due to the characteristic load not exceed L/180.
- Battens assumed to be continuous over three spans.
- Battens extend beyond last lift line by 3 feet or less.
- ANSI E1.4 (Manual Counterweight Rigging Systems) requires battens to support 30 lbf/ft or 100 lb point load while limiting deflection to L/180. Spans highlighted in green meet this criteria.