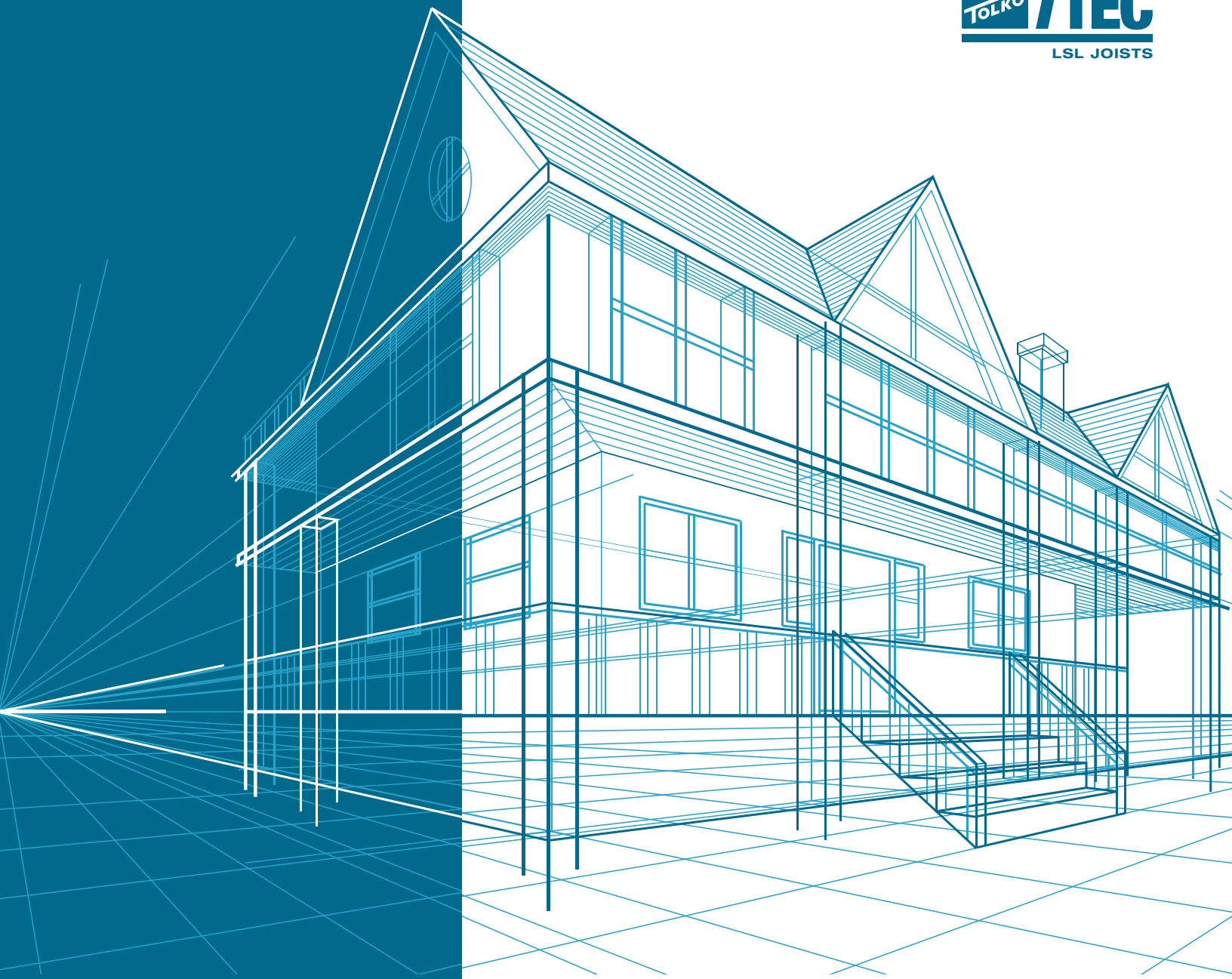
TECHNICAL GUIDE (LSD - CANADA)

T-TEC 1.35E LSL FLOOR JOISTS & ROOF FRAMING

TOLKO T-TEC LSL JOISTS



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LIMIT STATES DESIGN

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TOLKO T-TEC LSL PRODUCTS

Tolko's line of Laminated Strand Lumber (LSL) is manufactured from strands of fibre selected to create a solid, consistent, and uniform alternative to traditional structural and non-structural products such as lumber, plywood, OSB and LVL. There is no warp, no wane, and no rot which means no waste and no need to order extra materials.

CREATING VALUE FROM THE STRANDS

Tolko LSL products are produced at our Athabasca mill in Slave Lake, Alberta. This industry-leading facility has the longest continuous press in North America, ensuring a steady stream of uniform engineered wood products and precise mixtures for product consistency and dimensional accuracy. Our continuous press provides contractors with the confidence that T-TEC LSL will perform as intended at every job.

DELIVERING VALUE WITH CONSISTENCY

Our Athabasca Mill is serviced by a combination of truck and rail providing Tolko with the flexibility to reach customers across Canada and the USA.

ACHIEVING VALUE WITH 1.35E-RATING

The E-Rating of engineered wood products identifies the modulus of elasticity (MOE) or the tendency of the product to deform along an axis when opposing forces are applied. A greater E-Rating means the product is more resistant to changing with force.

WHY CHOOSE T-TEC LSL?

- ✓ Reduce materials and enhance design
- ✓ Improve recovery
- ✓ Reduce installation time
- ✓ Build quieter floors and straighter walls
- ✓ Protect against fungal decay and insects
- ✓ Earn Green Building credits

INQUIRE TODAY

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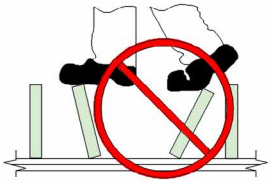
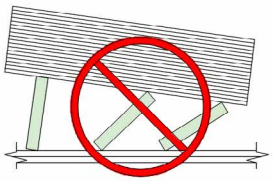
WARNING

Floor/Roof Joists are not stable until completely installed and will not carry any load until fully braced and sheathed.

Avoid accidents by following these important guidelines:

1) Do not allow workers to walk on 1.35E Tolko T-TEC LSL® Joists until all hangers, Rim Joists, Rim Boards, Blocking Panels, and temporary strut/bracing lines are installed as specified below.
2) Never stack building materials over unsheathed Joists. Stack only over braced beams or walls. See APA Technical Note number J735B "Temporary Construction Loads Over I-Joist Roofs and Floors" for additional information regarding proper stacking of building materials.
3) Failure to install temporary bracing may result in sideway buckling or roll-over under light construction loads.





4) Build a braced end wall at the end of the bay, or permanently install the first 8 ft. of 1.35E Tolko T-TEC LSL® joists and the first course of sheathing. As an alternate, temporary sheathing may be nailed to the first 4 ft. of 1.35E Tolko T-TEC LSL® joists at the end of the bay.
5) Install temporary strut lines at no more than 8 ft. on center as additional 1.35E Tolko T-TEC LSL® joists are set. Nail the strut lines to the sheathing area, or brace end wall, to each 1.35E Tolko T-TEC LSL® joist with two 8d common nails (0.131" x 2.5").
6) Remove the temporary strut lines only as required to install the permanent sheathing.
7) For cantilevered joists, brace top and bottom edges, and brace ends with closure panels, rim board, or cross-bridging.
8) Install and nail permanent sheathing to each joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
9) Never install a damaged I joist or beam.

Improper storage or installation, failure to follow applicable building codes, span charts, or failure to use the allowable hole sizes and locations can result in serious accidents. Follow these installation guidelines carefully.

SECTION 1: 1.35E TOLKO T-TEC LSL - DESIGN PROPERTIES

TABLE 1: 1.35E TOLKO T-TEC LSL - DESIGN PROPERTIES [a] (LIMIT STATES DESIGN - 100% LOAD DURATION)

Width (in.)	Depth (in.)	Self-weight (plf)	Specified Bending Strength, Fb [b],[c] (psi)	Specified Shear Strength, Fv (psi)	E[e] (x 10^6 psi)	Specified Compression Perpendicular to Grain Strength, Fc⊥_edge (psi)	Factored Bending Moment[d] (lb.ft)	Factored Shear Load (lb)	EI (x 10^6 lb.in²)
1.5	5.5	2.5	3,420	580	1.35	1370	2,138	2,871	28
1.5	7.25	3.2	3,420	580	1.35	1370	3,590	3,785	64
1.5	9.25	4.1	3,420	580	1.35	1370	5,668	4,829	134
1.5	9.5	4.3	3,420	580	1.35	1370	5,959	4,959	145
1.5	11.25	5.0	3,420	580	1.35	1370	8,182	5,873	240
1.5	11.875	5.3	3,420	580	1.35	1370	9,054	6,199	283
1.5	14	6.3	3,420	580	1.35	1370	12,329	7,308	463
1.75	5.5	2.9	3,420	580	1.35	1370	2,495	3,350	33
1.75	7.25	3.8	3,420	580	1.35	1370	4,188	4,415	75
1.75	9.25	4.8	3,420	580	1.35	1370	6,613	5,633	156
1.75	9.5	5.0	3,420	580	1.35	1370	6,952	5,786	169
1.75	11.25	5.9	3,420	580	1.35	1370	9,545	6,851	280
1.75	11.875	6.2	3,420	580	1.35	1370	10,564	7,232	330
1.75	14	7.3	3,420	580	1.35	1370	14,383	8,526	540
1.75	16	8.4	3,420	580	1.35	1370	18,476	9,744	806

(a) The tabulated values are design values for normal load duration. All values, except E, are permitted to be adjusted for other load durations as permitted by the code. The design stresses are limited to conditions in which the average equilibrium moisture content does not exceed 15 percent over a year and does not exceed 19 percent at any time as in most covered structures.

(b) Tabulated specified bending strength (fb) may be increased by 4 percent when the member qualifies as a repetitive member as defined in CSAO86.

(c) Tabulated value is based on a reference depth of 12 inches. For other depths, when loaded edgewise, Fb shall be modified by $(12/d)^{0.125}$, where d = depth in inches. For depths less than 2-1/2 inches, the factor for the 2-1/2-inch depth shall be used.

(d) Bending moment has been adjusted by the size factor as per (c), but the repetitive factor of 1.04 has not been applied.

(e) For a simple span member, deflection for a uniform load could be calculated as follows:

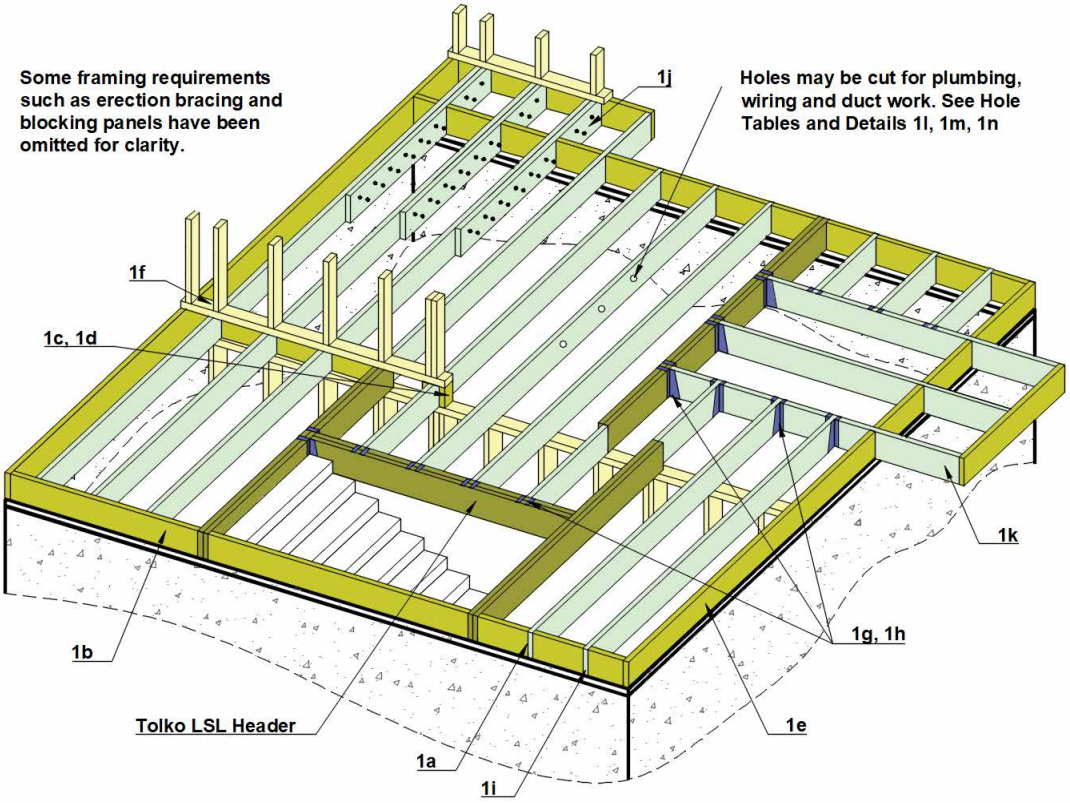
$$\delta_T = \frac{270wL^4}{Ebh^3}$$

where:

δT = total deflection (in)
w = applied uniform loads (lbf/ft)
L = design span (ft)
E = modulus of elasticity (lbf/in²)
b = width (in)
h = depth (in)

SECTION 2: TYPICAL FLOOR FRAMING AND CONSTRUCTION DETAILS

FIGURE 1: TYPICAL FLOOR FRAMING AND CONSTRUCTION DETAILS FOR 1.35E TOLKO T-TEC LSL FLOOR JOISTS



Notes:

1) Do not allow workers to walk on 1.35E Tolko T-TEC LSL® Joists until all hangers, Rim Joists, Rim Boards, Blocking Panels, and temporary strut lines are installed as specified below.
2) Failure to install temporary bracing may result in sideway buckling or roll-over under light construction loads.
3) Build a braced end wall at the end of the bay, or permanently install the first 8 ft. of 1.35E Tolko T-TEC LSL® joists and the first course of sheathing. As an alternate, temporary sheathing may be nailed to the first 4 ft. of 1.35E Tolko T-TEC LSL® joists at the end of the bay.
4) Install temporary strut lines at no more than 8 ft. on center as additional 1.35E Tolko T-TEC LSL® joists are set. Nail the strut lines to the sheathing area, or brace end wall, to each 1.35E Tolko T-TEC LSL® joist with two 8d common nails (0.131" x 2.5").
5) The end of the cantilevers must be temporarily secured by strut lines on both top and bottom edges of the 1.35E Tolko T-TEC LSL® joists.
6) Remove the temporary strut lines only as required to install the permanent sheathing.
7) Except for cutting to length, never cut, notch or drill holes that violate the hole charts for the 1.35E Tolko T-TEC LSL® joists.
8) 1.35E Tolko T-TEC LSL® joists must be anchored securely to supports before the floor sheathing is attached and the supports for multiple-span joists must be level.
9) Minimum bearing lengths are 1.5" for the end bearings and 3.5" for the intermediate bearings for the 1.35E Tolko T-TEC LSL® joists.
10) When using hangers, seat 1.35E Tolko T-TEC LSL® joists firmly in hanger bottoms to minimize settlement.
11) Never install 1.35E Tolko T-TEC LSL® joists where they will be permanently exposed to weather or where they will remain in direct contact with concrete or masonry.
12) Restrain ends of floor joists to prevent rollover. Use rim board, or LSL blocking panels.
13) For joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks to transfer gravity loads through the floor system to the wall or foundation below.
14) Due to shrinkage, common framing timber set on edge cannot be used as blocking or rim boards.
15) Provide permanent lateral support along the joist depth at interior supports of multiple-span joists. Glue panels to blocking to minimize squeaks.
16) See Table 2 for recommended sheathing attachment with nails. Do not use nails larger or spaced closer than shown in the Table 2. If more than one row of nails is required, rows must be offset by at least ½" and staggered.

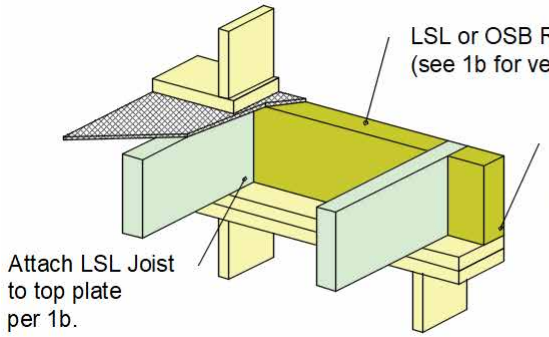
TABLE 2: SHEATHING FASTENING (FLOOR/ROOF JOISTS)

Max. 1.35E Tolko T-TEC LSL® Joist Spacing (in)	Panel Performance Category Sturd-I-Floor[d]	Nail type	Glued & Nailed[b, c] Subfloor				Nailed[c] Only Subfloor			
			Nail Diameter (in)	Nail Length (in)	Maximum Spacing[e] (in)		Nail Diameter (in)	Nail Length (in)	Maximum Spacing[e] (in)	
					Supported Panel Edges[c]	Intermediate Supports			Supported Panel Edges	Intermediate Supports
19.2	19/32, 5/8	6d ring - or screw-sank	0.120	2	6[a]	12	0.120	2	6	12
		8d common	0.131	2.5			0.131	2.5		
24	23/32, 3/4	6d ring - or screw-sank	0.120	2	6[a]	12	0.120	2	6	12
		8d common	0.131	2.5			0.131	2.5		
	7/8	8d ring - or screw-sank	0.120	2.5	6	12	0.120	2.5	6	12
		8d common	0.131	2.5			0.131	2.5		

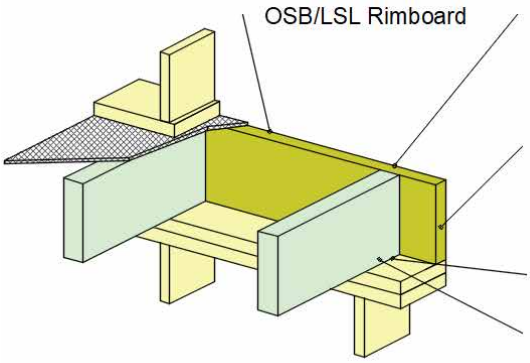
(a) Check with local building official; some local jurisdictions permit nail spacing at 12 inches oc.
(b) Adhesives conforming to APA Specification AFG-01 or ASTM D3498 shall be used.
(c) Supported panel joints shall occur approximately along the center-line of framing with a minimum bearing of 1/2 inch. Fasten panels 3/8 inch from panel edges.
(d) Exterior panels shall be specified if long-term exposure to the weather is required.
(e) Increased fastening schedule may be required where floor is engineered as a diaphragm.

Reference: APA - The Engineering Wood Association - Form No. E30V

Detail 1a. Exterior End Wall Blocking



Detail 1b. Exterior End Wall Rimboard



Tolko OSB Rimboard Plus factored vertical load capacity = 8090 plf for 1 $\frac{1}{8}$" or 1 $\frac{1}{4}$" thickness (depths less or equal to 16").
1.35E Tolko T-TEC LSL factored vertical load capacity = 9007 plf for 1 $\frac{1}{4}$" or 1 $\frac{1}{2}$" thickness (depths less or equal to 16").

Detail 1c. Squash Blocks

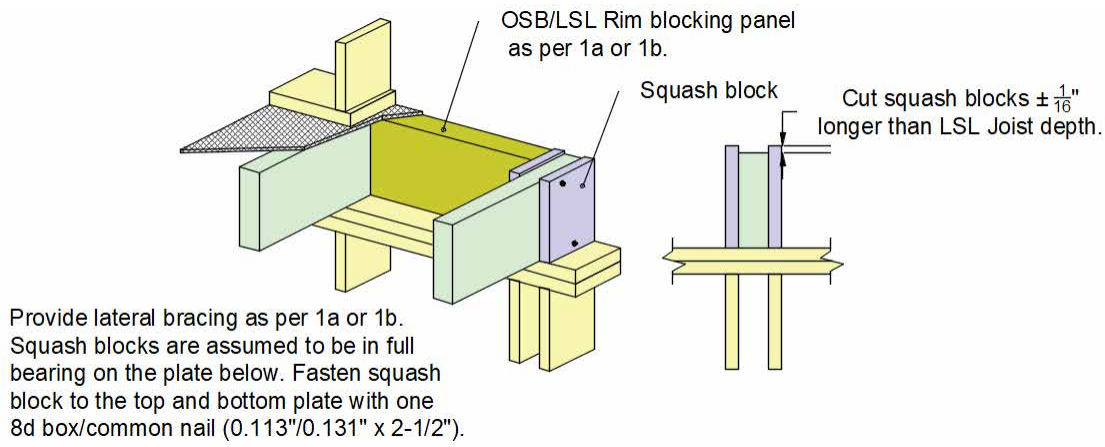
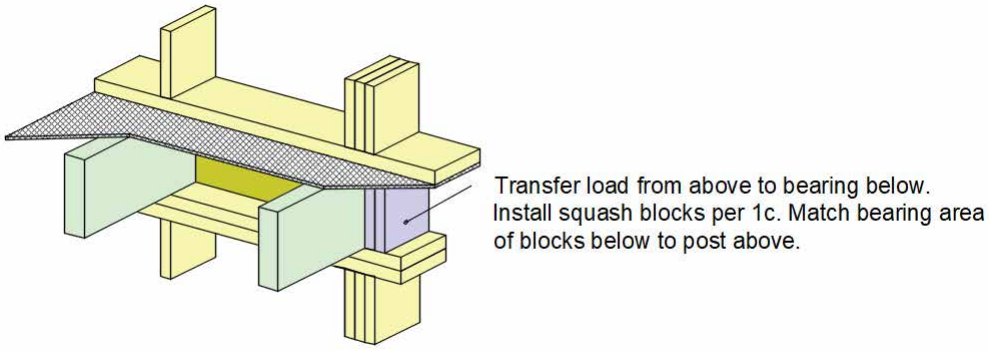


TABLE 3: SQUASH BLOCKS - FACTORED VERTICAL LOAD CAPACITIES PER PAIR OF SQUASH BLOCKS (LB/FT)

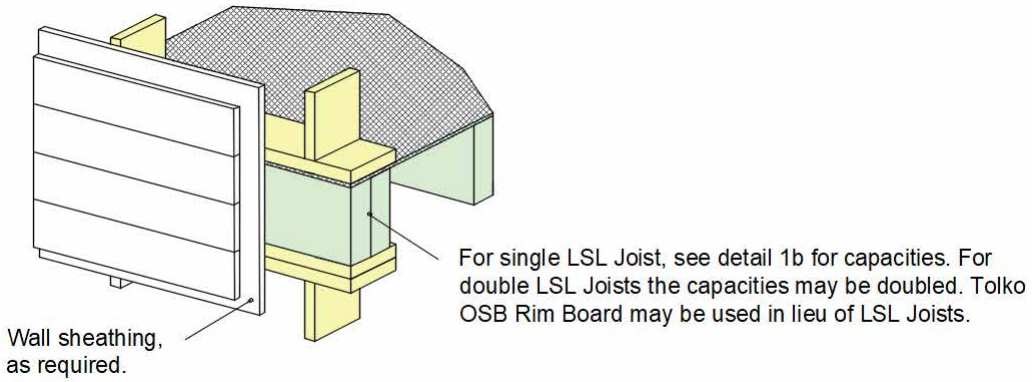
Squash Blocks Grade	Squash Blocks Dimensions		Maximum Vertical Load per Pair of Squash Blocks [lb/ft]			
			Joist Spacing (in)			
	Width (in)	Depth (in)	12	16	19.2	24
SPF No.2 or better; 1.35E Tolko T-TEC LSL	1.5	3.5	6455	4840	4035	3225
		5.5	10150	7610	6340	5075
		7.25	13380	10035	8360	6690
1.35E Tolko T-TEC LSL	1.25	3.5	5380	4035	3360	2690
		5.5	8455	6340	5285	4225
		7.25	11150	8360	6965	5575

Note: Max height for the squash blocks = 16”

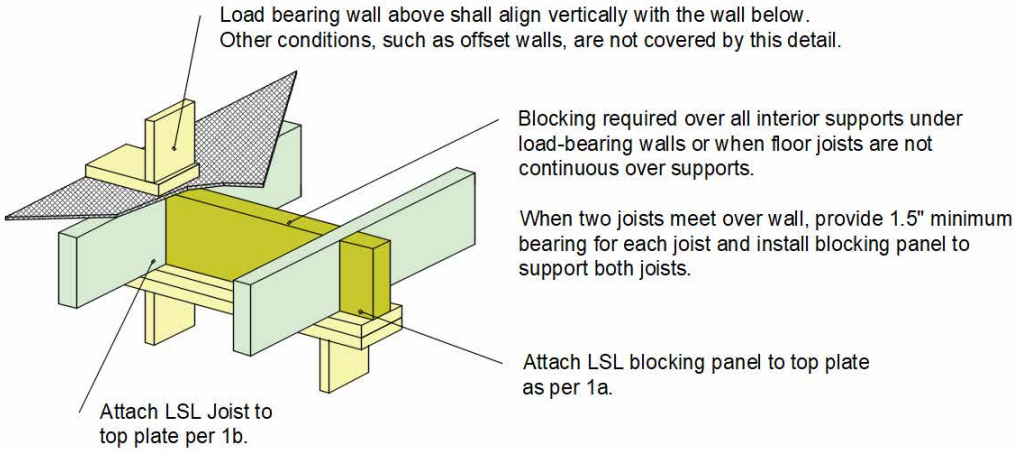
Detail 1d. Squash Blocks Matching Bearing Area for the Posts Above and Below



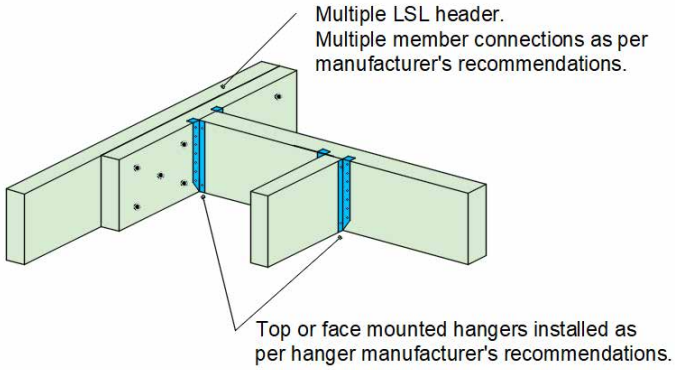
Detail 1e. Exterior Wall Supported by Double LSL Joists



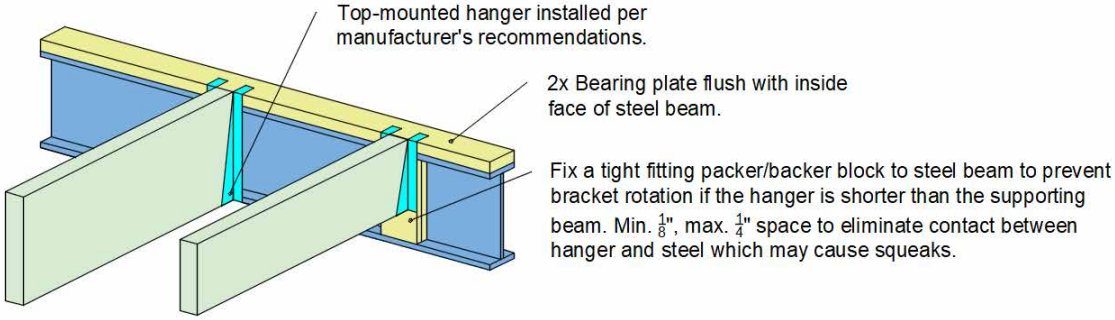
Detail 1f. Interior Load Bearing Wall



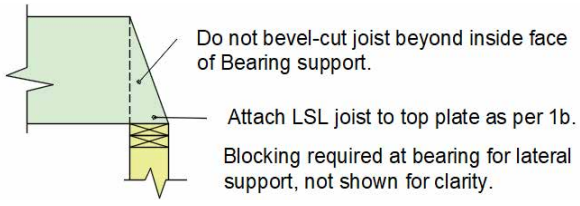
Detail 1g. LSL Joists Supported by Multi-Ply Beams



Detail 1h. LSL Joists Supported by I-Steel Beam



Detail 1i. Do Not Bevel Cut Beyond Inside Face of Bearing Support



SECTION 3: 1.35E TOLKO T-TEC LSL FLOOR SPAN CHARTS

TABLE 4: FLOOR SPAN CHART: 40/15 PSF; 19/32" NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 15 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
19/32" Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling						Directly Attached 1/2" Gypsum Ceiling					
	OC Spacing						OC Spacing					
	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"
	SINGLE SPAN			CONTINUOUS SPAN			SINGLE SPAN			CONTINUOUS SPAN		
1.35E LSL, 1.5"x5.5"	9-1"	8-2"	7-8"	9-9"	8-10"	8-3"	9-1"	8-2"	7-8"	9-9"	8-10"	8-3"
1.35E LSL, 1.5"x7.25"	11-7"	10-10"	10-2"	11-11"	11-2"	10-8"	11-11"	10-10"	10-2"	12-4"	11-6"	11-0"
1.35E LSL, 1.5"x9.25"	13-8"	12-9"	12-3"	14-1"	13-2"	12-8"	14-1"	13-1"	12-7"	14-6"	13-7"	13-0"
1.35E LSL, 1.5"x9.5"	**13-11"**	**13-0"**	**12-6"**	**14-4"**	**13-5"**	**12-10"**	**14-4"**	**13-4"**	**12-10"**	**14-10"**	**13-10"**	**13-3"**
1.35E LSL, 1.5"x11.25"	15-7"	14-7"	14-0"	16-1"	15-1"	14-5"	16-0"	15-0"	14-4"	16-7"	15-6"	14-10"
1.35E LSL, 1.5"x11.875"	**16-2"**	**15-1"**	**14-6"**	**16-9"**	**15-7"**	**15-0"**	**16-7"**	**15-6"**	**14-11"**	**17-2"**	**16-1"**	**15-5"**
1.35E LSL, 1.5"x14"	**18-1"**	**16-10"**	**16-2"**	**19-0"**	**17-5"**	**16-9"**	**18-9"**	**17-4"**	**16-8"**	**19-8"**	**18-0"**	**17-3"**
1.35E LSL, 1.75"x5.5"	9-7"	8-8"	8-1"	10-3"	9-4"	8-9"	9-7"	8-8"	8-1"	10-4"	9-4"	8-9"
1.35E LSL, 1.75"x7.25"	12-0"	11-2"	10-9"	12-4"	11-7"	11-1"	12-4"	11-5"	10-9"	12-9"	11-11"	11-5"
1.35E LSL, 1.75"x9.25"	14-2"	13-2"	12-8"	14-7"	13-8"	13-1"	14-6"	13-7"	13-0"	15-0"	14-0"	13-6"
1.35E LSL, 1.75"x9.5"	**14-5"**	**13-5"**	**12-11"**	**14-11"**	**13-11"**	**13-4"**	**14-9"**	**13-10"**	**13-3"**	**15-4"**	**14-3"**	**13-9"**
1.35E LSL, 1.75"x11.25"	16-2"	15-1"	14-6"	16-8"	15-7"	15-0"	16-7"	15-6"	14-10"	17-2"	16-0"	15-5"
1.35E LSL, 1.75"x11.875"	**16-9"**	**15-8"**	**15-0"**	**17-4"**	**16-2"**	**15-7"**	**17-2"**	**16-1"**	**15-5"**	**17-10"**	**16-8"**	**16-0"**
1.35E LSL, 1.75"x14"	**18-11"**	**17-6"**	**16-10"**	**19-10"**	**18-2"**	**17-5"**	**19-7"**	**17-11"**	**17-3"**	**20-6"**	**18-10"**	**17-11"**
1.35E LSL, 1.75"x16"	**21-3"**	**19-6"**	**18-6"**	**22-3"**	**20-5"**	**19-5"**	**21-11"**	**20-1"**	**19-1"**	**23-0"**	**21-1"**	**20-1"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes:

1) Tabulated spans have been designed to meet the National Building Code of Canada and the CSA 086 requirements.
2) Tabulated spans are the clear spans.
   The shortest span shall not be less than 40% the longest span. For two spans with a span ratio in between 0.4 and 0.7, the factored uplift (lbs) at the end of the short span is equal to -15*Longer Span (feet)*Spacing(inches)/12. Install metal hangers or equivalent to withstand the uplift force at the end of the short span.
3) Min. end bearing length shall be 1 3/4", and 3 1/2" for the interior bearing supports. LSL joists shall be supported on the full width for the required minimum bearing length.
4) Continuous lateral support must be provided for the top and bottom edges. Continuous lateral support is considered to be a maximum unbraced length of 24".
   This is normally provided by sheathing and/or framing members, which must be adequately anchored to the member and supporting structure.
5) Lateral support must be provided at all bearing locations to prevent lateral displacement and rotation.
6) LSL joists shall be used in a dry, well ventilated environment where the average moisture content will not exceed 15% over a year period and does not exceed 19% at any time.
7) The spans are based on uniform floor loads only, for standard load duration (K_D = 1.0).
8) Point loads from above over bearing supports shall be properly transferred by squash blocks or pass-thru framing.
9) Sheathing shall be fastened to the floor joist as indicated in Table 2.

TABLE 5: FLOOR SPAN CHART: 40/15 PSF; 19/32" GLUED & NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 15 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
19/32" Glued & Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling						Directly Attached 1/2" Gypsum Ceiling					
	OC Spacing						OC Spacing					
	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"
	SINGLE SPAN			CONTINUOUS SPAN			SINGLE SPAN			CONTINUOUS SPAN		
1.35E LSL, 1.5"x5.5"	9-11"	9-1"	8-6"	10-8"	9-9"	9-2"	9-11"	9-1"	8-6"	10-8"	9-9"	9-2"
1.35E LSL, 1.5"x7.25"	12-9"	11-10"	11-3"	13-2"	12-6"	12-1"	12-10"	11-10"	11-3"	13-7"	12-10"	12-2"
1.35E LSL, 1.5"x9.25"	14-9"	14-0"	13-7"	15-3"	14-6"	14-1"	15-3"	14-5"	14-0"	15-9"	14-11"	14-5"
1.35E LSL, 1.5"x9.5"	**15-0"**	**14-3"**	**13-10"**	**15-7"**	**14-9"**	**14-3"**	**15-6"**	**14-8"**	**14-2"**	**16-0"**	**15-2"**	**14-8"**
1.35E LSL, 1.5"x11.25"	16-8"	15-10"	15-4"	17-3"	16-4"	15-10"	17-2"	16-3"	15-9"	17-9"	16-10"	16-3"
1.35E LSL, 1.5"x11.875"	**17-3"**	**16-4"**	**15-10"**	**17-11"**	**16-11"**	**16-5"**	**17-9"**	**16-9"**	**16-3"**	**18-6"**	**17-5"**	**16-10"**
1.35E LSL, 1.5"x14"	**19-6"**	**18-1"**	**17-6"**	**20-5"**	**19-0"**	**18-3"**	**20-1"**	**18-9"**	**18-0"**	**21-1"**	**19-8"**	**18-10"**
1.35E LSL, 1.75"x5.5"	10-4"	9-6"	9-0"	11-2"	10-4"	9-8"	10-4"	9-6"	9-0"	11-2"	10-4"	9-8"
1.35E LSL, 1.75"x7.25"	13-1"	12-4"	11-9"	13-6"	12-10"	12-5"	13-5"	12-4"	11-9"	13-11"	13-2"	12-8"
1.35E LSL, 1.75"x9.25"	15-2"	14-5"	13-11"	15-8"	14-10"	14-5"	15-7"	14-9"	14-4"	16-2"	15-3"	14-10"
1.35E LSL, 1.75"x9.5"	**15-5"**	**14-7"**	**14-2"**	**16-0"**	**15-1"**	**14-8"**	**15-10"**	**15-0"**	**14-6"**	**16-5"**	**15-6"**	**15-0"**
1.35E LSL, 1.75"x11.25"	17-2"	16-3"	15-9"	17-9"	16-9"	16-3"	17-7"	16-8"	16-1"	18-4"	17-3"	16-8"
1.35E LSL, 1.75"x11.875"	**17-9"**	**16-9"**	**16-3"**	**18-7"**	**17-4"**	**16-10"**	**18-3"**	**17-3"**	**16-8"**	**19-2"**	**17-10"**	**17-3"**
1.35E LSL, 1.75"x14"	**20-2"**	**18-9"**	**18-0"**	**21-2"**	**19-8"**	**18-11"**	**20-10"**	**19-5"**	**18-7"**	**21-10"**	**20-4"**	**19-6"**
1.35E LSL, 1.75"x16"	**22-6"**	**20-10"**	**20-0"**	**23-7"**	**21-11"**	**21-0"**	**23-2"**	**21-6"**	**20-8"**	**24-4"**	**22-7"**	**21-8"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes:

1) Tabulated spans have been designed to meet the National Building Code of Canada and the CSA 086 requirements.
2) Tabulated spans are the clear spans.
   The shortest span shall not be less than 40% the longest span. For two spans with a span ratio in between 0.4 and 0.7, the factored uplift (lbs) at the end of the short span is equal to -15*Longer Span (feet)*Spacing(inches)/12. Install metal hangers or equivalent to withstand the uplift force at the end of the short span.
3) Tabulated spans are based on partial composite action using Glued & Nailed OSB APA Rated Sheathing conforming to CSA 0325 or CSA 0437.

See APA Engineering Wood Construction Guide, Form E30, for fastener size and spacings.
Construction adhesive shall meet the requirements given in ASTM D3498 or APA Specification AFG-01 or CGSB Standard CAN/CGSB-71.26-M88.

4) Min. end bearing length shall be 1 3/4", and 3 1/2" for the interior bearing supports. LSL joists shall be supported on the full width for the required minimum bearing length.
5) Continuous lateral support must be provided for the top and bottom edges. Continuous lateral support is considered to be a maximum unbraced length of 24".
This is normally provided by sheathing and/or framing members, which must be adequately anchored to the member and supporting structure.
6) Lateral support must be provided at all bearing locations to prevent lateral displacement and rotation.
7) LSL joists shall be used in a dry, well ventilated environment where the average moisture content will not exceed 15% over a year period and does not exceed 19% at any time.
8) The spans are based on uniform floor loads only, for standard load duration (K_D = 1.0).
9) Point loads from above over bearing supports shall be properly transferred by squash blocks or pass-thru framing.
10) Sheathing shall be fastened to the floor joists as indicated in Table 2.

TABLE 6: FLOOR SPAN CHART: 40/15 PSF; 23/32" NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 15 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
23/32" Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling								Directly Attached 1/2" Gypsum Ceiling							
	OC Spacing								OC Spacing							
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	SINGLE SPAN				CONTINUOUS SPAN				SINGLE SPAN				CONTINUOUS SPAN			
1.35E LSL, 1.5"x5.5"	9-1"	8-2"	7-8"	7-1"	9-9"	8-10"	8-3"	7-8"	9-1"	8-2"	7-8"	7-1"	9-9"	8-10"	8-3"	7-8"
1.35E LSL, 1.5"x7.25"	12-0"	10-10"	10-2"	9-5"	12-6"	11-8"	11-0"	10-2"	12-0"	10-10"	10-2"	9-5"	12-10"	11-9"	11-0"	10-2"
1.35E LSL, 1.5"x9.25"	14-4"	13-4"	12-9"	12-1"	14-9"	13-10"	13-2"	12-7"	14-8"	13-8"	13-0"	12-1"	15-2"	14-2"	13-7"	12-11"
1.35E LSL, 1.5"x9.5"	**14-7"**	**13-7"**	**13-0"**	**12-5"**	**15-1"**	**14-1"**	**13-5"**	**12-10"**	**14-11"**	**13-11"**	**13-4"**	**12-5"**	**15-6"**	**14-5"**	**13-10"**	**13-2"**
1.35E LSL, 1.5"x11.25"	16-4"	15-3"	14-7"	13-11"	16-11"	15-9"	15-1"	14-5"	16-9"	15-8"	15-0"	14-3"	17-4"	16-2"	15-6"	14-9"
1.35E LSL, 1.5"x11.875"	**16-11"**	**15-10"**	**15-2"**	**14-5"**	**17-6"**	**16-4"**	**15-8"**	**14-11"**	**17-4"**	**16-2"**	**15-6"**	**14-9"**	**18-0"**	**16-9"**	**16-1"**	**15-0"**
1.35E LSL, 1.5"x14"	**19-2"**	**17-8"**	**16-11"**	**16-1"**	**20-2"**	**18-5"**	**17-6"**	**15-0"**	**19-9"**	**18-2"**	**17-4"**	**16-6"**	**20-9"**	**19-1"**	**18-0"**	**15-0"**
1.35E LSL, 1.75"x5.5"	9-7"	8-8"	8-1"	7-6"	10-4"	9-4"	8-9"	8-1"	9-7"	8-8"	8-1"	7-6"	10-4"	9-4"	8-9"	8-1"
1.35E LSL, 1.75"x7.25"	12-7"	11-5"	10-9"	9-11"	13-0"	12-1"	11-7"	10-9"	12-8"	11-5"	10-9"	9-11"	13-4"	12-5"	11-8"	10-9"
1.35E LSL, 1.75"x9.25"	14-10"	13-10"	13-3"	12-8"	15-4"	14-4"	13-8"	13-0"	15-2"	14-2"	13-7"	12-9"	15-8"	14-8"	14-0"	13-4"
1.35E LSL, 1.75"x9.5"	**15-1"**	**14-1"**	**13-6"**	**12-10"**	**15-7"**	**14-7"**	**13-11"**	**13-3"**	**15-5"**	**14-5"**	**13-10"**	**13-1"**	**16-0"**	**14-11"**	**14-3"**	**13-7"**
1.35E LSL, 1.75"x11.25"	16-11"	15-10"	15-2"	14-5"	17-6"	16-4"	15-8"	14-11"	17-4"	16-2"	15-6"	14-9"	18-0"	16-9"	16-0"	15-3"
1.35E LSL, 1.75"x11.875"	**17-7"**	**16-5"**	**15-8"**	**14-11"**	**18-3"**	**16-11"**	**16-3"**	**15-6"**	**17-11"**	**16-9"**	**16-1"**	**15-4"**	**18-10"**	**17-4"**	**16-8"**	**15-10"**
1.35E LSL, 1.75"x14"	**20-1"**	**18-5"**	**17-6"**	**16-9"**	**21-1"**	**19-4"**	**18-3"**	**17-4"**	**20-8"**	**18-11"**	**17-11"**	**17-1"**	**21-8"**	**19-11"**	**18-10"**	**17-9"**
1.35E LSL, 1.75"x16"	**22-6"**	**20-8"**	**19-6"**	**18-5"**	**23-8"**	**21-8"**	**20-6"**	**17-9"**	**23-1"**	**21-3"**	**20-1"**	**18-11"**	**24-3"**	**22-3"**	**21-1"**	**17-9"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 4.*

TABLE 7: FLOOR SPAN CHART: 40/15 PSF; 23/32" GLUED & NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 15 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
23/32" Glued & Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling								Directly Attached 1/2" Gypsum Ceiling							
	OC Spacing								OC Spacing							
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	SINGLE SPAN				CONTINUOUS SPAN				SINGLE SPAN				CONTINUOUS SPAN			
1.35E LSL, 1.5"x5.5"	10-0"	9-1"	8-6"	7-10"	10-10"	9-9"	9-2"	8-6"	10-0"	9-1"	8-6"	7-10"	10-10"	9-9"	9-2"	8-6"
1.35E LSL, 1.5"x7.25"	13-0"	11-11"	11-3"	10-5"	14-1"	12-11"	12-2"	11-3"	13-0"	11-11"	11-3"	10-5"	14-1"	12-11"	12-2"	11-3"
1.35E LSL, 1.5"x9.25"	15-10"	15-0"	14-3"	13-4"	16-4"	15-6"	14-11"	14-5"	16-2"	15-0"	14-3"	13-4"	16-9"	15-11"	15-4"	14-6"
1.35E LSL, 1.5"x9.5"	**16-1"**	**15-2"**	**14-7"**	**13-8"**	**16-7"**	**15-9"**	**15-2"**	**14-7"**	**16-5"**	**15-5"**	**14-7"**	**13-8"**	**17-0"**	**16-2"**	**15-7"**	**14-10"**
1.35E LSL, 1.5"x11.25"	17-9"	16-10"	16-3"	15-8"	18-7"	17-5"	16-10"	15-0"	18-3"	17-3"	16-8"	16-0"	19-2"	17-11"	17-3"	15-0"
1.35E LSL, 1.5"x11.875"	**18-6"**	**17-5"**	**16-10"**	**16-2"**	**19-5"**	**18-1"**	**17-5"**	**15-0"**	**19-1"**	**17-10"**	**17-2"**	**16-7"**	**20-0"**	**18-8"**	**17-10"**	**15-0"**
1.35E LSL, 1.5"x14"	**21-0"**	**19-7"**	**18-9"**	**17-10"**	**22-1"**	**20-6"**	**18-10"**	**15-0"**	**21-8"**	**20-2"**	**19-4"**	**18-4"**	**22-8"**	**21-2"**	**18-10"**	**15-0"**
1.35E LSL, 1.75"x5.5"	10-6"	9-7"	9-0"	8-3"	11-4"	10-4"	9-8"	8-11"	10-6"	9-7"	9-0"	8-3"	11-4"	10-4"	9-8"	8-11"
1.35E LSL, 1.75"x7.25"	13-7"	12-6"	11-10"	11-0"	14-5"	13-6"	12-10"	11-11"	13-7"	12-6"	11-10"	11-0"	14-9"	13-6"	12-10"	11-11"
1.35E LSL, 1.75"x9.25"	16-2"	15-4"	14-10"	14-0"	16-9"	15-10"	15-4"	14-9"	16-7"	15-8"	14-11"	14-0"	17-2"	16-3"	15-8"	15-1"
1.35E LSL, 1.75"x9.5"	**16-6"**	**15-7"**	**15-1"**	**14-4"**	**17-0"**	**16-1"**	**15-7"**	**15-0"**	**16-10"**	**15-11"**	**15-3"**	**14-4"**	**17-5"**	**16-6"**	**15-11"**	**15-4"**
1.35E LSL, 1.75"x11.25"	18-4"	17-3"	16-8"	16-0"	19-3"	17-11"	17-3"	16-7"	18-10"	17-8"	17-1"	16-5"	19-9"	18-5"	17-8"	17-0"
1.35E LSL, 1.75"x11.875"	**19-2"**	**17-10"**	**17-3"**	**16-7"**	**20-1"**	**18-8"**	**17-10"**	**17-2"**	**19-8"**	**18-4"**	**17-7"**	**16-11"**	**20-7"**	**19-3"**	**18-5"**	**17-7"**
1.35E LSL, 1.75"x14"	**21-9"**	**20-3"**	**19-4"**	**18-5"**	**22-10"**	**21-3"**	**20-3"**	**17-9"**	**22-4"**	**20-10"**	**19-11"**	**18-11"**	**23-5"**	**21-10"**	**20-10"**	**17-9"**
1.35E LSL, 1.75"x16"	**24-2"**	**22-6"**	**21-6"**	**20-5"**	**25-5"**	**23-7"**	**22-3"**	**17-9"**	**24-10"**	**23-1"**	**22-1"**	**21-0"**	**26-1"**	**24-3"**	**22-3"**	**17-9"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 5.*

TABLE 8: FLOOR SPAN CHART: 40/30 PSF; 19/32" NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 30 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
19/32" Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling						Directly Attached 1/2" Gypsum Ceiling					
	OC Spacing						OC Spacing					
	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"
	SINGLE SPAN			CONTINUOUS SPAN			SINGLE SPAN			CONTINUOUS SPAN		
1.35E LSL, 1.5"x5.5"	9-1"	8-2"	7-8"	9-9"	8-10"	8-3"	9-1"	8-2"	7-8"	9-9"	8-10"	8-3"
1.35E LSL, 1.5"x7.25"	11-7"	10-10"	10-2"	11-11"	11-2"	10-8"	11-11"	10-10"	10-2"	12-4"	11-6"	11-0"
1.35E LSL, 1.5"x9.25"	13-8"	12-9"	12-3"	14-1"	13-2"	12-8"	14-1"	13-1"	12-7"	14-6"	13-7"	13-0"
1.35E LSL, 1.5"x9.5"	**13-11"**	**13-0"**	**12-6"**	**14-4"**	**13-5"**	**12-10"**	**14-4"**	**13-4"**	**12-10"**	**14-10"**	**13-10"**	**13-3"**
1.35E LSL, 1.5"x11.25"	15-7"	14-7"	14-0"	16-1"	15-1"	14-5"	16-0"	15-0"	14-4"	16-7"	15-6"	14-10"
1.35E LSL, 1.5"x11.875"	**16-2"**	**15-1"**	**14-6"**	**16-9"**	**15-7"**	**15-0"**	**16-7"**	**15-6"**	**14-11"**	**17-2"**	**16-1"**	**15-2"**
1.35E LSL, 1.5"x14"	**18-1"**	**16-10"**	**16-2"**	**19-0"**	**17-5"**	**15-2"**	**18-9"**	**17-4"**	**16-8"**	**19-8"**	**18-0"**	**15-2"**
1.35E LSL, 1.75"x5.5"	9-7"	8-8"	8-1"	10-3"	9-4"	8-9"	9-7"	8-8"	8-1"	10-4"	9-4"	8-9"
1.35E LSL, 1.75"x7.25"	12-0"	11-2"	10-9"	12-4"	11-7"	11-1"	12-4"	11-5"	10-9"	12-9"	11-11"	11-5"
1.35E LSL, 1.75"x9.25"	14-2"	13-2"	12-8"	14-7"	13-8"	13-1"	14-6"	13-7"	13-0"	15-0"	14-0"	13-6"
1.35E LSL, 1.75"x9.5"	**14-5"**	**13-5"**	**12-11"**	**14-11"**	**13-11"**	**13-4"**	**14-9"**	**13-10"**	**13-3"**	**15-4"**	**14-3"**	**13-9"**
1.35E LSL, 1.75"x11.25"	16-2"	15-1"	14-6"	16-8"	15-7"	15-0"	16-7"	15-6"	14-10"	17-2"	16-0"	15-5"
1.35E LSL, 1.75"x11.875"	**16-9"**	**15-8"**	**15-0"**	**17-4"**	**16-2"**	**15-7"**	**17-2"**	**16-1"**	**15-5"**	**17-10"**	**16-8"**	**16-0"**
1.35E LSL, 1.75"x14"	**18-11"**	**17-6"**	**16-10"**	**19-10"**	**18-2"**	**17-5"**	**19-7"**	**17-11"**	**17-3"**	**20-6"**	**18-10"**	**17-11"**
1.35E LSL, 1.75"x16"	**21-3"**	**19-6"**	**18-6"**	**22-3"**	**20-5"**	**17-11"**	**21-11"**	**20-1"**	**19-1"**	**23-0"**	**21-1"**	**17-11"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 4.*

TABLE 9: FLOOR SPAN CHART: 40/30 PSF; 19/32" GLUED & NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 30 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
19/32" Glued & Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling						Directly Attached 1/2" Gypsum Ceiling					
	OC Spacing						OC Spacing					
	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"	12"	16"	19.2"
	SINGLE SPAN			CONTINUOUS SPAN			SINGLE SPAN			CONTINUOUS SPAN		
1.35E LSL, 1.5"x5.5"	9-11"	9-1"	8-6"	10-8"	9-9"	9-2"	9-11"	9-1"	8-6"	10-8"	9-9"	9-2"
1.35E LSL, 1.5"x7.25"	12-9"	11-10"	11-3"	13-2"	12-6"	12-1"	12-10"	11-10"	11-3"	13-7"	12-10"	12-2"
1.35E LSL, 1.5"x9.25"	14-9"	14-0"	13-7"	15-3"	14-6"	14-1"	15-3"	14-5"	14-0"	15-9"	14-11"	14-5"
1.35E LSL, 1.5"x9.5"	**15-0"**	**14-3"**	**13-10"**	**15-7"**	**14-9"**	**14-3"**	**15-6"**	**14-8"**	**14-2"**	**16-0"**	**15-2"**	**14-8"**
1.35E LSL, 1.5"x11.25"	16-8"	15-10"	15-4"	17-3"	16-4"	15-2"	17-2"	16-3"	15-9"	17-9"	16-10"	15-2"
1.35E LSL, 1.5"x11.875"	**17-3"**	**16-4"**	**15-10"**	**17-11"**	**16-11"**	**15-2"**	**17-9"**	**16-9"**	**16-3"**	**18-6"**	**17-5"**	**15-2"**
1.35E LSL, 1.5"x14"	**19-6"**	**18-1"**	**17-6"**	**20-5"**	**18-3"**	**15-2"**	**20-1"**	**18-9"**	**18-0"**	**21-1"**	**18-3"**	**15-2"**
1.35E LSL, 1.75"x5.5"	10-4"	9-6"	9-0"	11-2"	10-4"	9-8"	10-4"	9-6"	9-0"	11-2"	10-4"	9-8"
1.35E LSL, 1.75"x7.25"	13-1"	12-4"	11-9"	13-6"	12-10"	12-5"	13-5"	12-4"	11-9"	13-11"	13-2"	12-8"
1.35E LSL, 1.75"x9.25"	15-2"	14-5"	13-11"	15-8"	14-10"	14-5"	15-7"	14-9"	14-4"	16-2"	15-3"	14-10"
1.35E LSL, 1.75"x9.5"	**15-5"**	**14-7"**	**14-2"**	**16-0"**	**15-1"**	**14-8"**	**15-10"**	**15-0"**	**14-6"**	**16-5"**	**15-6"**	**15-0"**
1.35E LSL, 1.75"x11.25"	17-2"	16-3"	15-9"	17-9"	16-9"	16-3"	17-7"	16-8"	16-1"	18-4"	17-3"	16-8"
1.35E LSL, 1.75"x11.875"	**17-9"**	**16-9"**	**16-3"**	**18-7"**	**17-4"**	**16-10"**	**18-3"**	**17-3"**	**16-8"**	**19-2"**	**17-10"**	**17-3"**
1.35E LSL, 1.75"x14"	**20-2"**	**18-9"**	**18-0"**	**21-2"**	**19-8"**	**17-11"**	**20-10"**	**19-5"**	**18-7"**	**21-10"**	**20-4"**	**17-11"**
1.35E LSL, 1.75"x16"	**22-6"**	**20-10"**	**20-0"**	**23-7"**	**21-6"**	**17-11"**	**23-2"**	**21-6"**	**20-8"**	**24-4"**	**21-6"**	**17-11"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 5.*

TABLE 10: FLOOR SPAN CHART: 40/30 PSF; 23/32" NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 30 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
23/32" Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling								Directly Attached 1/2" Gypsum Ceiling							
	OC Spacing								OC Spacing							
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	SINGLE SPAN				CONTINUOUS SPAN				SINGLE SPAN				CONTINUOUS SPAN			
1.35E LSL, 1.5"x5.5"	9-1"	8-2"	7-8"	7-1"	9-9"	8-10"	8-3"	7-8"	9-1"	8-2"	7-8"	7-1"	9-9"	8-10"	8-3"	7-8"
1.35E LSL, 1.5"x7.25"	12-0"	10-10"	10-2"	9-5"	12-6"	11-8"	11-0"	10-2"	12-0"	10-10"	10-2"	9-5"	12-10"	11-9"	11-0"	10-2"
1.35E LSL, 1.5"x9.25"	14-4"	13-4"	12-9"	12-1"	14-9"	13-10"	13-2"	12-0"	14-8"	13-8"	13-0"	12-1"	15-2"	14-2"	13-7"	12-0"
1.35E LSL, 1.5"x9.5"	**14-7"**	**13-7"**	**13-0"**	**12-5"**	**15-1"**	**14-1"**	**13-5"**	**12-0"**	**14-11"**	**13-11"**	**13-4"**	**12-5"**	**15-6"**	**14-5"**	**13-10"**	**12-0"**
1.35E LSL, 1.5"x11.25"	16-4"	15-3"	14-7"	13-11"	16-11"	15-9"	15-1"	12-0"	16-9"	15-8"	15-0"	14-3"	17-4"	16-2"	15-2"	12-0"
1.35E LSL, 1.5"x11.875"	**16-11"**	**15-10"**	**15-2"**	**14-5"**	**17-6"**	**16-4"**	**15-2"**	**12-0"**	**17-4"**	**16-2"**	**15-6"**	**14-9"**	**18-0"**	**16-9"**	**15-2"**	**12-0"**
1.35E LSL, 1.5"x14"	**19-2"**	**17-8"**	**16-11"**	**15-3"**	**20-2"**	**18-3"**	**15-2"**	**12-0"**	**19-9"**	**18-2"**	**17-4"**	**15-3"**	**20-9"**	**18-3"**	**15-2"**	**12-0"**
1.35E LSL, 1.75"x5.5"	9-7"	8-8"	8-1"	7-6"	10-4"	9-4"	8-9"	8-1"	9-7"	8-8"	8-1"	7-6"	10-4"	9-4"	8-9"	8-1"
1.35E LSL, 1.75"x7.25"	12-7"	11-5"	10-9"	9-11"	13-0"	12-1"	11-7"	10-9"	12-8"	11-5"	10-9"	9-11"	13-4"	12-5"	11-8"	10-9"
1.35E LSL, 1.75"x9.25"	14-10"	13-10"	13-3"	12-8"	15-4"	14-4"	13-8"	13-0"	15-2"	14-2"	13-7"	12-9"	15-8"	14-8"	14-0"	13-4"
1.35E LSL, 1.75"x9.5"	**15-1"**	**14-1"**	**13-6"**	**12-10"**	**15-7"**	**14-7"**	**13-11"**	**13-3"**	**15-5"**	**14-5"**	**13-10"**	**13-1"**	**16-0"**	**14-11"**	**14-3"**	**13-7"**
1.35E LSL, 1.75"x11.25"	16-11"	15-10"	15-2"	14-5"	17-6"	16-4"	15-8"	14-3"	17-4"	16-2"	15-6"	14-9"	18-0"	16-9"	16-0"	14-3"
1.35E LSL, 1.75"x11.875"	**17-7"**	**16-5"**	**15-8"**	**14-11"**	**18-3"**	**16-11"**	**16-3"**	**14-3"**	**17-11"**	**16-9"**	**16-1"**	**15-4"**	**18-10"**	**17-4"**	**16-8"**	**14-3"**
1.35E LSL, 1.75"x14"	**20-1"**	**18-5"**	**17-6"**	**16-9"**	**21-1"**	**19-4"**	**17-11"**	**14-3"**	**20-8"**	**18-11"**	**17-11"**	**17-1"**	**21-8"**	**19-11"**	**17-11"**	**14-3"**
1.35E LSL, 1.75"x16"	**22-6"**	**20-8"**	**19-6"**	**18-0"**	**23-8"**	**21-6"**	**17-11"**	**14-3"**	**23-1"**	**21-3"**	**20-1"**	**18-0"**	**24-3"**	**21-6"**	**17-11"**	**14-3"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 4.*

TABLE 11: FLOOR SPAN CHART: 40/30 PSF; 23/32" GLUED & NAILED OSB SUBFLOOR; L/480 LIVE LOAD DEFLECTION

40 (psf) Live Load; 30 (psf) Dead Load
Live Load Deflection = L/480; Total Load Deflection = L/240
23/32" Glued & Nailed - OSB Sheathing

Joist Series	No Directly Attached Ceiling								Directly Attached 1/2" Gypsum Ceiling							
	OC Spacing								OC Spacing							
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	SINGLE SPAN				CONTINUOUS SPAN				SINGLE SPAN				CONTINUOUS SPAN			
1.35E LSL, 1.5"x5.5"	10-0"	9-1"	8-6"	7-10"	10-10"	9-9"	9-2"	8-6"	10-0"	9-1"	8-6"	7-10"	10-10"	9-9"	9-2"	8-6"
1.35E LSL, 1.5"x7.25"	13-0"	11-11"	11-3"	10-5"	14-1"	12-11"	12-2"	11-3"	13-0"	11-11"	11-3"	10-5"	14-1"	12-11"	12-2"	11-3"
1.35E LSL, 1.5"x9.25"	15-10"	15-0"	14-3"	13-4"	16-4"	15-6"	14-11"	12-0"	16-2"	15-0"	14-3"	13-4"	16-9"	15-11"	15-2"	12-0"
1.35E LSL, 1.5"x9.5"	**16-1"**	**15-2"**	**14-7"**	**13-8"**	**16-7"**	**15-9"**	**15-2"**	**12-0"**	**16-5"**	**15-5"**	**14-7"**	**13-8"**	**17-0"**	**16-2"**	**15-2"**	**12-0"**
1.35E LSL, 1.5"x11.25"	17-9"	16-10"	16-3"	15-3"	18-7"	17-5"	15-2"	12-0"	18-3"	17-3"	16-8"	15-3"	19-2"	17-11"	15-2"	12-0"
1.35E LSL, 1.5"x11.875"	**18-6"**	**17-5"**	**16-10"**	**15-3"**	**19-5"**	**18-1"**	**15-2"**	**12-0"**	**19-1"**	**17-10"**	**17-2"**	**15-3"**	**20-0"**	**18-3"**	**15-2"**	**12-0"**
1.35E LSL, 1.5"x14"	**21-0"**	**19-7"**	**18-9"**	**15-3"**	**22-1"**	**18-3"**	**15-2"**	**12-0"**	**21-8"**	**20-2"**	**19-2"**	**15-3"**	**22-8"**	**18-3"**	**15-2"**	**12-0"**
1.35E LSL, 1.75"x5.5"	10-6"	9-7"	9-0"	8-3"	11-4"	10-4"	9-8"	8-11"	10-6"	9-7"	9-0"	8-3"	11-4"	10-4"	9-8"	8-11"
1.35E LSL, 1.75"x7.25"	13-7"	12-6"	11-10"	11-0"	14-5"	13-6"	12-10"	11-11"	13-7"	12-6"	11-10"	11-0"	14-9"	13-6"	12-10"	11-11"
1.35E LSL, 1.75"x9.25"	16-2"	15-4"	14-10"	14-0"	16-9"	15-10"	15-4"	14-3"	16-7"	15-8"	14-11"	14-0"	17-2"	16-3"	15-8"	14-3"
1.35E LSL, 1.75"x9.5"	**16-6"**	**15-7"**	**15-1"**	**14-4"**	**17-0"**	**16-1"**	**15-7"**	**14-3"**	**16-10"**	**15-11"**	**15-3"**	**14-4"**	**17-5"**	**16-6"**	**15-11"**	**14-3"**
1.35E LSL, 1.75"x11.25"	18-4"	17-3"	16-8"	16-0"	19-3"	17-11"	17-3"	14-3"	18-10"	17-8"	17-1"	16-5"	19-9"	18-5"	17-8"	14-3"
1.35E LSL, 1.75"x11.875"	**19-2"**	**17-10"**	**17-3"**	**16-7"**	**20-1"**	**18-8"**	**17-10"**	**14-3"**	**19-8"**	**18-4"**	**17-7"**	**16-11"**	**20-7"**	**19-3"**	**17-11"**	**14-3"**
1.35E LSL, 1.75"x14"	**21-9"**	**20-3"**	**19-4"**	**18-0"**	**22-10"**	**21-3"**	**17-11"**	**14-3"**	**22-4"**	**20-10"**	**19-11"**	**18-0"**	**23-5"**	**21-6"**	**17-11"**	**14-3"**
1.35E LSL, 1.75"x16"	**24-2"**	**22-6"**	**21-6"**	**18-0"**	**25-5"**	**21-6"**	**17-11"**	**14-3"**	**24-10"**	**23-1"**	**22-1"**	**18-0"**	**26-1"**	**21-6"**	**17-11"**	**14-3"**

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 5.*

SECTION 4: 1.35E TOLKO T-TEC LSL - FLOOR LOAD TABLES

TABLE 12: FLOOR JOIST UNIFORM PLF LOAD TABLE - 1.35E TOLKO T-TEC LSL 1-1/2" WIDTH

Product Grade	Member Thickness (in)	Depth (in)	Floor Joist Clear Span (ft)																			
			8			10			12			14			16			18				
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load		
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load			
1.35E T-TEC LSL	1-1/2	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi																				
		5.5	57	112	263																	
		7.25	127	251	322	67	131	258														
		9.25	251	-	322	146	-	258	80	156	215	51	98	184								
		9.5	271	-	322	146	-	258	87	169	215	56	107	184								
		11.25	-	-	322	233	-	258	140	-	215	91	176	184	62	118	161	44	82	143		
		11.875	-	-	322	-	-	258	163	-	215	106	-	184	72	138	161	51	97	143		
		14	-	-	322	-	-	258	-	-	215	168	-	184	116	-	161	83	-	143		
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi																				
		5.5	57	112	263																	
		7.25	127	251	442	67	131	282														
		9.25	251	499	522	146	287	418	80	156	308	51	98	225								
		9.5	271	-	522	146	287	418	87	169	324	56	107	237								
		11.25	427	-	522	233	-	418	140	275	348	91	176	299	62	118	248	44	82	195		
		11.875	492	-	522	271	-	418	163	321	348	106	206	299	72	138	261	51	97	216		
		14	-	-	522	-	-	418	258	-	348	168	-	299	116	225	261	83	158	232		

Notes:

1) Joist span is the clear distance between supports and is valid for simple or continuous span applications.
2) The allowable loads represent the capacity in pounds per lineal foot (plf) of length
3) Tabulated values are valid for uniform loads only.
4) Minimum end bearing of 1-3/4", and minimum interior bearing of 3-1/2".
5) Deflection of L/480 for the live load and L/240 for the total load.
6) Tabulated values shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support on the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions - the average equilibrium moisture content over a year is 15% or less and does not exceed 19% at any time.

How to use this table:

1) Both total and live loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Joist weight shall be included in the total load.
3) Select the appropriate Clear Span.
4) Scan vertically to find the proper thickness and depth with the capacities that exceed the actual live and total loads.
5) Verify the min. end bearing length of 1-3/4" and min. interior bearing length of 3-1/2".
6) For a live load deflection limit of L/360, the Live Load column values could be multiplied by 1.33. The resulting Live Load shall not exceed the Total Unfactored Load.
7) For loading conditions not shown, use CSD® software or contact your Tolko representative.

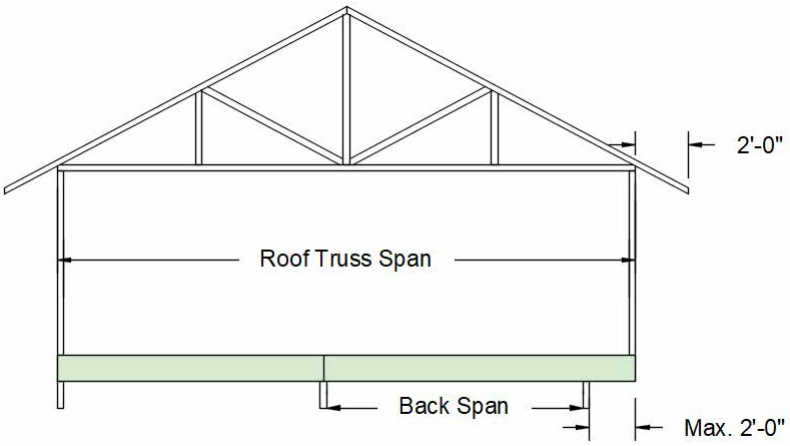
TABLE 13: FLOOR JOIST UNIFORM PLF LOAD TABLE (100%) - 1.35E TOLKO T-TEC LSL 1-3/4" WIDTH

Product Grade	Member Thickness (in)	Depth (in)	Floor Joist Clear Span (ft)																		
			8			10			12			14			16			18				
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load		
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		
1.35E T-TEC LSL	1-3/4	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi																			
		5.5	67	131	306																
		7.25	148	293	375	78	153	301	46	88	227										
		9.25	293	-	375	170	-	301	94	182	251	60	115	215	41	76	188				
		9.5	316	-	375	170	-	301	101	197	251	65	124	215	44	83	188				
		11.25	-	-	375	272	-	301	164	-	251	106	205	215	72	138	188	51	96	167	
		11.875	-	-	375	-	-	301	191	-	251	123	-	215	84	162	188	60	113	167	
		14	-	-	375	-	-	301	-	-	251	197	-	215	135	-	188	96	-	167	
		16	-	-	375	-	-	301	-	-	251	-	-	215	-	-	188	141	-	167	
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi																			
		5.5	67	131	306																
		7.25	148	293	516	78	153	329	46	88	227										
		9.25	293	582	609	170	334	488	94	182	360	60	115	263	41	76	200				
		9.5	316	-	609	170	334	488	101	197	378	65	124	276	44	83	210				
		11.25	498	-	609	272	-	488	164	321	406	106	205	349	72	138	290	51	96	227	
		11.875	575	-	609	316	-	488	191	375	406	123	240	349	84	162	305	60	113	252	
		14	-	-	609	-	-	488	301	-	406	197	-	349	135	262	305	96	185	271	
		16	-	-	609	-	-	488	-	-	406	285	-	349	197	-	305	141	-	271	

Notes: *Refer to notes from Table 12.*

SECTION 5: CANTILEVERS FOR FLOOR JOISTS

FIGURE 2: CANTILEVERS MAX. 2'-0"



LSL Joists may be cantilevered max 2'-0" when supporting the roof loads assuming the back span does not exceed the maximum spans shown in Table 14, and the back span is minimum 3 x cantilever length.

TABLE 14: MAXIMUM BACK SPANS (FT) FOR CANTILEVERED LSL JOISTS FROM TABLE 15

Depth (in)	O.C. Spacing			
	12"	16"	19.2"	24"
9.25	16	15	14	13
9.5	17	16	15	14
11.25	19	18	17	16
11.875	21	19	18	17
14	22	21	20	19
16[a]	24	23	22	21

(a) 16" depth is only for the 1-3/4" width

Detail 1j. Cantilever Reinforcement for Floor Joists Supporting Roof Loads (see Table 15)

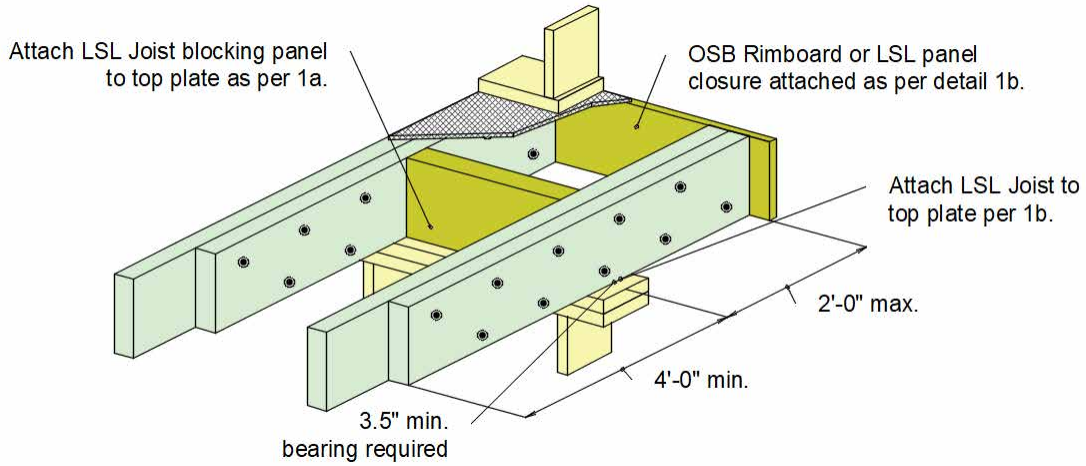


TABLE 15: CANTILEVER REINFORCEMENT SUPPORTING ROOF LOADS IN ADDITION TO THE FLOOR LOADS

Joist	Joist Width (in)	Joist Depth (in)	Reinforcement Installation (where required)	Roof Span (ft)	Snow Load = 20 psf ; Roof Dead Load = 15 psf				Snow Load = 30 psf ; Roof Dead Load = 15 psf				Snow Load = 40 psf ; Roof Dead Load = 15 psf			
					Floor Joist On Center Spacing (in)											
					12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
1.35E T-TEC LSL	1.5	9.25, 9.5, 11.25, 11.875, 14	1.35E T-TEC LSL Reinforcement; 1.5" width; matching the joist depth; fastened with 2 rows of 10d Box Nails (0.128" x 3") at 6" o.c. spacing; nail end distance = 2", nail edge distance = 1.5"; Reinforcement length = 48 ft. + cant. length	20	0	0	1	1	0	0	1	0	0	1	1	1
				22	0	0	1	1	0	1	1	1	0	1	1	1
				24	0	0	1	1	0	1	1	1	0	1	1	1
				26	0	0	1	1	0	1	1	1	0	1	1	1
				28	0	1	1	1	0	1	1	1	0	1	1	1
				30	0	1	1	1	0	1	1	1	0	1	1	x
				32	0	1	1	1	0	1	1	1	1	1	1	x
	1.75	9.25, 9.5, 11.25, 11.875, 14, 16	1.35E T-TEC LSL Reinforcement; 1.75" width; matching the joist depth; fastened with 2 rows of 16d Box Nails (0.135" x 3.5") at 6" o.c. spacing; nail end distance = 2", nail edge distance = 1.5"; Reinforcement length = 48 ft. + cant. length	20	0	0	0	1	0	0	1	1	0	0	1	0
				22	0	0	0	1	0	0	1	1	0	0	1	0
				24	0	0	0	1	0	0	1	1	0	1	1	1
				26	0	0	1	1	0	0	1	1	0	1	1	1
				28	0	0	1	1	0	0	1	1	0	1	1	1
				30	0	0	1	1	0	1	1	1	0	1	1	1
				32	0	0	1	1	0	1	1	1	0	1	1	1

Nomenclature:

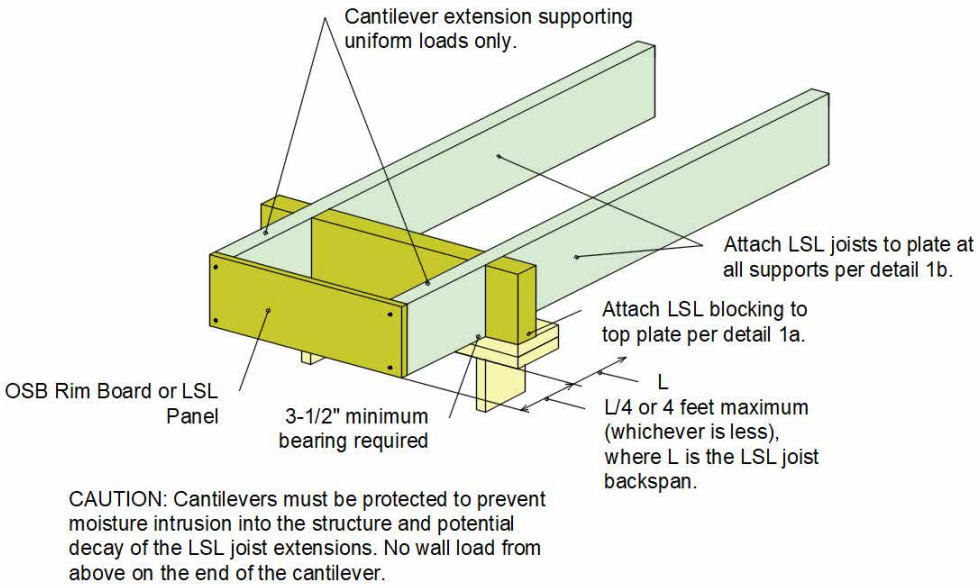
0 = no reinforcement required
1 = 1 side reinforcement required
x = no solution

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes:

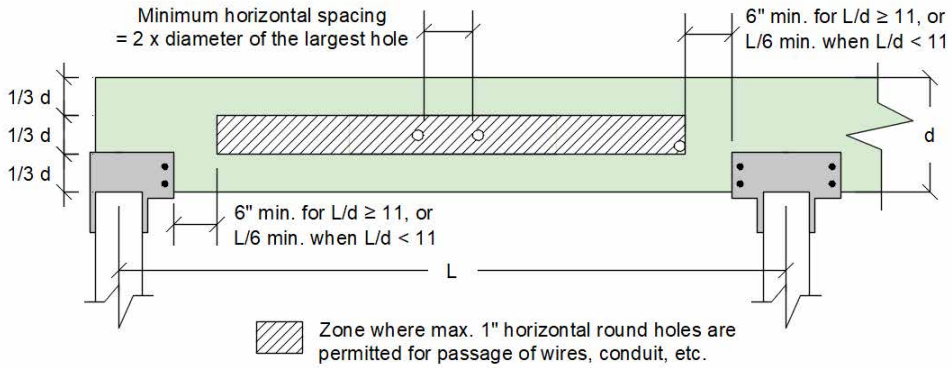
1) Table values are valid for the max. back spans (adjacent to the cantilever) as specified in Table 14.
2) The floor live load shall not exceed 40 psf and the floor dead load shall not exceed 10 psf.
3) Maximum floor joist cantilever length = 2 ft.
4) The roof span is the out-to-out distance between the exterior bearing walls plus a max. 2 ft. roof overhang.
5) Table values assume a bearing length adjacent to the cantilever of at least 3-1/2" for SPF plate with compression perpendicular. to grain of 769 psi.
6) Exterior bearing wall weight = 100 plf
7) Reinforcement shall match the joist depth and width.
8) Roof pitch <= 12/12
9) For floor cantilever lengths <= 5" (from the inside edge of the bearing support), the reinforcement length could be equal to 2 ft.+ cantilever length.

Detail 1k. LSL Joist Cantilever Supporting Only Uniform Floor Loads



SECTION 6: ROUND HOLES FOR WIRING, PLUMBING AND DUCT WORK

Detail 1l. Maximum 1" Diameter Hole (single or multiple spans)

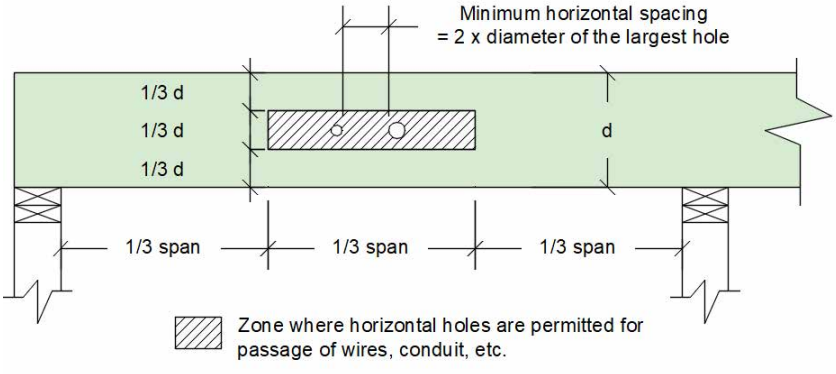


Notes:

1) A 1-inch diameter hole may be cut at the middle 1/3 of the beam depth anywhere along the span, except for the area that is within 6 inches of clear distance between the face of the support and the nearest edge of the hole for L/d ≥ 11, or L/6 when L/d < 11.
2) Holes allowed for single or continuous spans for uniform loads only.
3) No more than 3 holes per span are permitted.
4) Holes shall not be cut in cantilevers.
5) Beam depth shall be at least 7.25 inches.
6) The horizontal spacing must be a minimum of two diameters clear distance between adjacent holes based on the diameter of the larger hole.
7) When holes are required to be drilled outside the allowable zones, an engineering analysis shall be conducted and approved be a professional engineer.

Reference: APA - The Engineered Wood Association: Form No. EWS G535A

Detail 1m. Maximum 1-1/2" - 2" Diameter Holes (single or multiple spans)



Notes:

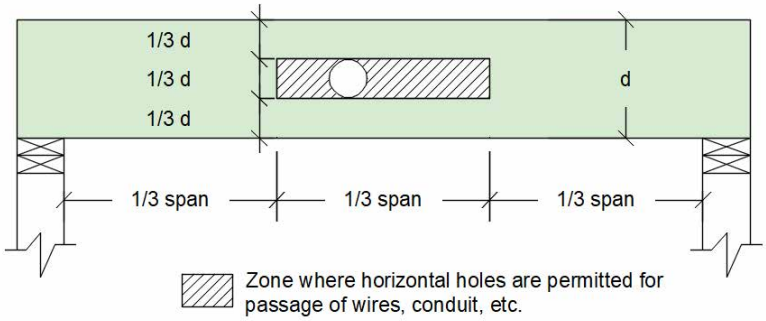
1) Holes allowed for single or continuous spans for uniform loads only.
2) No more than 3 holes per span are permitted.
3) Holes shall not be cut in cantilevers.
4) The horizontal spacing must be a minimum of two diameters clear distance between adjacent holes based on the diameter of the larger hole.
5) When holes are required to be drilled outside the allowable zones, an engineering analysis shall be conducted and approved be a professional engineer.

Reference: APA - The Engineered Wood Association: Form No. EWS G535A

TABLE 16: MAXIMUM 1-1/2" - 2" DIAMETER HOLES (SINGLE OR MULTIPLE SPANS)

Joists Series	Max. o.c. spacing (in)	Joist Depth (in)	Joist Width (in)	Max. Round Hole Diameter (in)
1.35E LSL	24	7.25	1.5	1.5
			1.75	
		9.25	1.5	2
			1.75	
		9.5	1.5	
			1.75	
		11.25	1.5	
			1.75	
		11.875	1.5	
			1.75	
		14	1.5	
			1.75	
		16	1.75	

Detail 1n. Maximum 2-1/4" - 5-1/4" Diameter Holes (single spans only)



PROPOSITION 65 WARNING

WARNING

Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhailing wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

WARNING

This product can expose you to chemicals including methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

TABLE 17: MAXIMUM 2-1/4" - 5-1/4" DIAMETER HOLES (SINGLE SPANS ONLY)

Joists Series	Max. o.c. spacing (in)	Joist Depth (in)	Joist Width (in)	Max. Joist Span (ft)								Max. Round Hole Diameter (in)
				Live Load (psf) 40	Dead Load (psf) 15	Live Load (psf) 40	Dead Load (psf) 20	Live Load (psf) 40	Dead Load (psf) 30	Live Load (psf) 100	Dead Load (psf) 35	
1.35E LSL	24	7.25	1.5	10		10		9		7		2.25
			1.75	11		11		10		7		2.25
		9.25	1.5	13		13		12		8		3
			1.75	14		14		13		9		3
		9.5	1.5	13		13		12		9		3
			1.75	14		14		13		9		3
		11.25	1.5	16		16		14		10		3.5
			1.75	17		17		15		11		3.5
		11.875	1.5	17		17		15		11		3.75
			1.75	18		18		16		12		3.75
		14	1.5	20		20		18		13		4.5
			1.75	21		21		19		14		4.5
		16	1.75	24		24		22		16		5.25

Notes:

1) Holes only allowed for uniform loads and single spans.
2) No more than 1 hole per span.
3) Hole shall not be cut in cantilevers.
4) When holes are required to be drilled outside the allowable zones, an engineering analysis shall be conducted and approved be a professional engineer.

Reference: APA - The Engineered Wood Association: Form No. EWS G535A

SECTION 7: HANGERS SUPPORTING FLOOR JOISTS

TABLE 18: SIMPSON® FACE MOUNT HANGERS - 1-1/2" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: Simpson **Mount Type:** Face Mount	HU	1.5	5.5	5.5	HU26	2.25	-	-	4	16d	2	10dx1 1/2	450	1080
			7.25	7.25	HU28	2.25	-	-	6	16d	4	10dx1 1/2	905	2380
			9.25	11.875	HU210	2.25	-	-	8	16d	4	10dx1 1/2	905	2865
			11.25	14	HU212	2.25	-	-	10	16d	6	10dx1 1/2	1360	3135
	HUS	1.5	5.125	7.25	HUS26	3	-	-	14	16d	6	16d	2065	3875
			7.25	11.25	HUS28	3	-	-	22	16d	8	16d	2675	4345
			9.25	14	HUS210	3	-	-	30	16d	10	16d	4010	4740
	LU	1.5	5.5	7.25	LU26L	1.625	-	-	6	10d	4	10dx1 1/2	645	1140
			7.25	11.5	LU28L	1.625	-	-	8	10d	6	10dx1 1/2	1020	1550
			9.25	11.875	LU210L	1.625	-	-	10	10d	6	10dx1 1/2	1020	1770
	LUS	1.5	5.5	7.25	LUS26	1.75	-	-	4	10d	4	10d	1290	1630
			7.25	11.25	LUS28	1.75	-	-	6	10d	4	10d	1290	1790
			9.25	11.875	LUS210	1.75	-	-	8	10d	4	10d	1290	2210
	MIU	1.5	9.25	14	MIU1.56/9	2.5	-	-	16	16d	2	10dx1 1/2	375	2305
			11.25	14	MIU1.56/11	2.5	-	-	20	16d	2	10dx1 1/2	375	2305
	U	1.5	5.5	7.25	U26	2	-	-	6	16d	4	10dx1 1/2	780	1860
			7.25	11.875	U210	2	-	-	10	16d	6	10dx1 1/2	1235	1955

Notes for Table 18 to 23

1) Tabulated values are only valid for headers with a rectangular cross section. When I-joists are used as header, the hangers capacities are reduced and the Simpson/USP hangers technical guides for I-joists headers shall be followed.
2) The supported member end reaction capacity must be checked to ensure it is not less than the hanger capacity shown in the tables.
3) Uplift loads have been increased for wind loading with no further increase allowed. Reduce the uplift capacity where other loads govern by a factor 1/1.15 = 0.860.
4) Top mount hangers may cause unevenness. Possible remedies should be evaluated by a professional and include using a face-mount hanger.
5) Unless otherwise noted screws may not be used to replace nails unless approved and recommended by the Designer/Engineer of Record.
6) Do not overdrive nails. Overdriven nails reduce shear capacity.
7) Install all specified fasteners before loading the connection.
8) Joist shall bear completely on the connector seat, and the gap between the joist end and the header shall not exceed 1/8".
9) Nails: 16d = 0.162" dia. x 3 1/2" long, 10d = 0.148" dia. x 3" long, 10d x 1 1/2" = 0.148" dia. x 1 1/2" long.

TABLE 19: SIMPSON® FACE MOUNT HANGERS - 1-3/4" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: Simpson **Mount Type:** Face Mount	HU	1.75	5.5	7.25	HU1.81/5 (Max)	2.5	-	-	16	16d	6	10dx1 1/2	1360	2635
			5.5	7.25	HU1.81/5 (Min)	2.5	-	-	12	16d	4	10dx1 1/2	905	1975
			7.25	11.25	HU7 (Max)	2.5	-	-	16	16d	8	10dx1 1/2	1810	4225
			7.25	11.25	HU7 (Min)	2.5	-	-	12	16d	4	10dx1 1/2	905	2670
			9.25	14	HU9 (Max)	2.5	-	-	24	16d	10	10dx1 1/2	2265	4660
			9.25	14	HU9 (Min)	2.5	-	-	18	16d	6	10dx1 1/2	1360	3875
			11.25	16	HU11 (Max)	2.5	-	-	30	16d	10	10dx1 1/2	2265	4660
			11.25	16	HU11 (Min)	2.5	-	-	22	16d	6	10dx1 1/2	1360	3875
			14	16	HU14 (Max)	2.5	-	-	36	16d	14	10dx1 1/2	2695	5450
			14	16	HU14 (Min)	2.5	-	-	28	16d	8	10dx1 1/2	1810	4265
	IUS	1.75	9.5	9.5	IUS1.81/9.5	2	-	-	8	10d	2	10dx1 1/2	175	1690
			11.875	11.875	IUS1.81/11.88	2	-	-	10	10d	2	10dx1 1/2	175	1820
			14	14	IUS1.81/14 (Max)	2	-	-	14	10d	2	10dx1 1/2	175	1935
			14	14	IUS1.81/14 (Min)	2	-	-	12	10d	-	-	175	1820
			16	16	IUS1.81/16	2	-	-	14	10d	-	-	175	1935
	MIU	1.75	9.25	9.5	MIU1.81/9	2.5	-	-	16	16d	2	10dx1 1/2	375	2690
			11.25	11.875	MIU1.81/11	2.5	-	-	20	16d	2	10dx1 1/2	375	2690
			14	14	MIU1.81/14	2.5	-	-	22	16d	2	10dx1 1/2	375	2690
			16	16	MIU1.81/16	2.5	-	-	24	16d	2	10dx1 1/2	375	2690

Notes: *Refer to "Notes for Table 18 to 23" on page 15.*

TABLE 20: SIMPSON® TOP MOUNT HANGERS - 1-1/2" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: Simpson **Mount Type:** Top Mount	JB	1.5	5.5	5.5	JB26	1.5	4	10d	-	-	2	2 PRONG	-	1385
			7.25	7.25	JB28	1.5	4	10d	-	-	2	2 PRONG	-	1385
			9.25	9.25	JB210A	2	6	16d	-	-	2	10dx1 1/2	370	1725
			11.25	11.25	JB212A	2	6	16d	-	-	2	10dx1 1/2	370	1725
	LB	1.5	5.5	5.5	LB26	1.5	-	-	4	16d	2	10dx1 1/2	455	1405
			7.25	7.25	LB28	1.5	-	-	4	16d	2	10dx1 1/2	455	1405
			9.25	9.25	LB210AZ	2	-	-	6	16d	2	10dx1 1/2	490	1935
			11.25	11.25	LB212AZ	2	-	-	6	16d	2	10dx1 1/2	455	1935

Notes: *Refer to "Notes for Table 18 to 23" on page 15.*

TABLE 21: SIMPSON® TOP MOUNT HANGERS - 1-3/4" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: Simpson **Mount Type:** Top Mount	ITS	1.75	9.5	9.5	ITS1.81/9.5	2	4	10d	2	10d	-	-	150	1690
			11.875	11.875	ITS1.81/11.88	2	4	10d	2	10d	-	-	150	1690
			14	14	ITS1.81/14	2	4	10d	2	10d	-	-	150	1690
			16	16	ITS1.81/16	2	4	10d	2	10d	-	-	150	1690
	BA	1.75	9.5	9.5	BA1.8/9.5	3	6	16d	10	16d	2	10dx1 1/2	340	3665
			11.875	11.875	BA1.81/11.88	3	6	16d	10	16d	2	10dx1 1/2	340	3665
			14	14	BA1.81/14	3	6	16d	10	16d	2	10dx1 1/2	340	3665
			16	16	BA1.81/16	3	6	16d	10	16d	2	10dx1 1/2	340	3665
	MIT	1.75	9.5	9.5	MIT9.5	2.5	4	16d	4	16d	2	10dx1 1/2	322	2420
			11.875	11.875	MIT11.88	2.5	4	16d	4	16d	2	10dx1 1/2	322	2420
			14	14	MIT1.81/14	2.5	4	16d	4	16d	2	10dx1 1/2	322	2420
			16	16	MIT1.81/16	2.5	4	16d	4	16d	2	10dx1 1/2	322	2420

Notes: *Refer to "Notes for Table 18 to 23" on page 15.*

TABLE 22: MITEK® FACE MOUNT HANGERS - 1-1/2" & 1-3/4" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: USP Mount Type: Face Mount	MUS	1.5	5.5	7.25	MUS26	2	-	-	6	10d	6	10d	1415	2825
			7.25	9.25	MUS28	2	-	-	8	10d	8	10d	2015	3830
	HD	1.75	7.25	11.875	HD1770	2.5	-	-	12	16d	4	10dx1 1/2	1320	2290
			9.25	14	HD17925	2.5	-	-	18	16d	6	10dx1 1/2	2050	4180
			11.25	16	HD17112	2.5	-	-	22	16d	6	10dx1 1/2	2050	4710
			14	16	HD1714	2.5	-	-	28	16d	8	10dx1 1/2	2600	4710
	HUS	1.75	9.25	14	HUS179	3	-	-	30	16d	10	16d	7455	8070
	IHFL	1.75	9.25	14	IHFL17925 (Max)	2.5	-	-	8	10d	2	10dx1 1/2	385	2425
			9.25	14	IHFL17925 (Min)	2.5	-	-	8	10d	-	-	90	2425
			11.25	16	IFHL17112 (Max)	2.5	-	-	10	10d	2	10dx1 1/2	385	3310
			11.25	16	IHFL17112 (Min)	2.5	-	-	10	10d	-	-	90	3310
			14	16	IHFL1714 (Max)	2.5	-	-	12	10d	2	10dx1 1/2	385	3310
			14	16	IHFL1714 (Min)	2.5	-	-	12	10d	-	-	90	3310

Notes: *Refer to "Notes for Table 18 to 23" on page 15.*

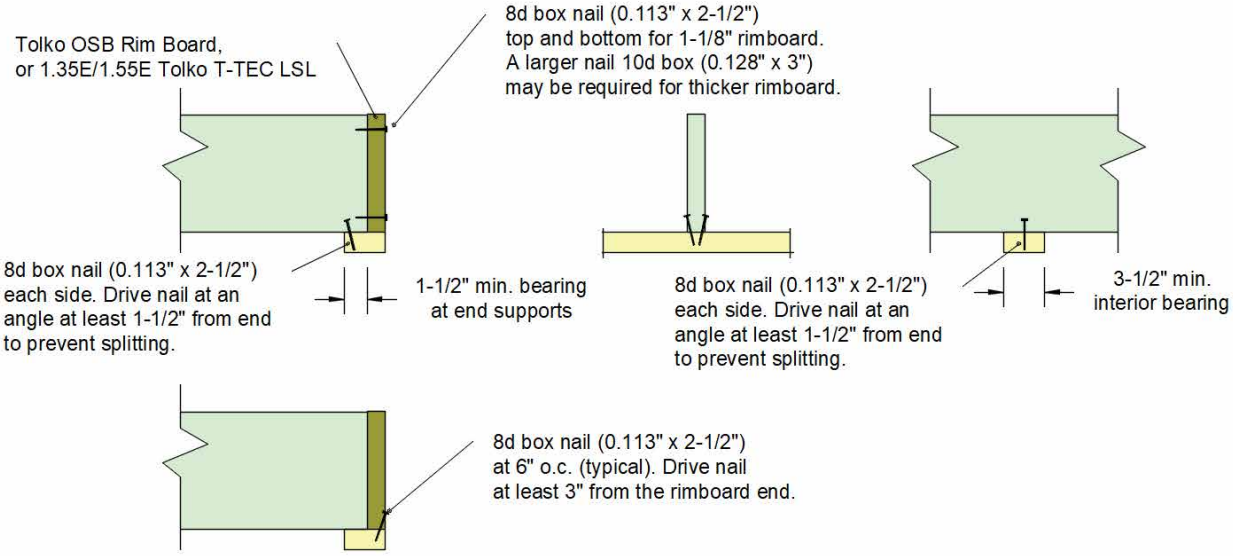
TABLE 23: MITEK® TOP MOUNT HANGERS - 1-1/2" & 1-3/4" JOIST WIDTH

	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Top Fastener Qty	Header Top Fastener Type	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Factored Uplift (lbs) (K_D = 1.15)	Factored Resistance (lbs) (K_D = 1.0)
Supplier: USP Mount Type: Top Mount	BPH	1.5	9.25	9.25	BPH15925	2.375	4	16d	6	16d	4	10dx1 1/2	980	3965
			9.5	9.5	BPH1595	2.375	4	16d	6	16d	4	10dx1 1/2	980	3965
			11.25	11.25	BPH15112	2.375	4	16d	6	16d	4	10dx1 1/2	980	3965
			11.875	11.875	BPH15118	2.375	4	16d	6	16d	4	10dx1 1/2	980	3965
			14	14	BPH1514	2.375	4	16d	6	16d	4	10dx1 1/2	980	3965
	BPH	1.75	9.25	9.25	BPH17925	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
			9.5	9.5	BPH1795	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
			11.25	11.25	BPH17112	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
			11.875	11.875	BPH17118	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
			14	14	BPH1714	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
			16	16	BPH1716	2.375	4	16d	6	16d	4	10dx1 1/2	980	4160
	PHM	1.75	9.25	9.25	PHM17925	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
			9.5	9.5	PHM1795	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
			11.25	11.25	PHM17112	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
			11.875	11.875	PHM17118	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
			14	14	PHM1714	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
			16	16	PHM1716	2.5	-	-	2	16d	2	10dx1 1/2	-	4450
	PHXU	1.75	7.25	7.25	PHXU17725	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075
			9.25	9.25	PHXU17925	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075
			9.5	9.5	PHXU1795	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075
			11.25	11.25	PHXU17112	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075
			11.875	11.875	PHXU17118	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075
			14	14	PHXU1714	3.25	4	16d	4	16d	6	10dx1 1/2	1625	6075

Notes: *Refer to "Notes for Table 18 to 23" on page 15.*

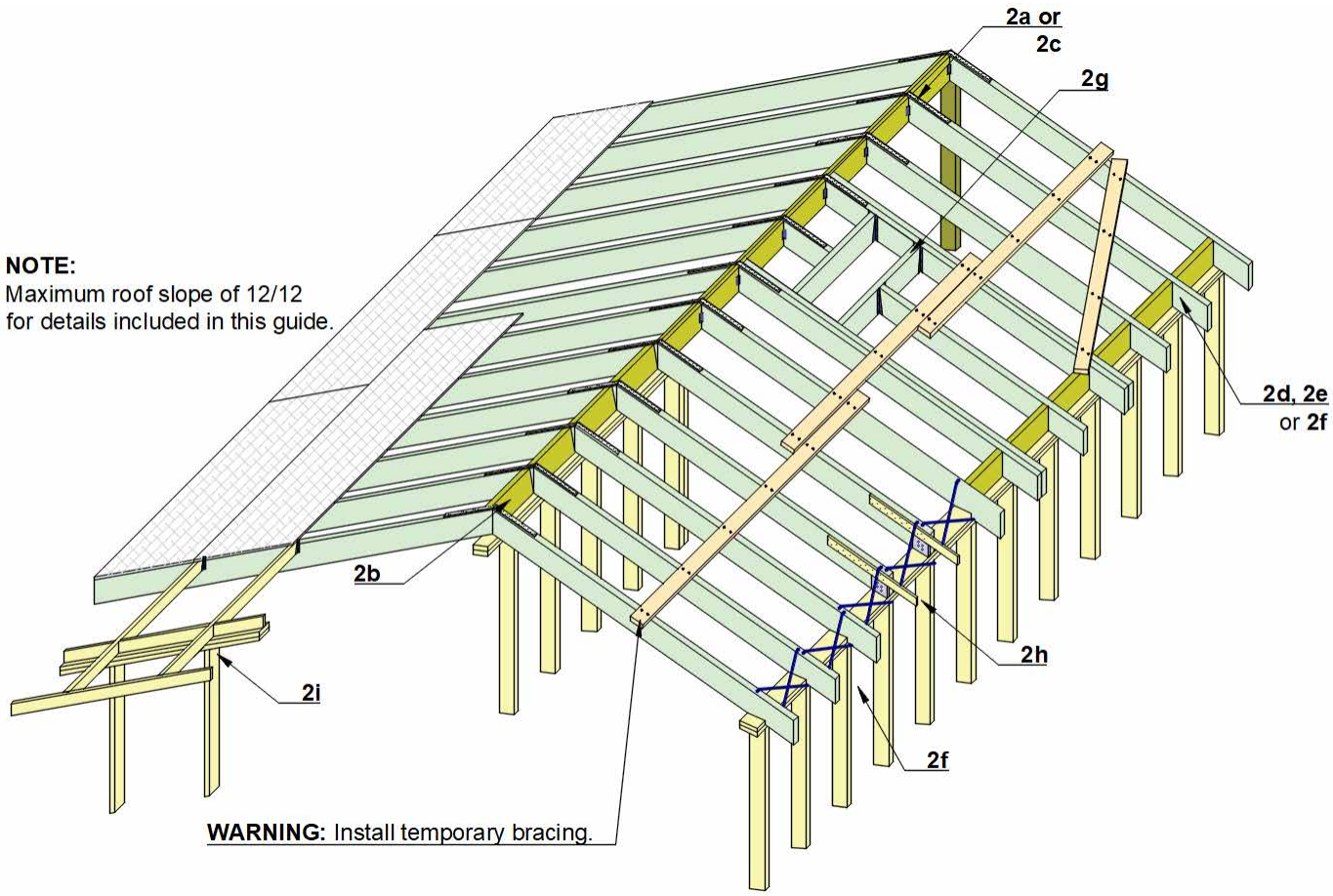
SECTION 8: FLOOR JOIST NAILING REQUIREMENTS AT BEARINGS

FIGURE 3: FLOOR JOIST NAILING REQUIREMENTS AT BEARINGS



SECTION 9: TYPICAL ROOF FRAMING AND CONSTRUCTION DETAILS

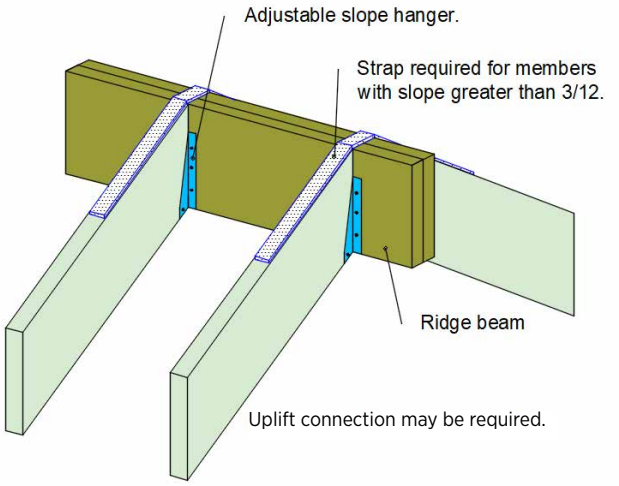
FIGURE 4: TYPICAL ROOF FRAMING AND CONSTRUCTION DETAILS FOR 1.35E TOLKO T-TEC LSL ROOF FRAMING



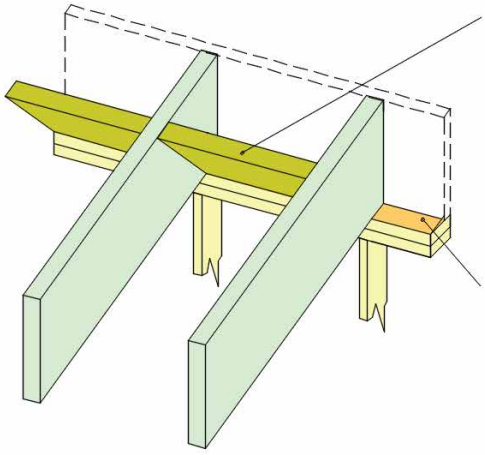
Notes:

1) Failure to install temporary bracing may result in sideway buckling or roll-over under light construction loads.
2) Do not allow workers on the 1.35E Tolko T-TEC LSL Roof Joists (rafters) until all hangers, Rim Joists, Rim Boards, Blocking Panels, and temporary strut lines are installed as specified below.
3) Build a braced end wall at the end of the bay, or permanently install the first 8 ft. of 1.35E Tolko T-TEC LSL® rafters and the first course of sheathing. As an alternate, temporary sheathing may be nailed to the first 4 ft. of 1.35E Tolko T-TEC LSL® rafters at the end of the bay.
4) Install temporary strut lines at no more than 8 ft. on center as additional 1.35E Tolko T-TEC LSL® rafters are set. Nail the strut lines to the sheathing area, or brace end wall, to each 1.35E Tolko T-TEC LSL® joist with two 8d common nails (0.131" x 2.5").
5) Before laying out roof system components, verify that rafters' widths match hanger widths.
6) When blocking is installed along the rafter span, never deliberately walk on the blocking between the rafters.
7) The end of the cantilevers must be temporarily secured by bracing on both the top and bottom edges.
8) Remove the temporary bracing only as required to install the permanent sheathing.
9) Except for cutting to length, never cut, drill, or notch the rafters.
10) Rafters must be anchored securely to supports before roof sheathing is attached and the supports for multiple-span members must be level.
11) Minimum bearing lengths: 1.5" for end bearings and 3.5" for intermediate bearings.
12) When using hangers, seat rafters firmly in hanger bottoms to minimize settlement.
13) Never install rafters where they will be permanently exposed to weather or where they will remain in direct contact with concrete or masonry.
14) Restrain ends of roof joists to prevent rollover. Use rim board, rim joists or blocking panels.
15) For rafters installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks to transfer gravity loads from the roof system to the wall or structure below.
16) Due to shrinkage, common framing timber set on edge cannot be used as blocking or rim boards. 1.35E Tolko T-TEC LSL blocking panels or other engineered wood products – such as rim board – must be cut to fit between the rafters, and a rafter-compatible depth selected.
17) Provide permanent lateral support for the bottom edge of all rafters at interior supports of multiple-span members. See Table 2 for recommended sheathing attachment with nails.
18) Do not stack construction materials (sheathing, drywall, etc.) in the middle of the rafters.

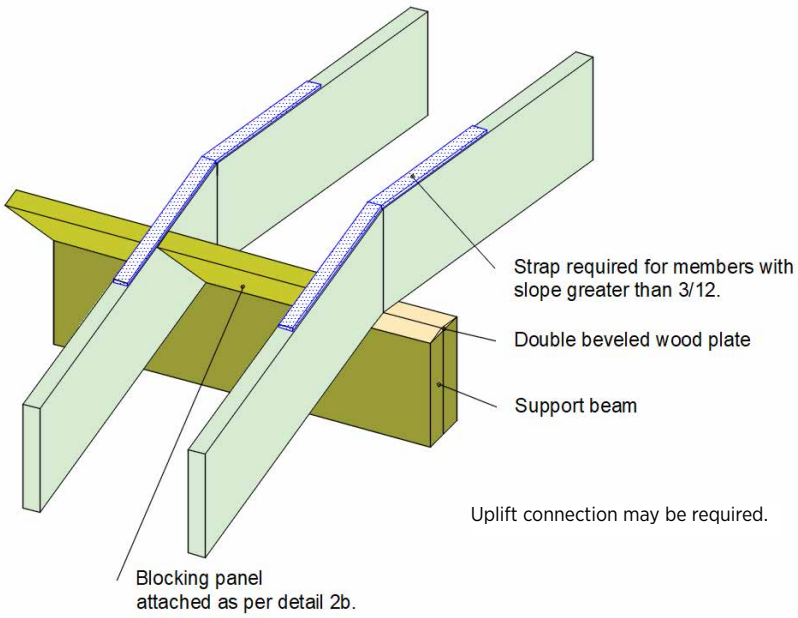
Detail 2a. Ridge Rafter Connection (12/12 maximum roof slope)



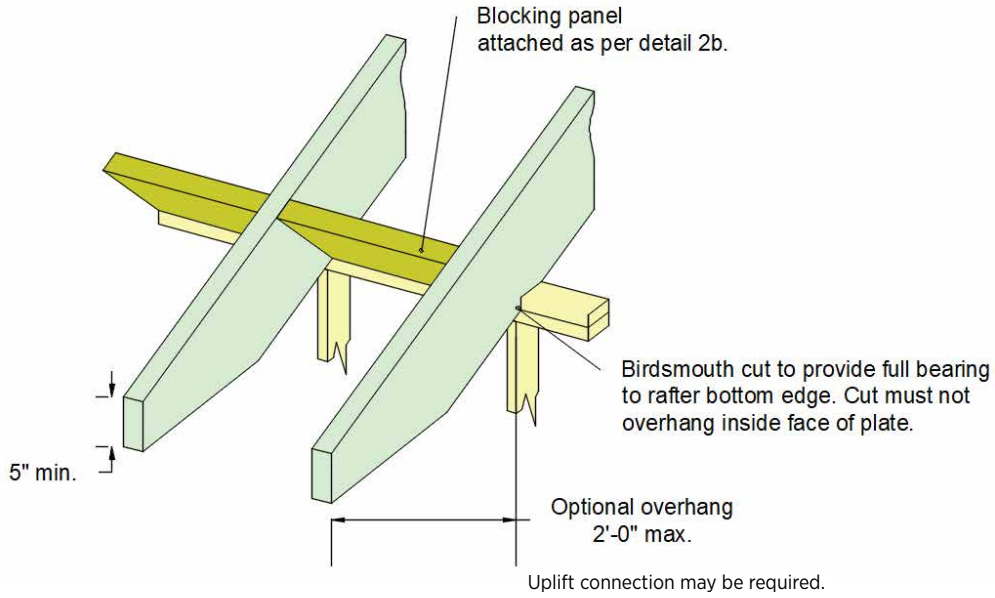
Detail 2b. Rafter Upper End Bearing on Wall



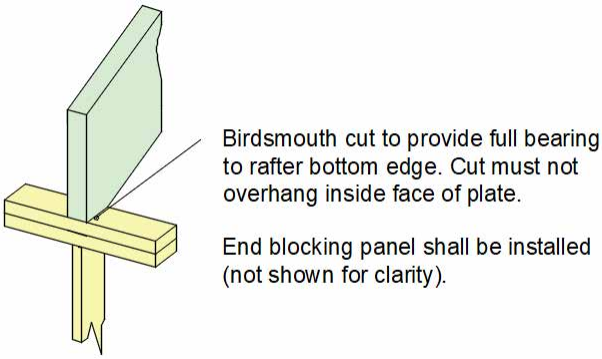
Detail 2c. Rafter Upper End Bearing on Ridge Beam



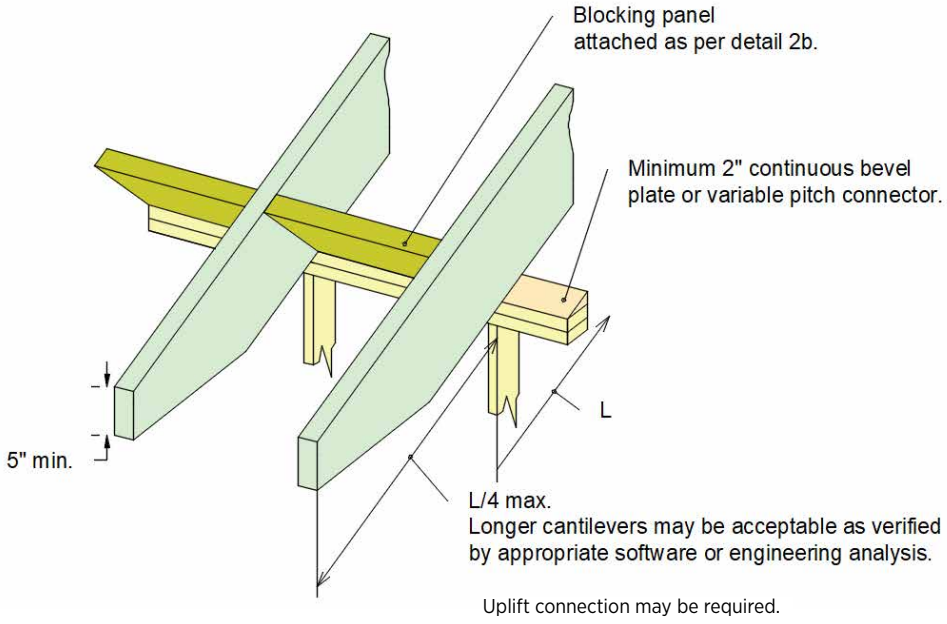
Detail 2d. Rafter Lower End - Birdsmouth Cut - Solid Blocking



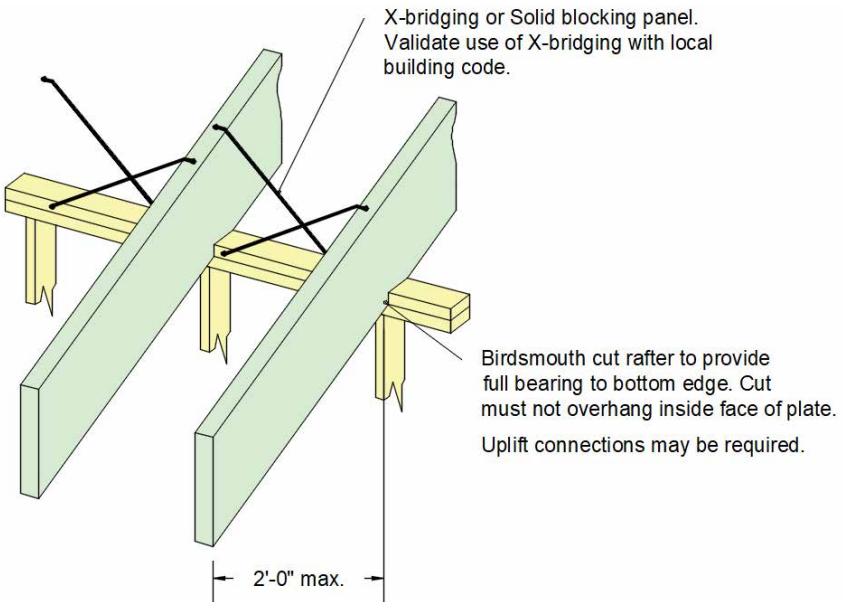
Detail 2d-1. Rafter Lower End - Birdsmouth Cut No Overhang



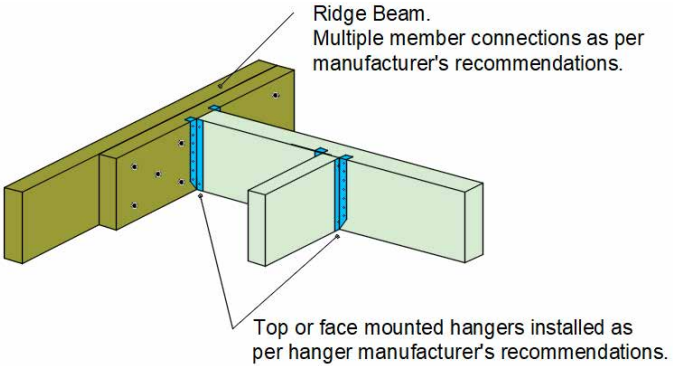
Detail 2e. Rafter Supported by Beveled Plate



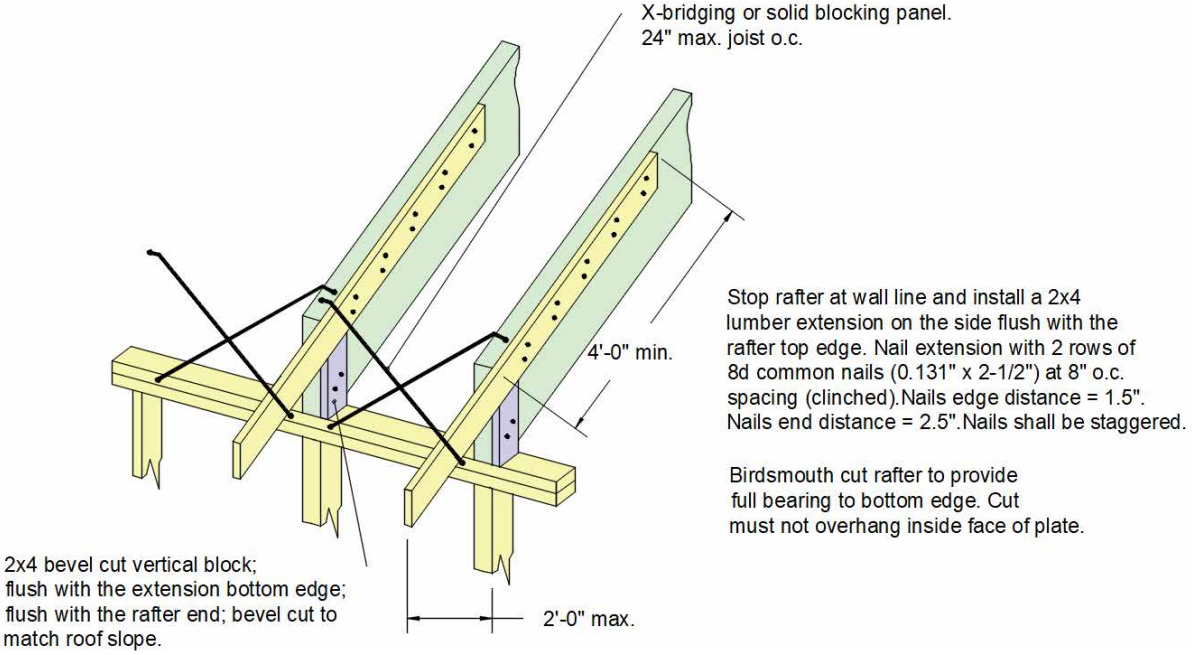
Detail 2f. Rafter Lower End - Birdsmouth Cut - X-Bridging or Solid Blocking



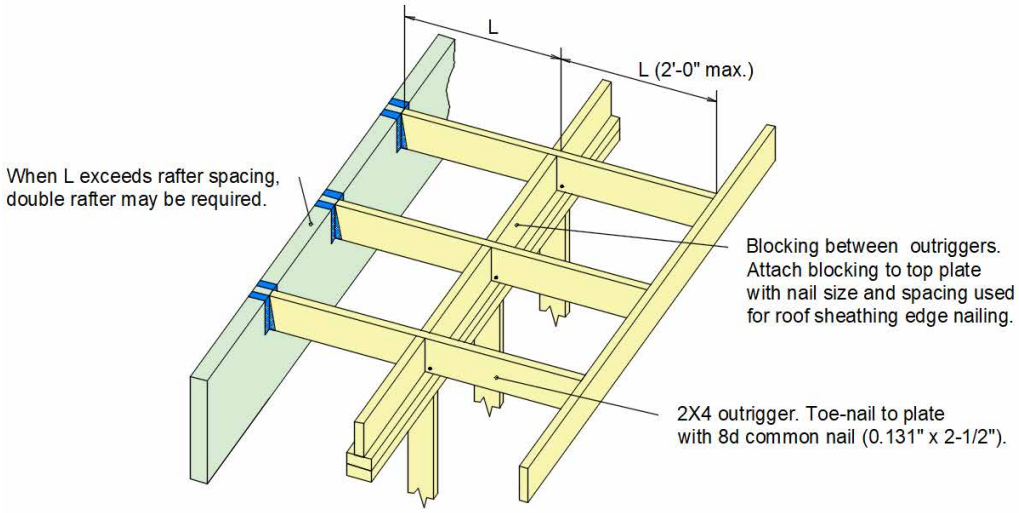
Detail 2g. Roof Openings - Top/Face Mount Hangers



Detail 2h. Optional Overhang Extension

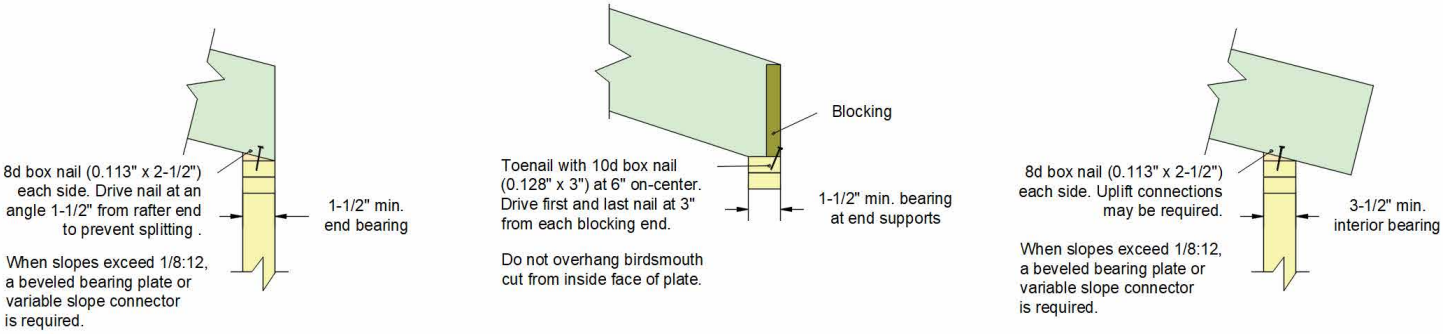


Detail 2i. Overhang Parallel to Rafter



SECTION 10: RAFTER NAILING REQUIREMENTS AT BEARING

FIGURE 5: RAFTER NAILING REQUIREMENTS AT BEARING



SECTION 11: HANGERS SUPPORTING ROOF JOISTS

TABLE 24: HANGERS SUPPORTING ROOF JOISTS

Supplier	Mount Type	Hanger Type	Joist Width (in)	Joist Min. Depth (in)	Joist Max. Depth (in)	Hanger Model	Bearing Length (in)	Header Face Fastener Qty	Header Face Fastener Type	Joist Fastener Qty	Joist Fastener Type	Uplift (lbs) (160)	Hanger Resistance (lbs) (100)
Simpson	Slope Skew	LSU	1.5	5.5	7.25	LSU26	3.5	6	10d	5	10dx1 1/2	830	1255
		LSSU	1.5	7.25	11.875	LSSU28	3.5	10	10d	5	10dx1 1/2	800	3000
		LSSU	1.5	9.25	14	LSSU210	3.5	10	10d	7	10dx1 1/2	1240	3090
		LSSUI	1.75	9.25	14	LSSUI25	3.5	9	10d	7	10dx1 1/2	1240	3090
	Skew 45	SUR	1.5	5.5	7.25	SUR/L26	2	6	16d	6	10dx1 1/2	1255	2130
				9.25	11.875	SUR/L210	2	10	16d	10	10dx1 1/2	2085	3820
				11.25	14	SUR/L214	2	12	16d	12	10dx1 1/2	2690	4585
			1.75	9.25	9.5	SUR/L1.81/9	3	12	16d	2	10dx1 1/2	275	3140
				11.25	11.875	SUR/L1.81/11	3	16	16d	2	10dx1 1/2	275	3140
				13.5	14	SUR/L1.81/14	3	20	16d	2	10dx1 1/2	275	3140
Mitek USP	Slope Skew	LSSH	1.5	5.5	7.25	LSSH15-TZ	3	6	10d HDG	7	10dx1 1/2 HDG	1175	1590
				9.25	14	LSSH210	3	10	10d	7	10dx1 1/2	1695	2685
			1.75	9.25	14	LSSH179	3	10	10d	7	10dx1 1/2	1695	2685
	Skew 45	SKH	1.5	5.5	7.25	SKH26L/R	1.875	6	16d	6	10dx1 1/2	2480	1415
				7.25	11.25	SKH28L/R	1.875	10	16d	8	10dx1 1/2	2480	2325
				9.25	13.25	SKH210L/R	1.875	14	16d	10	10dx1 1/2	2855	2845
		SKHH	1.5	5.5	7.25	SKHH26L/R	3.25	18	16d	12	10dx1 1/2	1615	3040
				7.25	11.25	SKHH28L/R	3.25	26	16d	16	10dx1 1/2	2225	4280
				9.25	14	SKHH210L/R	4.25	34	16d	20	10dx1 1/2	2780	4505
		SKH	1.75	9.25	14	SKH1720L/R	1.875	14	10d	10	10dx1 1/2	2855	3440
				11.25	16	SKH1724L/R	1.875	16	10d	10	10dx1 1/2	2855	4640

Notes:

1) Tabulated values are only valid for headers with a rectangular cross section. When I-joists are used as headers, the hangers capacities are reduced and the Simpson/USP hangers technical guides for I-joists headers shall be followed.
2) The supported member end reaction capacity must be checked to ensure it is not less than the hanger capacity shown in the tables.
3) Uplift loads have been increased for wind loading with no further increase allowed. Reduce the uplift capacity where other loads govern by a factor 1/1.15 = 0.860.
4) Unless otherwise noted screws may not be used to replace nails unless approved and recommended by the Designer/Engineer of Record.
5) Do not overdrive nails. Overdriven nails reduce shear capacity.
6) Install all specified fasteners before loading the connection.
7) Joist shall bear completely on the connector seat, and the gap between the joist end and the header shall not exceed 1/8".
8) Nails: 16d = 0.162" dia. x 3 1.2" long, 10d = 0.148" dia. x 3" long, 10d x 1 1.2" = 0.148" dia. x 1 1.2" long.

SECTION 12: 1.35E TOLKO T-TEC LSL ROOF SPAN CHARTS

TABLE 25: ROOF SPAN CHART: 20 PSF SNOW LOAD, 15 PSF DEAD LOAD

20 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	12'-1"	10'-11"	10'-3"	9'-6"	11'-1"	10'-0"	9'-5"	8'-8"
1.35E LSL, 1.5”x7.25”	16'-1"	14'-6"	13'-8"	12'-8"	14'-8"	13'-4"	12'-6"	11'-7"
1.35E LSL, 1.5”x9.25”	20'-7"	18'-8"	17'-6"	16'-2"	18'-10"	17'-1"	16'-0"	14'-10"
1.35E LSL, 1.5”x9.5”	21'-2"	19'-2"	18'-0"	16'-8"	19'-4"	17'-6"	16'-6"	15'-3"
1.35E LSL, 1.5”x11.25”	25'-1"	22'-9"	21'-4"	19'-9"	23'-0"	20'-10"	19'-7"	18'-1"
1.35E LSL, 1.5”x11.875”	26'-6"	24'-0"	22'-7"	20'-11"	24'-3"	22'-0"	20'-8"	19'-2"
1.35E LSL, 1.5”x14”	31'-4"	28'-5"	26'-8"	23'-4"	28'-8"	26'-0"	24'-5"	21'-0"
1.35E LSL, 1.75”x5.5”	12'-9"	11'-7"	10'-10"	10'-0"	11'-8"	10'-7"	9'-11"	9'-2"
1.35E LSL, 1.75”x7.25”	16'-11"	15'-4"	14'-5"	13'-4"	15'-6"	14'-0"	13'-2"	12'-2"
1.35E LSL, 1.75”x9.25”	21'-8"	19'-8"	18'-6"	17'-1"	19'-10"	18'-0"	16'-11"	15'-8"
1.35E LSL, 1.75”x9.5”	22'-3"	20'-2"	19'-0"	17'-7"	20'-5"	18'-6"	17'-4"	16'-1"
1.35E LSL, 1.75”x11.25”	26'-5"	24'-0"	22'-6"	20'-10"	24'-3"	21'-11"	20'-8"	19'-1"
1.35E LSL, 1.75”x11.875”	27'-11"	25'-4"	23'-9"	22'-0"	25'-7"	23'-2"	21'-9"	20'-2"
1.35E LSL, 1.75”x14”	33'-0"	29'-11"	28'-1"	26'-0"	30'-3"	27'-5"	25'-9"	23'-10"
1.35E LSL, 1.75”x16”	37'-9"	34'-3"	32'-2"	27'-7"	34'-7"	31'-4"	29'-6"	24'-10"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes:

1) Tabulated spans have been designed to meet the NBC and the CSA086 requirements.
2) Tabulated spans are the horizontal clear single or continuous spans. Continuous spans are based on the longest span. The shortest span shall not be less than 40% the longest span.
3) Min. end bearing length is 1-3/4” and 3-1/2” for the interior bearing length.
4) Tabulated spans are only valid for uniform loads as indicated for each table and the 300 lbs moving live load.
5) These spans have not been evaluated for wind.
6) Minimum roof slope of 1/4: 12.
7) The spans are limited to the bearing capacity for an SPF wall plate ($F_{c\perp}$ = 769 psi - specified strength).
8) Continuous lateral support must be provided on the compression top and bottom edges.
9) Lateral support must be provided at all bearing locations to prevent lateral displacement and rotation.
10) Rafters must be properly supported at the upper end. A ridge board is not an adequate bearing support.

TABLE 26: ROOF SPAN CHART: 25 PSF SNOW LOAD, 15 PSF DEAD LOAD

25 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	11'-2"	10'-1"	9'-6"	8'-9"	10'-4"	9'-4"	8'-9"	8'-1"
1.35E LSL, 1.5”x7.25”	14'-10"	13'-5"	12'-8"	11'-8"	13'-9"	12'-5"	11'-8"	10'-10"
1.35E LSL, 1.5”x9.25”	19'-1"	17'-3"	16'-2"	15'-0"	17'-7"	16'-0"	15'-0"	13'-11"
1.35E LSL, 1.5”x9.5”	19'-7"	17'-9"	16'-8"	15'-5"	18'-1"	16'-5"	15'-5"	14'-3"
1.35E LSL, 1.5”x11.25”	23'-3"	21'-1"	19'-9"	18'-4"	21'-6"	19'-6"	18'-4"	16'-11"
1.35E LSL, 1.5”x11.875”	24'-7"	22'-3"	20'-11"	19'-4"	22'-9"	20'-7"	19'-4"	17'-11"
1.35E LSL, 1.5”x14”	29'-0"	26'-4"	24'-8"	20'-4"	26'-10"	24'-4"	22'-10"	18'-6"
1.35E LSL, 1.75”x5.5”	11'-10"	10'-8"	10'-0"	9'-3"	10'-11"	9'-11"	9'-3"	8'-7"
1.35E LSL, 1.75”x7.25”	15'-8"	14'-2"	13'-4"	12'-4"	14'-6"	13'-1"	12'-4"	11'-5"
1.35E LSL, 1.75”x9.25”	20'-1"	18'-2"	17'-1"	15'-10"	18'-7"	16'-10"	15'-10"	14'-8"
1.35E LSL, 1.75”x9.5”	20'-8"	18'-8"	17'-7"	16'-3"	19'-1"	17'-4"	16'-3"	15'-1"
1.35E LSL, 1.75”x11.25”	24'-6"	22'-3"	20'-10"	19'-4"	22'-8"	20'-7"	19'-4"	17'-11"
1.35E LSL, 1.75”x11.875”	25'-11"	23'-6"	22'-0"	20'-5"	23'-11"	21'-9"	20'-5"	18'-11"
1.35E LSL, 1.75”x14”	30'-7"	27'-9"	26'-0"	24'-0"	28'-4"	25'-8"	24'-1"	21'-11"
1.35E LSL, 1.75”x16”	35'-0"	31'-9"	29'-10"	24'-0"	32'-5"	29'-4"	27'-5"	21'-11"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 25.*

TABLE 27: ROOF SPAN CHART: 30 PSF SNOW LOAD, 15 PSF DEAD LOAD

30 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	10'-6"	9'-6"	8'-11"	8'-3"	9'-9"	8'-9"	8'-3"	7'-7"
1.35E LSL, 1.5”x7.25”	13'-11"	12'-8"	11'-10"	10'-11"	12'-11"	11'-8"	11'-0"	10'-2"
1.35E LSL, 1.5”x9.25”	17'-11"	16'-2"	15'-3"	14'-1"	16'-7"	15'-0"	14'-1"	13'-0"
1.35E LSL, 1.5”x9.5”	18'-5"	16'-8"	15'-8"	14'-6"	17'-0"	15'-5"	14'-6"	13'-5"
1.35E LSL, 1.5”x11.25”	21'-10"	19'-9"	18'-7"	17'-2"	20'-3"	18'-4"	17'-2"	15'-11"
1.35E LSL, 1.5”x11.875”	23'-1"	20'-11"	19'-7"	18'-0"	21'-4"	19'-4"	18'-2"	16'-7"
1.35E LSL, 1.5”x14”	27'-3"	24'-8"	22'-7"	18'-0"	25'-3"	22'-10"	20'-9"	16'-7"
1.35E LSL, 1.75”x5.5”	11'-1"	10'-0"	9'-5"	8'-8"	10'-3"	9'-3"	8'-8"	8'-0"
1.35E LSL, 1.75”x7.25”	14'-9"	13'-4"	12'-6"	11'-7"	13'-7"	12'-4"	11'-7"	10'-8"
1.35E LSL, 1.75”x9.25”	18'-10"	17'-1"	16'-1"	14'-10"	17'-5"	15'-10"	14'-10"	13'-9"
1.35E LSL, 1.75”x9.5”	19'-5"	17'-7"	16'-6"	15'-3"	17'-11"	16'-3"	15'-3"	14'-2"
1.35E LSL, 1.75”x11.25”	23'-0"	20'-10"	19'-7"	18'-2"	21'-4"	19'-4"	18'-2"	16'-10"
1.35E LSL, 1.75”x11.875”	24'-4"	22'-0"	20'-8"	19'-2"	22'-6"	20'-5"	19'-2"	17'-9"
1.35E LSL, 1.75”x14”	28'-9"	26'-0"	24'-6"	21'-3"	26'-7"	24'-1"	22'-8"	19'-7"
1.35E LSL, 1.75”x16”	32'-11"	29'-10"	26'-7"	21'-3"	30'-5"	27'-7"	24'-6"	19'-7"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 25.*

TABLE 28: ROOF SPAN CHART: 40 PSF SNOW LOAD, 15 PSF DEAD LOAD

40 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	9'-6"	8'-7"	8'-1"	7'-5"	8'-9"	7'-11"	7'-5"	6'-10"
1.35E LSL, 1.5”x7.25”	12'-8"	11'-5"	10'-9"	9'-11"	11'-8"	10'-7"	9'-11"	9'-2"
1.35E LSL, 1.5”x9.25”	16'-2"	14'-8"	13'-9"	12'-9"	15'-0"	13'-7"	12'-9"	11'-9"
1.35E LSL, 1.5”x9.5”	16'-8"	15'-1"	14'-2"	13'-1"	15'-5"	13'-11"	13'-1"	12'-1"
1.35E LSL, 1.5”x11.25”	19'-9"	17'-11"	16'-10"	14'-7"	18'-4"	16'-7"	15'-7"	13'-7"
1.35E LSL, 1.5”x11.875”	20'-11"	18'-11"	17'-9"	14'-7"	19'-4"	17'-6"	16'-5"	13'-7"
1.35E LSL, 1.5”x14”	24'-8"	22'-0"	18'-4"	14'-7"	22'-10"	20'-7"	17'-1"	13'-7"
1.35E LSL, 1.75”x5.5”	10'-0"	9'-1"	8'-6"	7'-10"	9'-3"	8'-5"	7'-10"	7'-3"
1.35E LSL, 1.75”x7.25”	13'-4"	12'-1"	11'-4"	10'-5"	12'-4"	11'-2"	10'-6"	9'-8"
1.35E LSL, 1.75”x9.25”	17'-1"	15'-6"	14'-6"	13'-5"	15'-10"	14'-4"	13'-5"	12'-5"
1.35E LSL, 1.75”x9.5”	17'-7"	15'-11"	14'-11"	13'-10"	16'-3"	14'-9"	13'-10"	12'-9"
1.35E LSL, 1.75”x11.25”	20'-10"	18'-11"	17'-9"	16'-5"	19'-4"	17'-6"	16'-5"	15'-2"
1.35E LSL, 1.75”x11.875”	22'-0"	19'-11"	18'-9"	17'-3"	20'-5"	18'-6"	17'-4"	16'-1"
1.35E LSL, 1.75”x14”	26'-0"	23'-7"	21'-8"	17'-3"	24'-1"	21'-10"	20'-3"	16'-1"
1.35E LSL, 1.75”x16”	29'-10"	26'-0"	21'-8"	17'-3"	27'-7"	24'-4"	20'-3"	16'-1"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 25.*

TABLE 29: ROOF SPAN CHART: 50 PSF SNOW LOAD, 15 PSF DEAD LOAD

50 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	8'-9"	7'-11"	7'-5"	6'-10"	8'-1"	7'-4"	6'-10"	6'-4"
1.35E LSL, 1.5”x7.25”	11'-8"	10'-7"	9'-11"	9'-2"	10'-10"	9'-9"	9'-2"	8'-6"
1.35E LSL, 1.5”x9.25”	15'-0"	13'-7"	12'-9"	11'-9"	13'-11"	12'-7"	11'-9"	10'-11"
1.35E LSL, 1.5”x9.5”	15'-5"	13'-11"	13'-1"	12'-1"	14'-3"	12'-11"	12'-1"	11'-2"
1.35E LSL, 1.5”x11.25”	18'-4"	16'-7"	15'-5"	12'-3"	16'-11"	15'-4"	14'-5"	11'-7"
1.35E LSL, 1.5”x11.875”	19'-4"	17'-6"	15'-5"	12'-3"	17'-11"	16'-3"	14'-6"	11'-7"
1.35E LSL, 1.5”x14”	22'-10"	18'-6"	15'-5"	12'-3"	21'-2"	17'-6"	14'-6"	11'-7"
1.35E LSL, 1.75”x5.5”	9'-3"	8'-5"	7'-10"	7'-3"	8'-7"	7'-9"	7'-3"	6'-8"
1.35E LSL, 1.75”x7.25”	12'-4"	11'-2"	10'-5"	9'-8"	11'-5"	10'-4"	9'-8"	8'-11"
1.35E LSL, 1.75”x9.25”	15'-10"	14'-4"	13'-5"	12'-5"	14'-8"	13'-3"	12'-5"	11'-6"
1.35E LSL, 1.75”x9.5”	16'-3"	14'-9"	13'-10"	12'-9"	15'-1"	13'-7"	12'-9"	11'-10"
1.35E LSL, 1.75”x11.25”	19'-4"	17'-6"	16'-5"	14'-6"	17'-11"	16'-2"	15'-2"	13'-8"
1.35E LSL, 1.75”x11.875”	20'-5"	18'-6"	17'-4"	14'-6"	18'-11"	17'-1"	16'-1"	13'-8"
1.35E LSL, 1.75”x14”	24'-1"	21'-10"	18'-2"	14'-6"	22'-4"	20'-3"	17'-2"	13'-8"
1.35E LSL, 1.75”x16”	27'-7"	21'-11"	18'-2"	14'-6"	25'-7"	20'-8"	17'-2"	13'-8"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 25.*

TABLE 30: ROOF SPAN CHART: 60 PSF SNOW LOAD, 15 PSF DEAD LOAD

60 (psf) Snow Load; 15 (psf) **Dead Load** Live Load Deflection = L/360; Total Load Deflection = L/180								
Joist Series	Roof Slope ≤ 6/12 Span On Center Spacing				6/12 < Roof Slope ≤ 12/12 Span On Center Spacing			
	12”	16”	19.2”	24”	12”	16”	19.2”	24”
1.35E LSL, 1.5”x5.5”	8'-3"	7'-5"	7'-0"	6'-5"	7'-7"	6'-10"	6'-5"	5'-11"
1.35E LSL, 1.5”x7.25”	10'-11"	9'-11"	9'-3"	8'-7"	10'-2"	9'-2"	8'-7"	7'-11"
1.35E LSL, 1.5”x9.25”	14'-1"	12'-9"	11'-11"	10'-7"	13'-0"	11'-9"	11'-1"	10'-0"
1.35E LSL, 1.5”x9.5”	14'-6"	13'-1"	12'-3"	10'-7"	13'-5"	12'-1"	11'-4"	10'-0"
1.35E LSL, 1.5”x11.25”	17'-2"	15'-7"	13'-3"	10'-7"	15'-11"	14'-5"	12'-7"	10'-0"
1.35E LSL, 1.5”x11.875”	18'-2"	16'-0"	13'-3"	10'-7"	16'-10"	15'-2"	12'-7"	10'-0"
1.35E LSL, 1.5”x14”	21'-5"	16'-0"	13'-3"	10'-7"	19'-11"	15'-2"	12'-7"	10'-0"
1.35E LSL, 1.75”x5.5”	8'-8"	7'-10"	7'-4"	6'-9"	8'-0"	7'-3"	6'-10"	6'-3"
1.35E LSL, 1.75”x7.25”	11'-7"	10'-5"	9'-10"	9'-1"	10'-8"	9'-8"	9'-1"	8'-5"
1.35E LSL, 1.75”x9.25”	14'-10"	13'-5"	12'-7"	11'-8"	13'-9"	12'-5"	11'-8"	10'-10"
1.35E LSL, 1.75”x9.5”	15'-3"	13'-10"	12'-11"	12'-0"	14'-2"	12'-9"	12'-0"	11'-1"
1.35E LSL, 1.75”x11.25”	18'-2"	16'-5"	15'-5"	12'-6"	16'-10"	15'-2"	14'-3"	11'-10"
1.35E LSL, 1.75”x11.875”	19'-2"	17'-4"	15'-8"	12'-6"	17'-9"	16'-1"	14'-11"	11'-10"
1.35E LSL, 1.75”x14”	22'-8"	18'-11"	15'-8"	12'-6"	21'-0"	18'-0"	14'-11"	11'-10"
1.35E LSL, 1.75”x16”	25'-4"	18'-11"	15'-8"	12'-6"	24'-0"	18'-0"	14'-11"	11'-10"

For lengths exceeding 24', contact Tolko Marketing and Sales to confirm availability.

Notes: *Refer to notes from Table 25.*

SECTION 13: 1.35E TOLKO T-TEC LSL ROOF LOAD TABLES

TABLE 31: ROOF JOIST UNIFORM PLF LOAD TABLE - 1.35E TOLKO T-TEC LSL 1-1/2" WIDTH (ROOF SLOPE ≤ 6/12)

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - Roof Slope ≤ 6/12														
			8			10			12			14			16		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-1/2	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi															
		5.5	83	108	209	43	55	133	25	31	91						
		7.25	185	243	288	97	126	224	57	73	154	36	45	112			
		9.25	-	-	288	212	-	230	116	151	192	74	95	165	50	62	135
		9.5	-	-	288	212	-	230	126	163	192	80	103	165	54	68	142
		11.25	-	-	288	-	-	230	-	-	192	131	-	165	89	113	144
		11.875	-	-	288	-	-	230	-	-	192	153	-	165	104	133	144
		14	-	-	288	-	-	230	-	-	192	-	-	165	-	-	144
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi															
		5.5	83	108	209	43	55	133	25	31	91						
		7.25	185	243	352	97	126	224	57	73	154	36	45	112			
		9.25	369	-	467	212	278	373	116	151	245	74	95	178	50	62	135
		9.5	398	-	467	212	278	373	126	163	258	80	103	188	54	68	142
		11.25	-	-	467	342	-	374	204	267	312	131	170	259	89	113	197
		11.875	-	-	467	-	-	374	238	-	312	153	199	267	104	133	218
		14	-	-	467	-	-	374	-	-	312	246	-	267	168	217	234

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - Roof Slope ≤ 6/12											
			18			20			22			24		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-1/2	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi												
		5.5												
		7.25												
		9.25	35	43	106	26	30	84						
		9.5	38	47	111	28	33	89						
		11.25	63	79	128	46	56	115	35	41	101	27	31	83
		11.875	74	93	128	54	67	115	41	49	105	32	37	93
		14	120	-	128	88	111	115	67	82	105	52	62	96
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi												
		5.5												
		7.25												
		9.25	35	43	106	26	30	84						
		9.5	38	47	111	28	33	89						
		11.25	63	79	154	46	56	123	35	41	101	27	31	83
		11.875	74	93	171	54	67	137	41	49	112	32	37	93
		14	120	153	208	88	111	187	67	82	154	52	62	128

Notes:

1) Joist span is the horizontal clear distance between supports and is valid for simple or continuous span applications.
2) The allowable load represents the capacity in pounds per lineal foot (plf) of length.
3) Tabulated values are valid for uniform loads only.
4) Minimum **end bearing of 1-3/4"**, and minimum **interior bearing of 3-1/2"**.
5) Deflection of **L/240** for the live load and **L/180** for the total load.
6) Tabulated values assume full lateral support on the compression edge. Full support is considered to be a maximum unbraced length of 24".
7) Tabulated values are valid for dry service conditions, where the moisture content in service does not exceed 15 percent over a year and does not exceed 19% at any time as in most covered structures.
8) Both unfactored and factored loads shall be checked.

How to use this table:

1) Unfactored and factored loads shall be checked.
2) Joist weight shall be included in the total load.
3) Select the appropriate Horizontal Clear Span.
4) Scan vertically to find the proper thickness and depth with the capacities that exceed the actual unfactored and factored loads.
5) Verify the min. end bearing length of 1-3/4" and min. interior bearing length of 3-1/2".
6) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 32: ROOF JOIST UNIFORM PLF LOAD TABLE - 1.35E TOLKO T-TEC LSL 1-1/2" WIDTH (6/12 < ROOF SLOPE ≤ 12/12)

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - 6/12 < Roof Slope ≤ 12/12														
			8			10			12			14			16		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-1/2	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi															
		5.5	42	53	128												
		7.25	94	121	217	49	62	137	28	35	93						
		9.25	190	-	228	108	139	182	58	74	149	37	45	108			
		9.5	205	-	228	108	139	182	63	80	152	40	49	113	27	32	85
		11.25	-	-	228	175	-	182	104	133	152	66	83	130	45	54	114
		11.875	-	-	228	-	-	182	121	-	152	77	98	130	52	64	114
		14	-	-	228	-	-	182	-	-	152	125	-	130	85	107	114
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi															
		5.5	42	53	128												
		7.25	94	121	217	49	62	137	28	35	93						
		9.25	190	248	345	108	139	229	58	74	149	37	45	108			
		9.5	205	268	363	108	139	229	63	80	157	40	49	113	27	32	85
		11.25	331	-	369	175	229	296	104	133	217	66	83	157	45	54	118
		11.875	-	-	369	205	268	296	121	156	241	77	98	174	52	64	131
		14	-	-	369	-	-	296	195	-	246	125	160	211	85	107	180

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - 6/12 < Roof Slope ≤ 12/12											
			18			20			22			24		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-1/2	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi												
		5.5												
		7.25												
		9.25												
		9.5												
		11.25	32	37	91	23	25	72						
		11.875	37	44	101	27	31	81						
		14	60	74	101	44	52	91	33	38	83			
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi												
		5.5												
		7.25												
		9.25												
		9.5												
		11.25	32	37	91									
		11.875	37	44	102	27	31	81						
		14	60	74	140	44	52	111	33	38	90			

Notes: *Refer to notes from Table 31.*

TABLE 33: ROOF JOIST UNIFORM PLF LOAD TABLE - 1.35E TOLKO T-TEC LSL 1-3/4" WIDTH (ROOF SLOPE ≤ 6/12)

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - Roof Slope ≤ 6/12														
			8			10			12			14			16		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-3/4	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi															
		5.5	97	126	244	50	64	155	29	36	106						
		7.25	216	284	336	113	147	261	66	85	180	42	52	131	28	34	99
		9.25	-	-	336	247	-	269	136	176	224	87	110	192	59	73	158
		9.5	-	-	336	247	-	269	146	190	224	94	120	192	63	79	166
		11.25	-	-	336	-	-	269	-	-	224	153	-	192	104	132	168
		11.875	-	-	336	-	-	269	-	-	224	179	-	192	122	156	168
		14	-	-	336	-	-	269	-	-	224	-	-	192	-	-	168
		16	-	-	336	-	-	269	-	-	224	-	-	192	-	-	168
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi															
		5.5	97	126	244	50	64	155	29	36	106						
		7.25	216	284	411	113	147	261	66	85	180	42	52	131	28	34	99
		9.25	431	-	545	247	325	436	136	176	286	87	110	208	59	73	158
		9.5	464	-	545	247	325	436	146	190	301	94	120	219	63	79	166
		11.25	-	-	545	399	-	436	238	312	364	153	198	302	104	132	229
		11.875	-	-	545	-	-	436	278	-	364	179	232	312	122	156	254
		14	-	-	545	-	-	436	-	-	364	287	-	312	196	253	273
		16	-	-	545	-	-	436	-	-	364	-	-	312	-	-	273

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - Roof Slope ≤ 6/12											
			18			20			22			24		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-3/4	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi												
		5.5												
		7.25												
		9.25	41	50	123	30	35	99						
		9.5	45	54	130	33	38	104						
		11.25	74	92	150	54	66	135	41	48	117	32	36	97
		11.875	86	109	150	63	78	135	48	57	122	37	43	108
		14	139	-	150	103	129	135	78	96	122	60	73	112
		16	-	-	150	-	-	135	115	-	122	89	110	112
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi												
		5.5												
		7.25												
		9.25	41	50	123	30	35	99						
		9.5	45	54	130	33	38	104						
		11.25	74	92	180	54	66	144	41	48	117	32	36	97
		11.875	86	109	199	63	78	160	48	57	130	37	43	108
		14	139	178	243	103	129	218	78	96	179	60	73	149
		16	205	-	243	151	193	218	115	144	199	89	110	182

Notes: *Refer to notes from Table 31.*

TABLE 34: ROOF JOIST UNIFORM PLF LOAD TABLE - 1.35E TOLKO T-TEC LSL 1-3/4" WIDTH (6/12 < ROOF SLOPE ≤ 12/12)

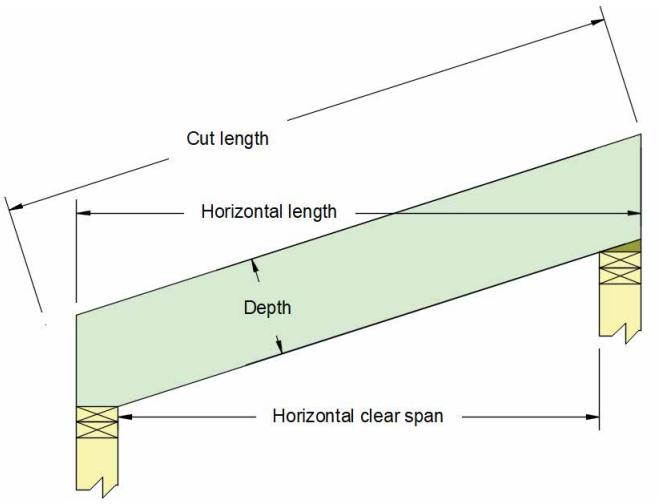
Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - 6/12 < Roof Slope ≤ 12/12														
			8			10			12			14			16		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-3/4	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi															
		5.5	49	62	150	25	30	94									
		7.25	109	142	253	57	72	160	33	40	109						
		9.25	221	-	265	126	162	212	68	86	174	43	53	126	29	34	94
		9.5	239	-	265	126	162	212	74	93	177	47	57	132	32	37	99
		11.25	-	-	265	205	-	212	121	155	177	77	97	152	52	63	133
		11.875	-	-	265	-	-	212	141	-	177	90	114	152	61	75	133
		14	-	-	265	-	-	212	-	-	177	146	-	152	99	124	133
		16	-	-	265	-	-	212	-	-	177	-	-	152	-	-	133
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi															
		5.5	49	62	150	25	30	94									
		7.25	109	142	253	57	72	160	33	40	109						
		9.25	221	290	402	126	162	268	68	86	174	43	53	126	29	34	94
		9.5	239	313	423	126	162	268	74	93	183	47	57	132	32	37	99
		11.25	386	-	431	205	267	345	121	155	253	77	97	183	52	63	138
		11.875	-	-	431	239	312	345	141	182	281	90	114	203	61	75	153
		14	-	-	431	-	-	345	227	-	287	146	187	246	99	124	211
		16	-	-	431	-	-	345	-	-	287	215	-	246	146	186	216

Product Grade	Member Thickness (in)	Depth (in)	Roof Joist Horizontal Clear Span (ft) - 6/12 < Roof Slope ≤ 12/12											
			18			20			22			24		
			Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load	Unfactored Deflection Resistance		Factored Total Load
			Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
1.35E T-TEC LSL	1-3/4	Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the SPF Plate = 769 psi												
		5.5												
		7.25												
		9.25												
		9.5												
		11.25	37	43	107	27	30	84						
		11.875	43	51	118	32	36	94						
		14	70	86	118	51	61	106	39	44	97	30	32	86
		16	104	-	118	76	93	106	58	68	97	45	51	89
		Limited to the Specified Compression Strength Perpendicular to Grain (Plank) for the 1.35E T-TEC LSL Plate = 1250 psi												
		5.5												
		7.25												
		9.25												
		9.5												
		11.25	37	43	107	27	30	84						
		11.875	43	51	119	32	36	94						
		14	70	86	164	51	61	130	39	44	105	30	32	86
		16	104	130	192	76	93	169	58	68	137	45	51	113

Notes: *Refer to notes from Table 31.*

SECTION 14: RAFTER CUT LENGTH

FIGURE 6: RAFTER CUT LENGTH



Cut length = (Horizontal length × A) + (Depth/12 × B)

Where:
Cut length (ft)
Horizontal length (ft)
Depth (in)
A, B – cut length factors from Table 35

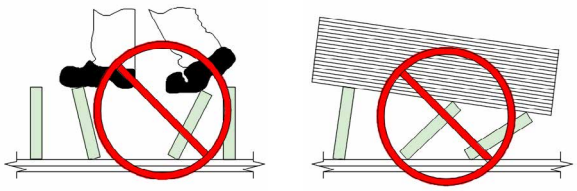
TABLE 35: CUT LENGTH FACTORS

Cut length factors	Slope																						
	1/12	1.5/12	2/12	2.5/12	3/12	3.5/12	4/12	4.5/12	5/12	5.5/12	6/12	6.5/12	7/12	7.5/12	8/12	8.5/12	9/12	9.5/12	10/12	10.5/12	11/12	11.5/12	12/12
A	1.003	1.008	1.014	1.021	1.031	1.042	1.054	1.068	1.083	1.100	1.118	1.137	1.158	1.179	1.202	1.225	1.250	1.275	1.302	1.329	1.357	1.385	1.414
B	0.083	0.125	0.167	0.208	0.250	0.292	0.333	0.375	0.417	0.458	0.500	0.542	0.583	0.625	0.667	0.708	0.750	0.792	0.833	0.875	0.917	0.958	1.000

SECTION 15: WARNINGS

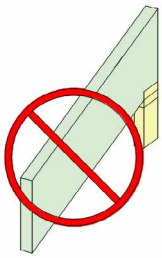
WARNING 1:

Do not walk/stack on unbraced joists.



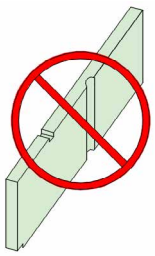
WARNING 2:

Do not overhang birdsmouth cut from inside face of plate.



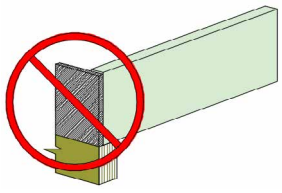
WARNING 3:

Do not cut or notch.



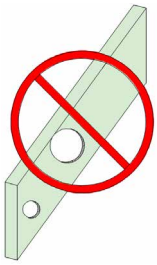
WARNING 4:

Do not use sawn lumber for rim board or blocking as it may shrink after installation. Only use Tolko Rim Board or T-TEC LSL Rim Board.



WARNING 5:

Do not cut holes which are not in compliance with the allowable hole charts.



SECTION 16: STORAGE AND HANDLING

INTRODUCTION

Proper storage and handling of engineered wood products (EWP) including T-TEC LSL and Tolko LSL Industrials is required to protect the products during distribution and at the jobsite. APA – The Engineered Wood Association recommends the following storage and handling practices for EWP products. For full details on proper storage and handling, refer to *APA Technical Note: Proper Storage and Handling of I-Joists and LVL, Form E705* available at www.apawood.org.

SAFE HANDLING DURING DISTRIBUTION

1. Bundle wrap can be slippery. Avoid walking on wrapped bundles. Stacks of product may be unstable or slippery, especially when wet. Avoid walking on the material.
2. Follow good forklift safety procedures when handling T-TEC LSL and Tolko LSL Industrials at the yard.
3. Store longest material lowest to the ground.
4. When handling with a crane, pick up the load using a spreader if necessary to minimize handling stresses.
5. Post and follow load limits on storage racks.

STORAGE DURING DISTRIBUTION

1. Keep wrapped to protect from weather.
2. Use stickers to separate bundles.
3. Use stickers every 8 feet and maintain vertical alignment of the stickers.
4. Do not store T-TEC LSL and Tolko LSL Industrials in direct contact with the ground.
5. For optimal moisture protection, keep at least 12 inches up from the ground.
6. To protect from dirt and weather, delay unwrapping the bundles until the time of the installation or cut-up for delivery.
7. Take care to avoid forklift damage. If the ground is unlevel in the storage area, reduce forklift speed to avoid “bouncing” the load.
8. When handling with a crane, pick up the load using a spreader if necessary to minimize handling stresses.
9. Maintain stack height within safe limits.
10. Do not stack other material on top of T-TEC LSL and Tolko LSL Industrials.

PROPER HANDLING AT THE JOBSITE

1. Do not drop the product off the delivery truck. Best practice is to use a forklift or boom.
2. Store on level, well-drained area.
3. Keep on stickers spaced every 8’ and at least every 6” off the ground at the jobsite.
4. Keep material covered to protect from weather.
5. Do not stack other material on top of the product.
6. Never use or try to repair damaged products. If defective material is discovered prior to or during installation, cease installation and contact the supplier.

MOISTURE EFFECTS

T-TEC LSL and Tolko LSL Industrials products are manufactured under carefully controlled conditions that assure they are dry. Moisture content can be affected by humidity, exposure to wetting and drying conditions. While T-TEC LSL and Tolko LSL Industrials products are engineered to withstand normal exposure, excessive exposure to moisture may lead to dimensional change.

If moisture is present, mold, mildew and wood decay fungi may grow on any engineered wood products, thus it is important to properly store T-TEC LSL and Tolko LSL Industrials to control exposure to moisture. Moisture increase is expected under normal construction situations and does not adversely affect the performance of the products if good building practices are followed to minimize exposure and to provide proper conditions for the products to re-equilibrate to dry conditions.

Reference: *APA Technical Note: Proper Storage and Handling of I-Joists and LVL, Form E705* available at www.apawood.org.

CSD SOFTWARE

Calculated Structured Designs Inc. (CSD®) is a software development company providing solutions for the engineered wood, engineering, design, and building industries for all of North America and Australia.

Building with the most recent cutting edge development tools, CSD® offers solutions for our industry leading designers, drafters, engineers, and builders.

Website: csdsoftware.com/csd/software/

DRAW

- Multiple input styles for quick and easy drawing
- Real Time 3D feedback
- Create realistic model the way it will be built
- Draw the way you want. iStruct® will follow
- Robust graphics tools allow custom detailing in the model

DESIGN

- Analyze anytime for quick results and guidance
- Precision load development for accurate designs
- Solution Seeker finds the optimum product solution
- Easily create required engineering reports
- Automatic load distribution analyzes all components at once

BUILD

- Create Flexible and detailed plot layouts
- Add any type of data to your plot
- Integrate customer details and information
- Create dynamic quotes with exports to point of sale systems
- Send materials to automated saw files or create manual cut lists

ACCESS THE CSD SOFTWARE

Tolko offers authorized customers access to engineered wood design software by CSD. This software includes:

isPlan®

A 3D layout and design solution that allows users to model an entire structure with 2D and 3D views. isPlan® develops and transfers gravity loads through the structure and designs the structural members.

isDesign®

A single member sizing solution that allows users to size floor and roof joists, beams and posts by inputting span and load information. Innovative tools allow selection of the most cost effective solution.

isWall®

The first stand alone wall design application that allows users to model a tall wall and run gravity and wind analysis for all the components of the wall.

To become a Tolko authorized user, please contact your Tolko EWP sales representative at:

Phone: 250-549-5311 Email: EWPsales@tolko.com

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