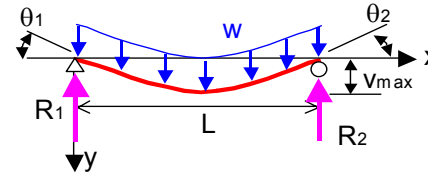


FIBERFORCE®
STRUCTURAL PLASTIC LUMBER SPAN TABLE - JOIST MODE
UNIFORM LOAD LONG-TERM CREEP (DEAD LOAD) L/360 TABLE

Modulus Of Elasticity Per ASTM D6108 - 3 min test @ 72 Deg F= **306500 PSI**
 Modulus Of Elasticity Creep reduction Factor (10 YEAR) = **3**
 Temperature adjustment factor (90 deg F) = **1.25**
 Creep and Temperature adjusted Modulus of Elasticity = **81733 PSI**
 Deflection limited to L/360 = **0.033 inches / foot**



Nominal size	Actual size		Board only		
Size	Width	Height	I (in ⁴)	Z (in ³)	LBS / Foot
5/4 x 4	1.1	3.5	3.9	2.2	1.4
5/4 x 6	1.1	5.4	14.4	5.3	2.2
5/4 x 8	1.1	7.3	35.7	9.8	3.0
2 x 2	1.5	1.5	0.4	0.6	0.8
2 x 3	1.5	2.5	2.0	1.6	1.4
2 x 4	1.5	3.5	5.4	3.1	2.0
2 x 6	1.5	5.4	19.7	7.3	3.0
2 x 8	1.5	7.3	48.6	13.3	4.1
2 x 10	1.5	9.25	98.9	21.4	5.2
2 x 12	1.5	11.3	180.4	31.9	6.4
3 x 4	2.4	3.4	7.9	4.6	3.1
3 x 6	2.4	5.5	33.3	12.1	5.0
3 x 8	2.4	7.4	81.0	21.9	6.7
3 x 10	2.4	9.3	160.9	34.6	8.4
3 x 12	2.4	11.3	288.6	51.1	10.2
4 x 4	3.4	3.4	11.1	6.6	4.3
4 x 6	3.4	5.4	44.6	16.5	6.9
4 x 8	3.4	7.5	119.5	31.9	9.6
4 x 10	3.4	9.375	233.5	49.8	12.0
4 x 12	3.45	11.375	423.1	74.4	14.7
5 x 5	4.4	3.85	20.9	10.9	6.4
6 x 6	5.4	5.4	70.9	26.2	10.9
6 x 8	5.4	7.4	182.4	49.3	15.0
6 x 12	5.4	11.3	649.3	114.9	22.9
8 x 8	7.3	7.3	236.7	64.8	20.0
8 x 10	7.3	9.3	489.3	105.2	25.5
10 x 10	9.8	9.8	768.6	156.9	36.0
12 x 12	11.8	11.8	1615.6	273.8	52.2

L SPAN (FEET)											
2	3	4	5	6	7	8	9	10	11	12	
W - Allowable Uniform Load (pounds / foot)											
57	16	6	2								
214	62	25	12	6							
531	155	64	31	17	9	5					
5											
28	7	2									
78	22	8	3								
292	84	34	16	8							
725	212	87	43	23	13	7					
1477	434	180	90	50	29	18	11	7			
2696	794	331	167	94	57	36	23	15	10	6	
115	32	12	4								
494	143	57	27	14	7						
1208	353	145	71	38	22	12	7				
2402	706	293	146	81	48	29	18	11			
4314	1271	530	267	150	91	57	37	24	16	10	
163	45	17	6								
662	191	77	36	18	9						
1782	521	214	105	57	32	18	10				
3486	1025	425	212	118	70	43	26	16			
6326	1864	778	391	220	133	84	55	36	23	15	
307	87	33	14								
1051	304	122	57	28	14						
2717	795	327	160	86	49	28	15				
9707	2860	1193	600	337	204	129	84	55	36	22	
3526	1031	423	207	111	63	35	19				
7307	2147	891	444	246	146	89	55	33	19		
11482	3377	1404	701	391	233	144	90	56	33	17	
24157	7121	2974	1497	844	512	326	213	141	93	60	

Notes:

1. Designers are to understand table limitations and apply them appropriately. Loads are assumed to be uniformly applied to a simple span condition.
2. Table included the weight of the beam in the allowable load values.
3. Table is based on adjusted modulus of elasticity based on long term creep and temperature.
4. All designs should be reviewed by a professional engineer.
5. Tables are generated from uniform loaded beam formula $y = 5WL^4/384EI$
- 6) Example: In a pergola application can a 2 x 8 x 8' joist spaced 24" on center support the load of 2 x 4 boards placed on top of the 2 x 8 spaced 12" on center. The 2 x 4 boards weight 2 lbs / foot. This results in total loading on the 2 x 8 of 4 lbs / foot. Using the chart a 2 x 8 at 8' span is rated at 7 lbs / foot and load is 4 lbs / foot. Application is OK for creep deflection of L/360.