

Standard Slopes: $\frac{1}{4}$ " per foot
 $\frac{3}{8}$ " per foot

Other slopes available, providing the sum of the end depths does not exceed 32".

Standard Depths: 6" min. at overhang
 8" min. at bearing
 24" maximum

Shallow end depth plus deep end depth must not exceed 32".

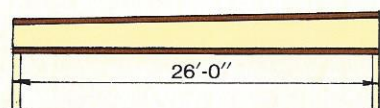
Depths at bearings must be in $\frac{1}{4}$ " increments.

Standard Lengths: 12'-52'

Simple Span

1. Locate Simple Span load table on next page.
2. Select desired slope.
3. Select span from span column.
4. Read across to proper slope and depth column. Load shown is the maximum capacity in lbs. per lineal foot.

Example:



1. Desired slope is $\frac{1}{4}$ " per foot.
2. Span is 26'-0" (out to out of 8" concrete walls).
3. Desired spacing is 32" o.c.
4. Live load is 20 psf.
Dead load is 15 psf.
5. Design load is 35 psf. @ 2.66' o.c. = 93 plf.

Solution:

1. Joist span equals clear span plus $\frac{1}{2}$ the minimum bearing distance at each end. (Assume clear span plus 2" or see minimum bearing distance requirements on next page.)

Out to out of walls	26'-0"
less blk walls (2x7 $\frac{3}{8}$ ")	(-) 1-3 $\frac{1}{4}$ "
clear span	24'-8 $\frac{3}{4}$ "
plus $\frac{1}{2}$ min. brg at ea. end	(+) 2"
$\frac{1}{2}$ (2" + 2")	24'-10 $\frac{3}{4}$ "
	say 25' span

2. Interpolate between 24' and 26' to determine values for 25'.
3. Check the $\frac{1}{4}$ " : 12" column under each series table until a load in excess of 93 plf. is located. In the example a 12" shallow end depth TJI/35X joist exceeds the 93 plf. requirement.

4. To determine the depth at the deep end, multiply the slope times the length (to calculate the amount of rise) and add to the shallow end depth. In the example:

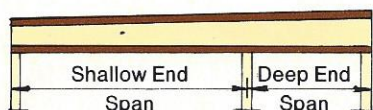
$.25 \times 25' + 12" = 18.25"$ depth at the deep end. (Always round to nearest $\frac{1}{4}$ " to accommodate blocking panels.)

NOTE: The sum of the end depths must not exceed 32" ($12" + 18 \frac{1}{4}" = 30 \frac{1}{4}"$ OK.)

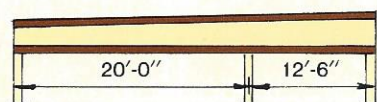
5. From chart on next page web stiffeners are required at both ends.

Multiple Span (2 span conditions)

1. Locate Multiple Span load tables.
2. Select desired slope.
3. Select the table with the desired shallow end depth.
4. Read down the left column to shallow end span and across the top column to deep end span. Load shown at the intersection of spans is the maximum capacity in lbs. per lineal foot.



Example:



1. Desired slope approximately $\frac{3}{8}$ " per foot.
2. Out-to-out of 2x4 stud walls is 32'-6". Joists also bear on interior 2x4 stud wall located 20' from shallow end (see sketch).
3. Desired spacing is 24" o.c.
4. Live load is 30 psf. Dead load is 15 psf.
5. Design load is 45 psf. @ 2' o.c. = 90 plf.

Solution:

1. Joist span equals clear span plus $\frac{1}{2}$ the minimum bearing distance at each end. (Assume clear span plus 2" or see minimum bearing distance requirements on next page.)

Span at shallow end:	
out of wall to \mathbb{C} of wall	20'-0"
less outside wall	(-) 3 $\frac{1}{2}$ "
less $\frac{1}{2}$ interior wall	(-) 1 $\frac{1}{4}$ "
clear span	19'-6 $\frac{3}{4}$ "
plus $\frac{1}{2}$ min. brg. @ ea. end	(+) 2"
$\frac{1}{2}$ (2" + 2")	19'-8 $\frac{3}{4}$ "
	say 20' span

Span at deep end:

out of wall to \mathbb{C} of wall	12'-6"
less outside wall	(-) 3 $\frac{1}{2}$ "
less $\frac{1}{2}$ interior wall	(-) 1 $\frac{1}{4}$ "
clear span	12'-0 $\frac{3}{4}$ "
plus $\frac{1}{2}$ min. brg. @ ea. end	(+) 2"
$\frac{1}{2}$ (2" + 2")	12'-2 $\frac{3}{4}$ "
	say 13' span

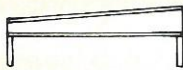
2. From Multiple Span Tables, $\frac{3}{8}$ " per foot slope, read down left column to 20' span and across top column to 13' (interpolate). Check each $\frac{3}{8}$ " : 12" table until a load in excess of 90 plf. is located. A TJI/25 joist with 8" shallow end depth exceeds the required 90 plf.

3. To determine the depth at the deep end, multiply the slope times the length (to calculate the amount of the rise) and add to the shallow end depth. In the example:

$.375 \times 32.5' + 8" = 20.19"$ Rounding up to the next $\frac{1}{4}$ ", the depth becomes 20 $\frac{1}{4}$ ".

NOTE: The sum of the end depths must not exceed 32" ($8" + 20 \frac{1}{4}" = 28 \frac{1}{4}"$ OK.)

4. From chart on next page web stiffeners are required at deep end.
5. From same page, minimum bearing distances for center support is 3 $\frac{1}{2}$ ", so a 2x4 stud wall provides adequate bearing.



Slope	TJI/25 Joist						TJI/35X Joist						TJI/55 Joist					
	¼"/ft. slope			⅝"/ft. slope			¼"/ft. slope			⅝"/ft. slope			¼"/ft. slope			⅝"/ft. slope		
Shallow End Depth	8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"	12"
Span																		
12	143	176	208	143	176	208	210	253	296	210	253	296	248	289	329	248	289	329
14	123	151	179	123	151	179	180	217	254	180	217	254	213	247	282	213	247	282
16	108	132	156	108	132	156	158	190	222	158	190	222	186	216	247	186	216	247
18	96	117	139	96	117	139	127	165	197	140	169	197	165	192	219	165	192	219
20	75	103	124	86	105	125	98	137	165	123	152	178	149	173	198	149	173	198
22	60	87	105	77	96		78	115	139	100	129		135	157	180	135	157	
24	48	72	90	63	84		63	94	119	82	111		124	144	165	124	144	
26	40	59	78	53	74		52	77	103	69	97		104	133	152	114	133	
28	34	50	68	45	64		44	64	89	58	82		88	124	141	106	124	
30	29	42	58	39	55		37	54	75	50	70		75	108	132	99	115	
32	25	36	50	34	47		32	47	64	44	61		65	93	123	93	108	
34	22	31		30			28	40		39			57	80		82		
36	19	27		26			25	35		34			50	71		73		
38	17	24		24			22	31		31			45	62		66		
40	15	21		21			19	28		28			40	56		60		

Web Stiffeners / Bearing Distances

Depth at Bearing		Web Stiffener Requirements								Min. Bearing Distance	
		End Support or Hanger Support		Center Support @ Multiple Span		Web Stiffeners Required at Concentrated Loads Greater Than (LBS.)	Number of Nails Required	Min. Web Stiffener Width "W" (Inches)	Min. Web Stiffener Thickness "T" (Inches)	End Support or Hanger Support (Inches)	Center Support @ Multiple Span ⁽²⁾
TJI/25 Joist	10" and under	No (4)	—	(1)	2-8d	400	2-8d	2-5/16"	11/16"	1½"	3½"
	12" and under	No (4)	—	(1)	2-8d	495	2-8d	2-5/16"	11/16"	2¼"	3½"
	14" and under	No (3) (4)	—	Yes	3-8d	580	2-8d	2-5/16"	11/16"	2¼" (3)	3½"
	16" and under	No (3) (4)	—	Yes	3-8d	655	2-8d	2-5/16"	11/16"	2¼" (3)	3½"
	18" and under	Yes	4-8d	Yes	4-8d	735	2-8d	2-5/16"	11/16"	1¾"	3½"
	20" and under	Yes	5-8d	Yes	5-8d	810	2-8d	2-5/16"	11/16"	1¾"	3½"
	22" and under	Yes	6-8d	Yes	6-8d	850	2-8d	2-5/16"	11/16"	2¼"	5½"
	24" and under	Yes	6-8d	Yes	6-8d	880	2-8d	2-5/16"	11/16"	2¼"	5½"
TJI/35X Joist	10" and under	Yes	2-8d	Yes	2-8d	605	2-8d	2-5/16"	7⁄8"	2"	3½"
	12" and under	Yes	2-8d	Yes	2-8d	710	2-8d	2-5/16"	7⁄8"	3⁄8"	3½"
	14" and under	Yes	2-8d	Yes	4-8d	810	3-8d	2-5/16"	7⁄8"	2¼"	3½"
	16" and under	Yes	2-8d	Yes	4-8d	915	3-8d	2-5/16"	7⁄8"	2¼"	3½"
	18" and under	Yes	4-8d	Yes	6-8d	1015	3-8d	2-5/16"	7⁄8"	2½"	5½"
	20" and under	Yes	5-8d	Yes	8-8d	1115	4-8d	2-5/16"	7⁄8"	2¾"	5½"
	22" and under	Yes	6-8d	Yes	10-8d	1220	4-8d	2-5/16"	7⁄8"	3"	5½"
	24" and under	Yes	7-8d	Yes	12-8d	1320	4-8d	2-5/16"	7⁄8"	3"	5½"
TJI/55 Joist	10" and under	Yes	2-10d	Yes	2-10d	605	2-10d	3½"	1½"	2"	3½"
	12" and under	Yes	2-10d	Yes	2-10d	710	2-10d	3½"	1½"	2"	3½"
	14" and under	Yes	2-10d	Yes	4-10d	810	2-10d	3½"	1½"	2"	3½"
	16" and under	Yes	3-10d	Yes	6-10d	915	2-10d	3½"	1½"	2"	3½"
	18" and under	Yes	4-10d	Yes	7-10d	1015	2-10d	3½"	1½"	2¼"	3½"
	20" and under	Yes	4-10d	Yes	8-10d	1115	2-10d	3½"	1½"	2½"	3½"
	22" and under	Yes	5-10d	Yes	9-10d	1220	2-10d	3½"	1½"	2½"	5½"
	24" and under	Yes	5-10d	Yes	10-10d	1320	2-10d	3½"	1½"	3"	5½"

(1) Web stiffeners with two nails are required for the TJI/25 joist at continuous supports when bearing on plates is less than 5½ inches and the reaction is greater than 1700 lbs. (1700 lbs. is the maximum reaction for 3½ inches bearing with no web stiffeners.)

(2) For maximum load; specific applications may permit reduction in this criteria.

(3) Web stiffeners with three nails are required for 14" and 16" TJI/25 joists at end supports or hanger supports if reaction exceeds 1010 lbs. and bearing length is less than 4¼"

(4) Web stiffeners may be required in hangers to comply with the nailing requirement through side plates of hanger. If web stiffeners are not used in the hanger, the sides of the hanger must extend up to support the top flange laterally.



Allowable Uniform Load (PLF)

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]



Tapered TJI Joist Multiple Span

Load Tables / Non-Snow (125%)

Allowable Uniform Load (PLF)

TJI/55 Joist 1/4" per foot slope 8" Shallow End Depth

Shallow End Span (Ft.)	Deep End Span (Ft.)											
	8	10	12	14	16	18	20	22	24	26	28	30
8	412	338	280	238	207	182	163	147	134	123	114	106
10	346	336	284	244	213	189	169	153	140	128	119	110
12	294	290	283	247	218	194	174	158	145	133	123	115
14	257	255	251	247	220	197	179	163	149	138	128	119
16	229	228	226	224	220	199	181	166	153	141	131	123
18	207	207	206	205	203	200	183	169	156	145	135	126
20	188	188	189	189	188	186	184	170	158	147	138	129
22	172	171	171	172	173	174	173	171	160	149	140	131
24	158	157	157	158	158	159	161	162	161	151	142	
26	146	146	146	146	146	147	148	149	150	152		
28	136	136	135	135	136	136	137	137	138			
30	127	127	127	127	127	127	127	128				
32	120	119	119	119	119	119	119					
34	113	112	112	112	112	112						
36	106	105	104	103	103							
38	95	94	93	93								
40	86	85	84									

TJI/55 Joist 3/8" per foot slope 8" Shallow End Depth

Shallow End Span (Ft.)	Deep End Span (Ft.)											
	8	10	12	14	16	18	20	22	24	26	28	30
8	441	368	307	260	226	199	178	161	146	134	124	115
10	377	369	315	270	236	209	187	170	155	142	132	122
12	313	318	317	277	244	217	196	178	162	150	139	129
14	268	270	275	280	249	224	203	185	169	156	145	
16	235	236	238	242	246	229	208	190	175	162		
18	209	210	211	213	216	219	212	195	180			
20	189	189	190	191	192	195	197	199				
22	172	172	172	173	174	175	177					
24	159	158	158	159	159	160						
26	147	146	146	146	147							
28	137	136	136	136								
30	128	127	127									
32	120	120										
34	113											
36												
38												
40												

10" Shallow End Depth

Shallow End Span (Ft.)	Deep End Span (Ft.)											
	8	10	12	14	16	18	20	22	24	26	28	30
8	471	391	328	277	240	210	187	169	154	141	130	121
10	397	387	331	283	246	217	194	175	160	147	135	126
12	343	338	329	286	251	222	200	181	165	152	140	130
14	297	295	291	285	253	226	204	185	170	156	145	135
16	263	262	260	257	252	228	207	189	173	160	148	138
18	237	237	236	234	231	228	208	191	176	163	152	142
20	217	217	216	215	214	211	209	193	178	166	155	
22	199	198	199	199	199	197	196	193	180	168		
24	183	182	182	183	183	185	184	182	181			
26	169	169	169	169	169	170	171	173				
28	158	157	157	157	157	157	158					
30	147	147	147	147	147	147						
32	139	138	138	138	138							
34	131	130	130	130								
36	124	123	123									
38	117	117										
40	112											

10" Shallow End Depth

Shallow End Span (Ft.)	Deep End Span (Ft.)											
	8	10	12	14	16	18	20	22	24	26	28	30
8	501	417	354	301	259	228	203	183	166			
10	426	416	360	311	270	238	213	192				
12	362	367	360	317	278	247	222					
14	310	313	318	319	283	254						
16	272	273	276	280	286							
18	242	243	244	247								
20	219	219	220									
22	200	199										
24	184											
26												
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