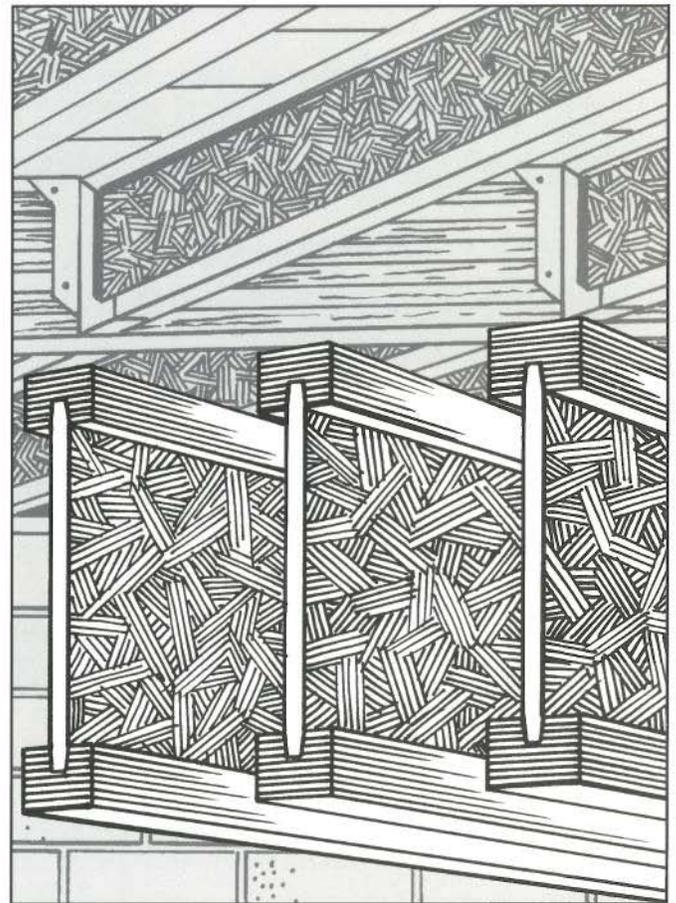
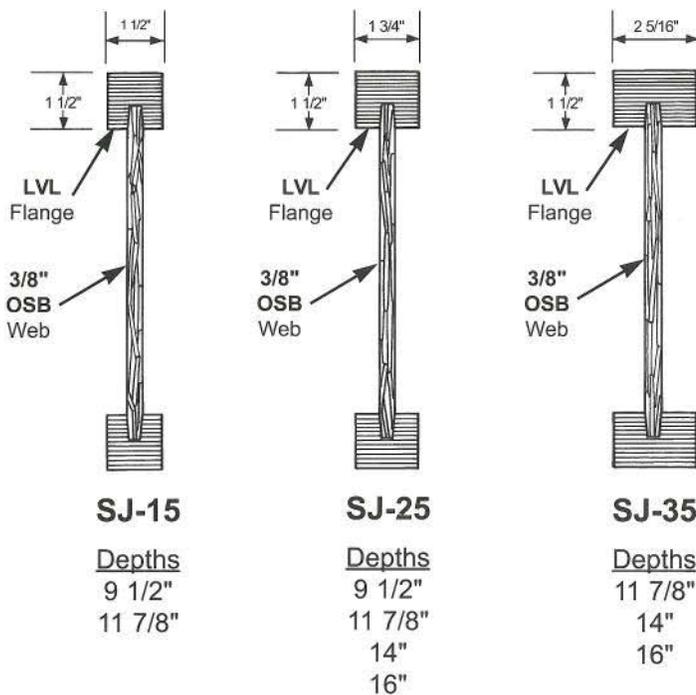




Willamette Industries

StrucJoist® SJ-15 SJ-25 SJ-35 Product Guide

The SJ-15, SJ-25 and SJ-35 are high-quality I-joists manufactured by Willamette Industries.



Please see the SJ-15 SJ-25 SJ-35 Installation Guide for additional information.



Willamette Industries, Inc.

Engineered Wood Sales & Marketing
 2730 Pacific Blvd. SE
 Albany, OR 97321

For Technical Support Call 1-800-942-9927

Contact Your Local Distributor:

StrucJoist Floor Spans

TABLE I

Live Load = 40 psf
 Dead Load = 10 psf
 LL Defl = L/480

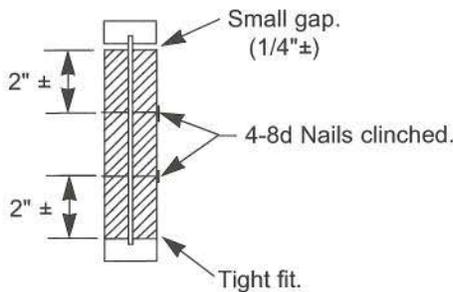
Joist Series	Joist Depth	ON - CENTER SPACING							
		Simple Span				Multiple Span			
		12"o/c	16"o/c	19.2"o/c	24"o/c	12"o/c	16"o/c	19.2"o/c	24"o/c
SJ-15	9'-1/2"	17'- 2"	15'- 8"	14'- 9"	13'- 9"	18'- 9"	17'- 1"	16'- 1"	15'- 0"
	11'-7/8"	20'- 6"	18'- 9"	17'- 8"	16'- 5"	22'- 5"	20'- 6"	19'- 4"	15'- 5"
SJ-25	9'-1/2"	17'-11"	16'- 4"	15'- 5"	14'- 4"	19'- 7"	17'-10"	16'-10"	15'- 8"
	11'-7/8"	21'- 5"	19'- 6"	18'- 5"	17'- 1"	23'- 5"	21'- 4"	20'- 1"	16'- 9"
	14"	24'- 5"	22'- 3"	21'- 0"	19'- 6"	26'- 8"	24'- 4"	21'- 0"	16'- 9"
	16"	27'- 2"	24'- 9"	23'- 4"	21'- 0"	29'- 8"	25'- 3"	21'- 0"	16'- 9"
SJ-35	11'-7/8"	23'- 2"	21'- 1"	19'-10"	18'- 5"	25'- 3"	23'- 0"	21'- 8"	19'- 9"
	14"	26'- 4"	23'-11"	22'- 7"	20'-11"	28'-10"	26'- 2"	24'- 8"	19'- 9"
	16"	29'- 3"	26'- 7"	25'- 1"	23'- 3"	32'- 0"	29'- 1"	24'- 9"	19'- 9"

Notes:

- All spans shown in the tables above are appropriate without web stiffeners at supports. Spans shown in shaded portion of the table can be increased with the addition of web stiffeners at interior supports (see table below).
- Spans are based on glued/nailed 3/4" sheathing. Adhesive shall comply with specification AFG-01 of the American Plywood Association.
- Reduce spans 10" for nailed sheathing only.
- Spans are based on clear distance between supports.
- Outermost spans in multiple span applications must be at least 40% of the adjacent span.

**Legacy Literature
See Note on Front Cover**

WEB STIFFENER ATTACHMENT



Web stiffeners:

- SJ-15 1/2" x 2 5/16" minimum
- SJ-25 5/8" x 2 5/16" minimum
- SJ-35 1" x 2 5/16" minimum

Stiffener material shall be plywood, or OSB rated sheathing installed with face grain vertical, or construction grade or better solid-sawn (for 1" thickness only.)

TABLE II

StrucJoist Floor Spans

Joists with Web Stiffeners attached at interior supports

Live Load = 40 psf
 Dead Load = 10 psf
 LL Defl = L/480

Joist Series	Joist Depth	ON - CENTER SPACING			
		Multiple Span			
		12"o/c	16"o/c	19.2"o/c	24"o/c
SJ-15	9'-1/2"				
	11'-7/8"				17'- 5"
SJ-25	9'-1/2"				
	11'-7/8"				18'- 8"
	14"			22'-11"	20'- 4"
	16"			25'- 5"	20'- 4"
SJ-35	11'-7/8"				20'- 1"
	14"				22'-10"
	16"			27'- 4"	23'- 5"

Note:

- This table is applicable to joists with web stiffeners at interior supports or joists without web stiffeners when interior supports are a minimum of 5-1/4" wide.

Please see the SJ-15 SJ-25 SJ-35 Installation Guide for additional information.

TABLE III Design Properties

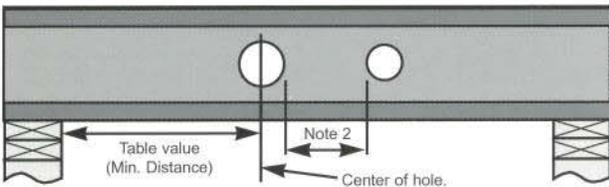
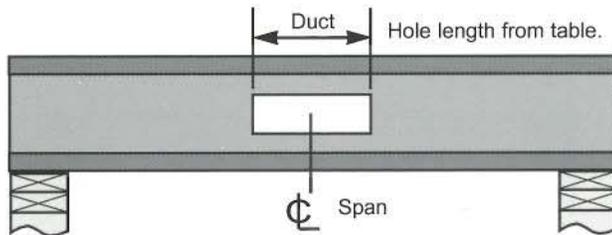
Joist Series	Joist Depth (inches)	Joist wt. lbs/ft	Allowable Moment (ft-lbs)	Max. Shear & End Reaction For 4" Long Bearing	Max. End Reaction For 1 3/4" Bearing	Max. Intermediate Reaction (lbs)		Nail Only EI (x 10 ⁵)	Glue-Nailed EI (x 10 ⁵)	K (x 10 ⁵)
						No Web Stiffeners	With Web Stiffeners ⁽⁷⁾			
SJ-15	9-1/2"	1.90	2770	1125	975	1950	2440	176	199	4.94
	11-7/8"	2.10	3710	1425	975	1950	2440	304	340	6.18
SJ-25	9-1/2"	2.11	3260	1125	1060	2120	2570	204	227	4.94
	11-7/8"	2.37	4360	1425	1060	2120	2570	350	387	6.18
	14"	2.60	5360	1550	1060	2120	2570	520	570	7.28
	16"	2.82	6300	1550	1060	2120	2570	716	781	8.32
SJ-35	11-7/8"	2.90	5810	1425	1250	2500	2950	452	489	6.18
	14"	3.07	7130	1550	1250	2500	2950	667	718	7.28
	16"	3.25	8390	1550	1250	2500	2950	913	979	8.32

Notes:

- Design properties are based on 2.2E StrucLam LVL flanges.
- Glue-nailed EI values are for 12" oc spacing and increase for wider joist spacing. Glue-nailed EI values apply to floor use only.
- Both bending and shear deformations shall be considered when computing deflections. For bending deflection, use standard engineering formulae. For shear deflection use $8x$ bending moment/K. EXAMPLE: Uniformly distributed load on a simple span joist. Deflection = $5wl^4/384EI + 8M/K = 5wl^4/384EI + wl^4/K$
 w = uniform load in pounds per lineal inch
 l = effective span in inches
- The allowable moment, shear and reactions are for normal duration loading and can be increased in accordance with the code for load duration.
- Moment values shown are for non-repetitive use. For joist spacing of 24" o.c. or less, values may be increased 4%.
- 1-3/4" minimum bearing required at joist ends. 3-1/2" minimum bearing required at intermediate supports.
- Option – 5-1/4" bearing without web stiffeners.
- Design properties limited to untreated, dry conditions of use and assume lateral support full length of the compression flange.

TABLE IV

Joist Series	Joist Depth	JOIST SPACING (in. o.c.)			
		12	16	19.2	24
SJ-15	All Depths	12"	8"	6"	6"
SJ-25	9 1/2" & 11 7/8"	13"	9"	8"	8"
	14" & 16"	9"	8"	8"	8"
SJ-35	All Depths	15"	12"	10"	8"



Notes:

- Do not cut or damage flanges.
- Duct holes must be located at center of span.
- Duct hole is only allowed in longest span of multiple span joists.
- This table is valid for residential spans that meet the floor span tables in this product guide.
- Other holes are not allowed within three times the duct hole length.
- Allowable depth of hole is depth of web minus 1/4".
- Do not over cut corners of holes.

TABLE V

ROUND HOLE CHART

Minimum distance from face of nearest support to center of hole.

JOIST		HOLE DIAMETER												
SERIES	DEPTH	3"	4"	5"	6"	6 1/4"	7"	8"	8 5/8"	9"	10"	10 3/4"	12"	12 3/4"
SJ-15	9 1/2"	2'-0"	3'-0"	4'-6"	6'-0"	6'-6"								
	11 7/8"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	5'-6"	7'-6"	8'-6"					
SJ-25	9 1/2"	3'-0"	4'-0"	5'-0"	6'-6"	7'-0"								
	11 7/8"	1'-0"	2'-0"	3'-6"	5'-0"	5'-6"	6'-6"	8'-6"	10'-0"					
	14"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	5'-0"	7'-0"	8'-0"	8'-6"	10'-0"	12'-0"		
	16"	1'-0"	1'-0"	1'-6"	3'-0"	3'-6"	4'-6"	6'-0"	7'-0"	8'-0"	9'-6"	10'-6"	13'-0"	15'-0"
SJ-35	11 7/8"	3'-0"	4'-0"	5'-6"	7'-0"	7'-0"	8'-6"	10'-6"	11'-6"					
	14"	1'-0"	2'-0"	3'-6"	5'-0"	5'-6"	7'-0"	8'-6"	9'-6"	10'-6"	12'-6"	14'-0"		
	16"	1'-6"	3'-0"	4'-0"	5'-6"	6'-0"	7'-0"	8'-6"	9'-6"	10'-0"	11'-6"	12'-6"	15'-6"	17'-0"

Notes:

- Do not cut or damage flanges.
- The clear distance between holes must equal or exceed twice the diameter of the largest hole, or three times the longest side of a rectangular hole.
- Except as noted in 1 and 2 above, a 2" diameter hole is permitted to be drilled anywhere.
- The longest side of a rectangular hole shall not exceed three-fourths of the allowable round hole diameter.
- This table is applicable only for uniformly loaded StrucJoist designed using the roof and floor span tables in this Installation Guide. Contact Willamette Industries for other applications.



StrucJoist I-Joists Are a Part of Willamette Industries' E-Z Frame® System.

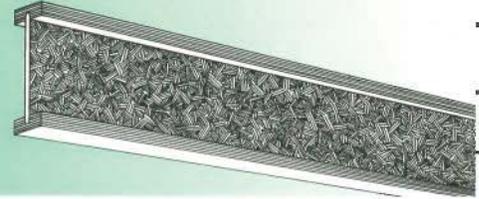


TABLE VI

StrucJoist Floor Load Table

Allowable Load in Pounds per Lineal Foot

Joist Span (ft)	SJ-15				SJ-25								SJ-35					
	9 1/2"		11 7/8"		9 1/2"		11 7/8"		14"		16"		11 7/8"		14"		16"	
	Live Load	Total Load																
6		251		251		273		273		273		273		322		322		322
7		216		216		235		235		235		235		277		277		277
8		190		190		206		206		206		206		243		243		243
9		169		169		184		184		184		184		217		217		217
10		153		153		166		166		166		166		196		196		196
11	120	139		139	137	151		151		151		151		178		178		178
12	95	128		128	108	139		139		139		139		164		164		164
13	76	118		118	87	128		128		128		128		151		151		151
14	62	110	104	110	71	119	118	119		119		119		141		141		141
15	51	99	86	102	59	111	98	111		111		111	122	131		131		131
16	43	85	72	96	49	98	82	105		105		105	102	123		123		123
17	36	72	61	91	41	83	69	98		98		98	87	116		116		116
18	31	61	52	86	35	70	59	93	86	93		93	74	110	107	110		110
19	26	52	44	81	30	60	51	88	74	88		88	64	104	92	104		104
20			38	75	26	52	44	84	64	84		84	55	99	80	99		99
21			33	67			38	76	56	80	76	80	48	94	70	94	94	94
22			29	58			33	67	49	76	66	76	42	85	61	90	83	90
23			26	51			29	59	43	73	59	73	37	75	54	86	73	86
24							26	52	38	70	52	70	33	66	48	83	65	83
26									30	61	41	65	26	53	38	76	52	76
28									25	49	33	60			31	62	42	71

Notes:

- Total load values are based on joists spaced 24" o.c. or less, with increased moment capacity for repetitive member usage. No increase is taken for composite action of glued and nailed sheathing. Table values are for single joist use only, double joists should be evaluated using design properties.
- Live load values are based on limiting live load deflection to L/480 and total load deflection to L/240. If live load is not shown, then total load is equal to or exceeds L/480.
- Both Live Load and Total Load must be checked to properly size StrucJoist for use in a floor.
- Spans are clear distance between supports.
- Allowable loads shown may be used for simple or multiple spans. Outermost spans in multiple span applications must be at least 40% of adjacent spans.

Legacy Literature
See Note on Front Cover

Please see the SJ-15 SJ-25 SJ-35 Installation Guide for additional information.

TABLE VII

StrucJoist Roof Load Table																												
Allowable Load in Pounds per Lineal Foot																												
Joist Span (ft)	SJ-15									SJ-25									SJ-35									
	9 1/2"			11 7/8"			9 1/2"			11 7/8"			14"			16"			11 7/8"			14"			16"			
	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	Defl.	Total	Load	
	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	L/240	115%	Non-Snow 125%	
6		288	314		288	314		314	341		314	341		314	341		314	341		370	382		370	402		370	402	
7		248	270		248	270		270	294		270	294		270	294		270	294		319	329		319	346		319	346	
8		218	237		218	237		237	258		237	258		237	258		237	258		280	289		280	304		280	304	
9		195	211		195	211		211	230		211	230		211	230		211	230		249	258		249	271		249	271	
10		176	191		176	191		191	207		191	207		191	207		191	207		225	232		225	245		225	245	
11		160	174		160	174		174	189		174	189		174	189		174	189		205	212		205	223		205	223	
12		147	160		147	160		160	173		160	173		160	173		160	173		188	194		188	205		188	205	
13		136	148		136	148		148	160		148	160		148	160		148	160		174	180		174	189		174	189	
14	124	126	137		126	137		137	149		137	149		137	149		137	149		162	167		162	176		162	176	
15	103	114	124		118	128	117	128	139		128	139		128	139		128	139		151	156		151	164		151	164	
16	85	101	109		111	120	98	119	129		120	131		120	131		120	131		142	146		142	154		142	154	
17	72	89	96		104	113	83	105	110		113	123		113	123		113	123		134	138		134	145		134	145	
18	61	80	82		98	107	70	94	94		107	116		107	116		107	116		126	130		126	137		126	137	
19	52	70	70	89	93	101	60	80	80	101	101	110		101	110		101	110		120	124		120	130		120	130	
20	45	60	60	77	87	94	52	69	69	88	96	105		96	105		96	105	111	114	118		114	124		114	124	
21	39	52	52	67	79	86	45	60	60	76	92	100		92	100		92	100	97	108	112		108	118		108	118	
22	34	46	46	58	72	78	40	53	53	67	84	89		88	95		88	95	85	104	107		104	113		104	113	
23	30	40	40	51	66	69	35	46	46	59	77	78		84	91		84	91	75	99	100		99	108		99	108	
24	27	36	36	46	61	61	31	41	41	52	69	69	76	81	88		81	88	66	88	88		95	103		95	103	
25				40	54	54	27	36	36	46	62	62	68	77	84		77	84	59	79	79	86	91	99		91	99	
26				36	48	48				41	55	55	61	74	81		74	81	53	70	70	77	88	95		88	95	
27				32	43	43				37	49	49	54	69	73		72	78	47	63	63	69	84	92		84	92	
28				29	39	39				33	44	44	49	64	65	67	69	75	43	57	57	62	82	83		82	89	
29				26	35	35				30	40	40	44	59	59	61	67	73	39	51	51	56	75	75	76	79	86	
30										27	36	36	40	54	54	55	65	70	35	47	47	51	68	68	69	76	83	
31													37	49	49	50	62	67	32	42	42	46	62	62	63	74	80	
32													33	44	44	46	58	61	29	39	39	42	56	56	57	71	77	
33													30	41	41	42	55	56	26	35	35	39	52	52	53	69	70	
34													28	37	37	38	51	51		36	47	47	48	64	64		64	64

Notes:

1. All roof joists to be sloped 1/4" per foot minimum.
2. Use of these tables should be limited to roof slopes of 3 1/2" per foot maximum. For greater slopes, refer to the StrucJoist roof span tables.
3. Total load deflection is limited to L/180. For stiffer deflection criteria, use the L/240 column.
4. Total load values are based on joists spaced 24" o.c. or less, with increased moment capacity for repetitive member usage.
5. Table values are for single joist use only. Double joists should be designed using StrucJoist design properties.
6. Allowable loads shown may be used for simple or multiple spans. Outermost spans in multiple span applications must be at least 40% of adjacent spans.

Please see the SJ-15 SJ-25 SJ-35 Installation Guide for additional information.

TABLE VIII

Roof Span Table for StrucJoist Sloped 8/12 and Less

		Live Load (psf)	Dead Load (psf)	SJ-15		SJ-25				SJ-35		
				9 1/2"	11 7/8"	9 1/2"	11 7/8"	14"	16"	11 7/8"	14"	16"
12" O.C.	NON SNOW 125%	20	10	24'- 7"	29'- 7"	25'-10"	31'- 0"	35'- 5"	39'- 5"	33'- 9"	38'- 5"	42'- 9"
		20	15	23'- 0"	27'- 8"	24'- 2"	29'- 0"	33'- 2"	36'-11"	31'- 7"	36'- 0"	40'- 0"
		20	20	21'-10"	26'- 2"	22'-11"	27'- 5"	31'- 4"	34'-11"	29'-11"	34'- 1"	37'-10"
	SNOW 115%	25	10	22'- 5"	26'-11"	23'- 6"	28'- 2"	32'- 2"	35'-10"	30'- 8"	35'- 0"	38'-10"
		25	15	21'- 3"	25'- 7"	22'- 4"	26'- 9"	30'- 7"	34'- 1"	29'- 2"	33'- 3"	36'-11"
		30	10	21'- 5"	25'- 9"	22'- 6"	27'- 0"	30'-10"	34'- 4"	29'- 5"	33'- 6"	37'- 3"
		30	15	20'- 6"	24'- 7"	21'- 6"	25'-10"	29'- 6"	32'-10"	28'- 1"	32'- 0"	35'- 7"
		40	10	19'- 9"	23'- 9"	20'- 9"	24'-11"	28'- 5"	31'- 8"	27'- 1"	30'-10"	34'- 4"
		40	15	19'- 2"	23'- 1"	20'- 2"	24'- 2"	27'- 7"	30'- 9"	26'- 4"	30'- 0"	33'- 4"
		50	15	18'- 2"	21'-10"	19'- 1"	22'-11"	26'- 2"	29'- 1"	24'-11"	28'- 5"	31'- 7"
16" O.C.	NON SNOW 125%	20	10	22'- 4"	26'-10"	23'- 5"	28'- 1"	32'- 1"	35'- 9"	39'- 7"	34'-10"	38'- 9"
		20	15	20'-11"	25'- 1"	21'-11"	26'- 4"	30'- 0"	33'- 5"	28'- 8"	32'- 7"	36'- 3"
		20	20	19'- 9"	23'- 9"	20'- 9"	24'-11"	28'- 5"	31'- 8"	27'- 1"	30'-10"	34'- 3"
	SNOW 115%	25	10	20'- 3"	24'- 5"	21'- 4"	25'- 7"	29'- 2"	32'- 6"	27'-10"	31'- 8"	35'- 3"
		25	15	19'- 3"	23'- 2"	20'- 3"	24'- 3"	27'- 9"	30'-10"	26'- 5"	30'- 1"	33'- 5"
		30	10	19'- 5"	23'- 4"	20'- 5"	24'- 6"	27'-11"	31'- 1"	26'- 8"	30'- 4"	33'- 9"
		30	15	18'- 7"	22'- 4"	19'- 6"	23'- 4"	26'- 8"	29'- 9"	25'- 5"	29'- 0"	32'- 3"
		40	10	17'-11"	21'- 6"	18'-10"	22'- 7"	25'- 9"	28'- 8"	24'- 6"	28'- 0"	31'- 1"
		40	15	17'- 5"	20'-11"	18'- 3"	21'-11"	25'- 0"	26'- 4"	23'-10"	27'- 2"	30'- 2"
		50	15	16'- 5"	19'- 8"	17'- 3"	20'- 9"	22'- 3"	22'- 3"	22'- 7"	25'- 9"	26'- 3"
19.2" O.C.	NON SNOW 125%	20	10	21'- 0"	25'- 2"	22'- 0"	26'- 5"	30'- 2"	33'- 7"	28'- 9"	32'- 9"	36'- 5"
		20	15	19'- 7"	23'- 7"	20'- 7"	24'- 9"	28'- 3"	31'- 5"	26'-11"	30'- 8"	34'- 1"
		20	20	18'- 7"	22'- 4"	19'- 6"	23'- 4"	26'- 8"	29'- 9"	25'- 5"	29'- 0"	32'- 3"
	SNOW 115%	25	10	19'- 1"	22'-11"	20'- 0"	24'- 0"	27'- 5"	30'- 6"	26'- 2"	29'- 9"	33'- 1"
		25	15	18'- 1"	21'- 9"	19'- 0"	22'-10"	26'- 1"	29'- 0"	24'-10"	28'- 3"	31'- 5"
		30	10	18'- 3"	21'-11"	19'- 2"	23'- 0"	26'- 3"	29'- 3"	25'- 0"	28'- 6"	31'- 8"
		30	15	17'- 5"	20'-11"	18'- 4"	21'-11"	25'- 1"	26'-10"	23'-11"	27'- 3"	30'- 3"
		40	10	16'-10"	20'- 2"	17'- 8"	21'- 2"	24'- 1"	24'- 1"	23'- 0"	26'- 3"	28'- 6"
		40	15	16'- 4"	19'- 5"	17'- 2"	20'- 7"	21'-10"	21'-10"	22'- 4"	25'- 6"	25'-10"
		50	15	15'- 5"	17'- 0"	16'- 3"	18'- 6"	18'- 6"	18'- 6"	21'- 2"	21'-10"	21'-10"
24" O.C.	NON SNOW 125%	20	10	19'- 5"	23'- 4"	20'- 5"	24'- 6"	27'-11"	31'- 1"	26'- 8"	30'- 4"	33'- 9"
		20	15	18'- 2"	21'-10"	19'- 1"	22'-11"	26'- 2"	29'- 1"	24'-11"	28'- 5"	31'- 7"
		20	20	17'- 2"	20'- 8"	18'- 0"	21'- 8"	24'- 9"	26'- 3"	23'- 7"	26'-10"	29'-10"
	SNOW 115%	25	10	17'- 8"	21'- 3"	18'- 6"	22'- 3"	25'- 5"	27'- 7"	24'- 2"	27'- 7"	30'- 8"
		25	15	16'- 9"	20'- 2"	17'- 7"	21'- 1"	24'- 1"	24'- 1"	23'- 0"	26'- 2"	28'- 6"
		30	10	16'-11"	20'- 4"	17'- 9"	21'- 3"	24'- 1"	24'- 1"	23'- 2"	26'- 5"	28'- 6"
		30	15	16'- 2"	19'- 1"	16'-11"	20'- 4"	21'- 5"	21'- 5"	22'- 1"	25'- 2"	25'- 3"
		40	10	15'- 7"	17'- 8"	16'- 4"	19'- 3"	19'- 3"	19'- 3"	21'- 4"	22'- 8"	22'- 8"
		40	15	15'- 0"	16'- 0"	15'-10"	17'- 5"	17'- 5"	17'- 5"	20'- 7"	20'- 7"	20'- 7"
		50	15	13'- 6"	13'- 6"	14'- 9"	14'- 9"	14'- 9"	14'- 9"	17'- 5"	17'- 5"	17'- 5"

Notes:

1. All roof joists to be sloped 1/4" per foot minimum.
2. Spans shown are horizontal clear spans and can be used for either simple or multiple span applications. Outermost spans of multiple span applications must be at least 40% of adjacent spans.
3. Maximum deflection is limited to L/180 under total load and L/240 under live load.
4. Live load reductions have been applied in accordance with standard engineering practices. Verify local building code requirements.
5. Reduce spans 3'-0" for joist slopes greater than 8/12. Maximum roof slope is 12/12.

Please see the SJ-15 SJ-25 SJ-35 Installation Guide for additional information.