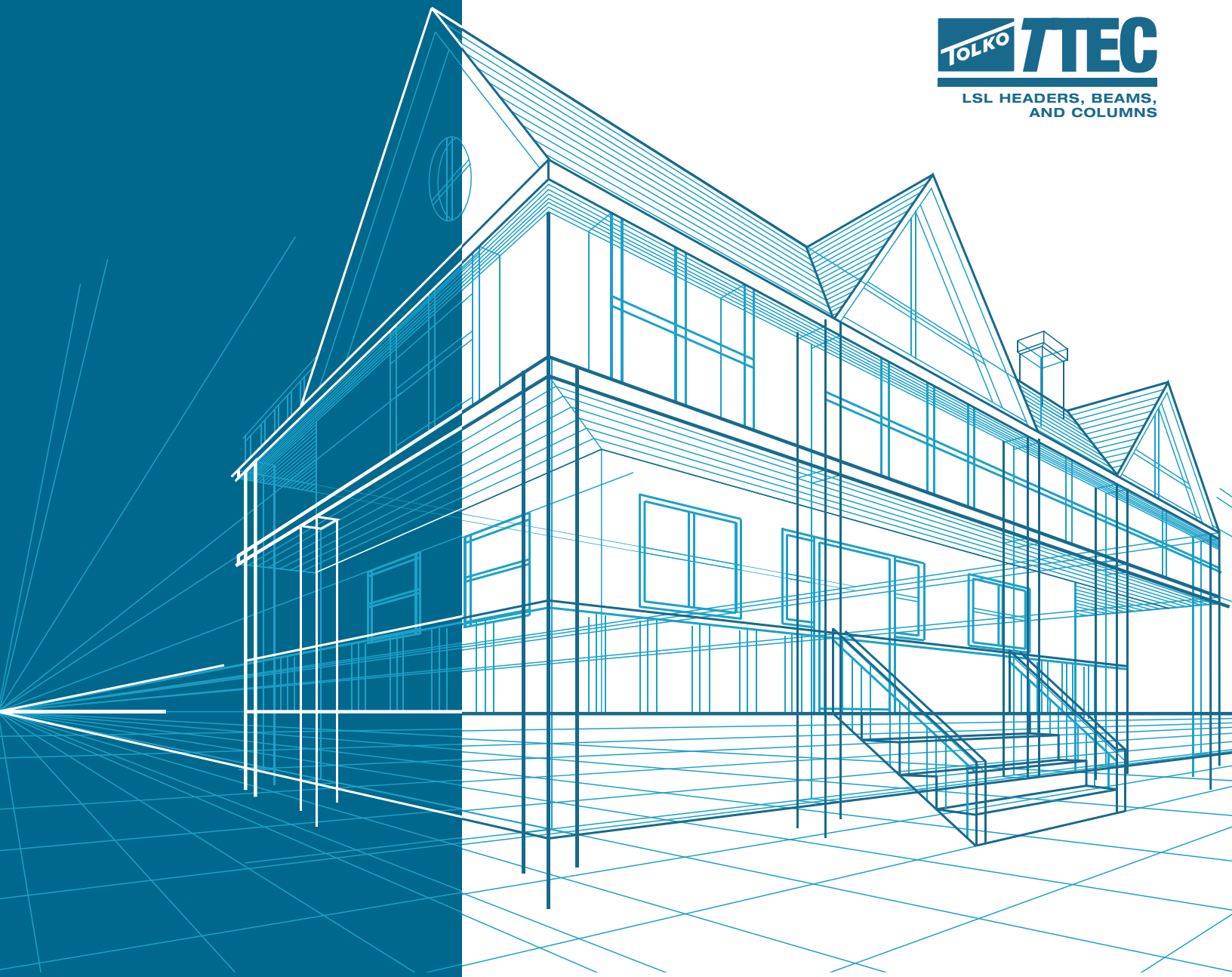
TOLKO

TECHNICAL GUIDE (LSD - CANADA)

T-TEC 1.35E LSL (1-1/2” & 1-3/4”) AND 1.55E LSL (1-1/8”, 1-1/4” & 1-1/2”) HEADERS, BEAMS, AND COLUMNS

TOLKO TTEC
LSL HEADERS, BEAMS, AND COLUMNS



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Tolko Marketing and Sales
3000 – 28th Street
Vernon, BC V1T 9W9
Tel 250.545.4411 – Fax 250.550.2550

LIMIT STATES DESIGN

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WWW.TOLKO.COM

TOLKO HEADERS, BEAMS, AND COLUMNS

Tolko produces T-TEC LSL Headers, Beams, and Columns from laminated strand lumber (LSL). Tolko's Headers, Beams, and Columns offerings are manufactured from highly predictable and uniform engineered wood that is sawn to consistent sizes and resists warping and splitting making them preferred by builders.

TOLKO TTEC
LSL HEADERS, BEAMS, AND COLUMNS

BUILDING WITH CONFIDENCE

T-TEC LSL Headers, Beams, and Columns are engineered for performance and consistency, resulting in a straighter finished product that will not twist, warp, or bend like traditional lumber. T-TEC LSL products are designed to accommodate larger holes and multiple holes without compromising the structural integrity of the product. Produced with a continuous press, these products accommodate longer spans saving time and money for builders.

	T-TEC 1.35E and 1.55E LSL Headers, Beams, and Columns
Thickness[1]	1-1/8", 1-1/2", 1-3/4"
Depths[1]	5-1/2", 7-1/4", 9-1/2", 11-7/8", 14", 16"
Lengths[1]	12', 16', 24'
E-Rating	1.35E, 1.55E
Zinc Borate Protection	Optional

1. For promotional purposes, lengths and widths are the actual sizes.

CONTENTS

DESIGN PROPERTIES EDGEWISE BENDING

TABLE 1: SPECIFIED STRENGHTS, FACTORED RESISTANCES, AND MOE (LIMIT STATES DESIGN) FOR TOLKO LSL[a]

Product Grade	E[e]	Specified Bending Strength, fb[b],[c]	Specified Compression Perp. to Grain, fc⊥_edge	SG Equivalent Specific Gravity [f]	Specified Shear Strength, fv	Width	Depth	Self-weight	Factored Bending Moment Resistance[d]	Factored Shear Resistance	Moment of inertia
	(x 10^6 psi)	(psi)	(psi)		(psi)		(in)	(plf)	(lb-ft)	(lb)	(in^4)
1.55E T-TEC LSL	1.55	4,360	1,640	0.5	845	1-1/8"	5.5	1.9	2,045	3,137	16
							7.25	2.5	3,432	4,135	36
							9.25	3.3	5,420	5,276	74
							9.5	3.3	5,697	5,419	80
							11.25	4.0	7,823	6,417	133
							11.875	4.2	8,657	6,773	157
							14	4.9	11,788	7,985	257
							16	5.6	15,142	9,126	384
					975	1-1/4"	5.5	2.1	2,272	4,022	17
							7.25	2.8	3,814	5,302	40
							9.25	3.6	6,022	6,764	82
							9.5	3.7	6,330	6,947	89
							11.25	4.4	8,692	8,227	148
							11.875	4.6	9,619	8,684	174
							14	5.5	13,098	10,238	286
							16	6.3	16,824	11,700	427
						1-1/2"	5.5	2.6	2,726	4,826	21
							7.25	3.4	4,576	6,362	48
							9.25	4.3	7,226	8,117	99
							9.5	4.5	7,597	8,336	107
							11.25	5.3	10,430	9,872	178
							11.875	5.6	11,543	10,420	209
							14	6.6	15,717	12,285	343
							16	7.5	20,189	14,040	512

Continued on next page

1.35E T-TEC LSL	1.35	3,420	1,370	0.5	580	1-1/2"	5.5	2.6	2,138	2,871	21
							7.25	3.4	3,590	3,785	48
							9.25	4.3	5,668	4,829	99
							9.5	4.5	5,959	4,959	107
							11.25	5.3	8,182	5,873	178
							11.875	5.6	9,054	6,199	209
							14	6.6	12,329	7,308	343
							16	7.5	15,836	8,352	512
						1-3/4"	5.5	3.0	2,495	3,350	24
							7.25	4.0	4,188	4,415	56
							9.25	5.1	6,613	5,633	115
							9.5	5.2	6,952	5,786	125
							11.25	6.2	9,545	6,851	208
							11.875	6.5	10,564	7,232	244
							14	7.7	14,383	8,526	400
							16	8.8	18,476	9,744	597

Highligted depths shall be used in multiple members only.

Notes:

(a) The tabulated values are the specified strengths and modulus of elasticity for standad-term 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% 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) Factored bending moment has been adjusted by the size factor as per (c), but the repetitive factor of 1.04 has not been applied.

(e) The E values are for the apparent modulus of elasticity (MOE) and include the effect of shear deformation.

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

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

where:

δ_T = total deflection (in)

w = applied uniform loads (lbf/ft)

L = design span (ft)

E = modulus of elasticity (lbf/in^2)

b = beam width (in)

h = beam depth (in)

NAILING MINIMUM DISTANCES ON THE EDGE AND FACE

TABLE 2: NAILING MINIMUM DISTANCES ON THE EDGE AND FACE[a]

Product	Thickness (in.)	Orientation[d]	Pennyweight/Type [e, f]	Max. Diameter (in.)	Max. Length (in.)	Min. End Distance (in.)	Minimum Nail Spacing per Row (in.)	
							Single Row	Multiple Rows[b,c,i]
1.55E T-TEC LSL	1-1/8	Edge[g]	8d and smaller	0.131	2-1/2	2	4	Not recommended
			10d; 12d	0.148	3-1/4	2-1/2	5	
			16d	0.162	3-1/2	3	6	
		Face[h]	8d and smaller	0.131	2-1/2	7/8	1	1
			10d; 12d	0.148	3-1/4	7/8	1	1
			16d	0.162	3-1/2	7/8	1-1/2	1-1/2
	1-1/4	Edge[g]	8d and smaller	0.131	2-1/2	2	4	Not recommended
			10d; 12d	0.148	3-1/4	2	4	
			16d	0.162	3-1/2	2-1/2	5	
		Face[h]	8d and smaller	0.131	2-1/2	7/8	1	1
			10d; 12d	0.148	3-1/4	7/8	1	1
			16d	0.162	3-1/2	7/8	1-1/2	1-1/2
	1-1/2	Edge[g]	8d and smaller	0.131	2-1/2	1	2	3
			10d; 12d	0.148	3-1/4	2	3	4
			16d	0.162	3-1/2	2-1/2	3	6
		Face[h]	8d and smaller	0.131	2-1/2	1/2	1	1
			10d; 12d	0.148	3-1/4	1/2	1	1
			16d	0.162	3-1/2	7/8	1-1/2	1-1/2
1.35E T-TEC LSL	1-1/4 ≤ thickness < 1-1/2	Edge[g]	8d and smaller	0.131	2-1/2	2	4	Not recommended
			10d; 12d	0.148	3-1/4	2	4	
			16d	0.162	3-1/2	2-1/2	5	
		Face[h]	8d and smaller	0.131	2-1/2	7/8	1	1
			10d; 12d	0.148	3-1/4	7/8	1	1
			16d	0.162	3-1/2	7/8	1-1/2	1-1/2
	1-1/2 ≤ thickness < 3-1/2	Edge[g]	8d and smaller	0.131	2-1/2	1	2	3
			10d; 12d	0.148	3-1/4	2	3	4
			16d	0.162	3-1/2	2-1/2	3	6
		Face[h]	8d and smaller	0.131	2-1/2	1/2	1	1
			10d; 12d	0.148	3-1/4	1/2	1	1
			16d	0.162	3-1/2	7/8	1-1/2	1-1/2

Notes:

a) Edge distance shall be sufficient to prevent splitting, but not less than permitted in CSAO86.

b) Multiple rows must be spaced 1/2 inch or more from each other and offset one-half of the tabulated minimum nailing spacing, as shown in APA PR-284C Figure 1.

c) Multiple rows must be equally spaced about the centerline of the edge of face (whichever applies).

d) Face orientation applies to nails driven into the face of the member, such that the long axis of the nail is perpendicular to the wide face of the strands. Edge orientation applies to nails driven into the edge of the member.

e) 16d sinker nails (0.148" x 3-1/4") may be spaced the same as the 12d common wire nails (0.14" x 3-1/4").

f) Nails listed are common wire nails. For box nails, the spacing and end distance requirements of the next lower penny weight common nail may be used: e.g. a 16d box nail may be spaced the same as a 10d or 12d common nail.

g) Nail penetration for edge nailing shall not exceed 2 inches for 16d common wire nails (0.162" x 3-1/2") and 2-1/2" for 10d and 12d nails (common or box).

h) Tabulated closest on-center spacing for face orientation is applicable to nails that are installed in rows parallel to the grain (length) of the member. For nails installed in tows perpendicular to the direction of the grain (width/depth) of the member, the closest on-center spacing for face orientation shall be sufficient to prevent splitting of the member.

i) The multiple row end spacing is 1-1/2 inches.

ALLOWABLE PLF LOADS

TABLE 3: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/8" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 1.75"; MIN. INTERIOR BEARING LENGTH = 3.5"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)														
				4			5			6			8			10		
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E T-TEC LSL	1-1/8	1	5.5	560	838	1020	286	428	652	165	246	452	70	103	253			
			7.25			1030	656		823	380	567	686	160	237	426	82	120	271
		2	5.5	1120	1676	2041	573	856	1304	331	493	904	140	206	506	71	103	322
			7.25			2061	1313		1647	760	1135	1372	320	475	852	164	241	543
			9.25			2059			1646			1370	666	992	1025	341	504	819
			9.5			2059			1645			1370	721		1025	369	547	818
			11.25			2057			1644			1368			1024	613		817
			11.875			2057			1643			1368			1023	721		816
			14			2055			1641			1366			1021			814
			16			2053			1640			1364			1019			813
		3	5.5	1680	2514	3094	860	1284	2035	497	740	1411	210	309	790	107	155	503
			7.25			3092	1970		2471	1140	1702	2058	481	713	1329	246	361	847
			9.25			3089			2469			2055	999	1488	1538	511	757	1228
			9.5			3089			2468			2055	1082		1538	554	821	1228
			11.25			3086			2466			2053			1536	920		1225
			11.875			3086			2465			2052			1535	1082		1225
			14			3083			2462			2049			1532			1222
			16			3080			2460			2046			1529			1219
		4	5.5	2240	3352	4126	1146	1712	2714	663	987	1881	280	412	1054	143	207	671
			7.25			4122	2627		3295	1520	2270	2744	641	951	1773	328	482	1130
			9.25			4119			3292			2740	1332	1985	2051	682	1009	1638
			9.5			4119			3291			2740	1443		2051	738	1094	1637
			11.25			4115			3288			2737			2048	1226		1634
			11.875			4114			3287			2736			2046	1443		1633
			14			4111			3283			2732			2043			1629
			16			4107			3280			2729			2039			1626

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Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.55E T-TEC LSL	1-1/8	1	5.5																	
			7.25	47	68	187														
		2	5.5	41	58	222														
			7.25	95	137	375	59	84	274	40	55	208								
			9.25	197	289	594	124	179	434	83	118	330	58	81	259	42	57	208		
			9.5	213	313	625	134	195	457	90	128	347	63	88	273	46	62	219		
			11.25	355	524	679	223	327	580	149	216	479	105	149	376	76	107	303		
			11.875	417	617	678	262	386	580	176	255	506	123	177	417	90	126	336		
			14			676	430		578	288	423	504	202	294	447	147	211	401		
			16			675			576	430		502	302	442	445	220	319	399		
		3	5.5	62	87	347														
			7.25	142	206	585	89	126	427	60	82	325	42	55	255					
			9.25	296	434	927	186	269	678	124	177	516	87	121	405	63	86	326		
			9.5	320	470	975	201	292	713	135	192	543	95	132	426	69	93	343		
			11.25	532	786	1019	335	491	871	224	325	748	157	224	588	115	160	473		
			11.875	626	926	1018	394	579	870	264	383	759	185	265	651	135	190	524		
			14			1015	646		867	432	634	756	304	441	670	221	317	601		
			16			1012			865	646		754	453	663	668	330	479	599		
		4	5.5	82	116	463	52	70	337	35	44	256								
			7.25	190	274	781	119	169	570	80	110	433	56	74	340	41	51	273		
			9.25	394	579	1237	248	359	904	166	236	688	116	162	540	85	114	434		
			9.5	427	627	1300	269	390	951	180	257	724	126	176	568	92	125	457		
			11.25	710	1049	1358	447	654	1161	299	433	997	210	299	784	153	214	631		
			11.875	835	1235	1357	525	772	1160	352	511	1013	247	354	868	180	253	699		
			14			1353	861		1157	577	846	1009	405	588	894	295	423	802		
			16			1350			1153	861		1005	605	885	890	441	639	798		

Design Assumptions

1) Span is the center-to-center distance of 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/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 1-3/4" and the min. interior bearing length of 3-1/2".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 4: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/8" (LIVE LOAD DEFLECTION = L/360; TOTAL-LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 3.5"; MIN. INTERIOR BEARING LENGTH = 5.25"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				4			5			6			8			10				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.55E T-TEC LSL	1-1/8	1	5.5	560	838	1020	286	428	652	165	246	452	70	103	253					
			7.25	1282		1547	656	982	1095	380	567	760	160	237	426	82	120	271		
		2	5.5	1120	1676	2041	573	856	1304	331	493	904	140	206	506	71	103	322		
			7.25	2565		3095	1313	1965	2191	760	1135	1520	320	475	852	164	241	543		
			9.25			3093			2473	1578		2059	666	992	1347	341	504	859		
			9.5			3093			2473	1710		2059	721	1075	1417	369	547	903		
			11.25			3091			2471			2057	1198		1540	613	912	1230		
			11.875			3091			2470			2057	1409		1540	721	1073	1230		
			14			3089			2469			2055			1538	1182		1228		
			16			3087			2467			2053			1536			1226		
		3	5.5	1680	2514	3184	860	1284	2035	497	740	1411	210	309	790	107	155	503		
			7.25	3848		4643	1970	2947	3419	1140	1702	2371	481	713	1329	246	361	847		
			9.25			4640			3709	2368		3089	999	1488	2102	511	757	1341		
			9.5			4640			3709	2565		3089	1082	1613	2211	554	821	1410		
			11.25			4637			3707			3086	1797		2311	920	1368	1846		
			11.875			4637			3706			3086	2113		2310	1082	1610	1845		
			14			4634			3703			3083			2307	1773		1842		
			16			4631			3701			3080			2305			1839		
		4	5.5	2240	3352	4246	1146	1712	2714	663	987	1881	280	412	1054	143	207	671		
			7.25	5130		6190	2627	3930	4559	1520	2270	3162	641	951	1773	328	482	1130		
			9.25			6187			4946	3157		4119	1332	1985	2803	682	1009	1788		
			9.5			6186			4946	3420		4119	1443	2151	2948	738	1094	1880		
			11.25			6183			4943			4115	2396		3081	1226	1824	2461		
			11.875			6182			4941			4114	2818		3080	1443	2147	2460		
			14			6178			4938			4111			3077	2364		2456		
			16			6175			4934			4107			3073			2453		

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Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.55E T-TEC LSL	1-1/8	1	5.5																	
			7.25	47	68	187														
		2	5.5	41	58	222														
			7.25	95	137	375	59	84	274	40	55	208								
			9.25	197	289	594	124	179	434	83	118	330	58	81	259	42	57	208		
			9.5	213	313	625	134	195	457	90	128	347	63	88	273	46	62	219		
			11.25	355	524	859	223	327	629	149	216	479	105	149	376	76	107	303		
			11.875	417	617	952	262	386	696	176	255	531	123	177	417	90	126	336		
			14	684	1016	1021	430	636	873	288	423	724	202	294	570	147	211	459		
			16			1019	643		872	430	635	761	302	442	675	220	319	592		
		3	5.5	62	87	347														
			7.25	142	206	585	89	126	427	60	82	325	42	55	255					
			9.25	296	434	927	186	269	678	124	177	516	87	121	405	63	86	326		
			9.5	320	470	975	201	292	713	135	192	543	95	132	426	69	93	343		
			11.25	532	786	1342	335	491	982	224	325	748	157	224	588	115	160	473		
			11.875	626	926	1485	394	579	1087	264	383	829	185	265	651	135	190	524		
			14	1026	1524	1532	646	954	1310	432	634	1131	304	441	890	221	317	717		
			16			1529	964		1308	646	952	1142	453	663	1012	330	479	909		
		4	5.5	82	116	463	52	70	337											
			7.25	190	274	781	119	169	570	80	110	433	56	74	340	41	51	273		
			9.25	394	579	1237	248	359	904	166	236	688	116	162	540	85	114	434		
			9.5	427	627	1300	269	390	951	180	257	724	126	176	568	92	125	457		
			11.25	710	1049	1789	447	654	1309	299	433	997	210	299	784	153	214	631		
			11.875	835	1235	1981	525	772	1450	352	511	1105	247	354	868	180	253	699		
			14	1368	2032	2043	861	1272	1747	577	846	1508	405	588	1187	295	423	956		
			16			2039	1286		1744	861	1270	1522	605	885	1350	441	639	1212		

Design Assumptions

1) Span is the center-to-center distance of 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 3-1/2", and minimum interior bearing of 5-1/4".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration K_D > 1.0
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 3-1/2" and the min. interior bearing length of 5-1/4".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 5: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/4" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 1.75"; MIN. INTERIOR BEARING LENGTH = 3.5"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				4			5			6			8			10			
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live Load (PLF)	Total Load (PLF)		Live Load (PLF)	Total Load (PLF)		Live Load (PLF)	Total Load (PLF)		Live Load (PLF)	Total Load (PLF)		Live Load (PLF)	Total Load (PLF)	
1.55E T-TEC LSL	1-1/4	1	5.5	622	931	1134	318	475	724	184	274	502	77	114	281			
			7.25			1145	729		915	422	630	762	178	264	473	91	133	301
			9.25			1144			914			761	370	551	569	189	280	455
			9.5			1144			914			761	400		569	205	304	454
		2	5.5	1244	1862	2268	637	951	1449	368	548	1005	155	229	562	79	115	358
			7.25			2290	1459		1831	844	1261	1524	356	528	946	182	267	603
			9.25			2288			1829			1522	740	1102	1139	378	561	910
			9.5			2288			1828			1522	801		1139	410	608	909
			11.25			2286			1827			1520			1137	681		908
			11.875			2286			1826			1520			1137	801		907
			14			2283			1824			1518			1135			905
			16			2281			1822			1516			1133			903
		3	5.5	1866	2793	3438	955	1427	2261	553	823	1568	233	343	878	119	172	559
			7.25			3435	2189		2746	1266	1891	2286	534	793	1477	273	401	941
			9.25			3432			2743			2284	1110	1654	1709	568	841	1365
			9.5			3432			2743			2283	1202		1709	615	912	1364
			11.25			3429			2740			2281			1706	1022		1362
			11.875			3429			2739			2280			1705	1202		1361
			14			3425			2736			2277			1702			1358
			16			3422			2733			2274			1699			1355
		4	5.5	2489	3724	4584	1274	1902	3015	737	1097	2090	311	458	1171	159	230	745
			7.25			4581	2918		3662	1689	2522	3049	712	1057	1970	364	535	1255
			9.25			4577			3658			3045	1480	2205	2279	757	1122	1820
			9.5			4576			3657			3044	1603		2279	820	1216	1819
			11.25			4573			3654			3041			2275	1363		1816
			11.875			4572			3652			3040			2274	1603		1814
			14			4567			3648			3036			2270			1810
			16			4563			3644			3032			2266			1806

Continued on next page

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				12			14			16			18			20			
				Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E T-TEC LSL	1-1/4	1	5.5																
			7.25	52	76	208													
			9.25	109	160	330	69	99	241	46	65	183							
			9.5	118	174	347	74	108	253	50	71	193							
		2	5.5	46	64	247													
			7.25	105	152	416	66	94	304	44	61	231							
			9.25	219	321	660	138	199	482	92	131	367	64	90	288	47	63	231	
			9.5	237	348	694	149	216	507	100	142	386	70	98	303	51	69	244	
			11.25	394	582	754	248	363	645	166	240	532	116	166	418	85	119	336	
			11.875	463	686	754	292	428	644	195	284	562	137	196	463	100	141	373	
			14			752	478		642	320	470	560	225	326	496	164	235	445	
			16			750			640	478		558	336	491	494	245	355	443	
		3	5.5	69	97	386	43	58	281										
			7.25	158	229	650	99	141	475	66	91	361	46	61	283				
			9.25	328	482	1030	207	299	753	138	197	573	97	135	450	71	95	362	
			9.5	356	523	1084	224	325	792	150	214	603	105	147	474	76	104	381	
			11.25	591	874	1132	372	545	968	249	361	831	175	249	653	127	178	526	
			11.875	695	1029	1131	438	643	967	293	426	844	206	295	724	150	211	583	
			14			1128	718		964	481	705	841	337	490	745	246	353	668	
			16			1125			961	718		838	504	737	742	367	532	665	
		4	5.5	92	129	514	58	78	375	38	49	284							
			7.25	211	305	867	132	188	633	89	122	481	62	82	377	45	57	303	
			9.25	438	643	1374	276	399	1005	185	263	765	129	180	600	94	127	483	
			9.5	475	697	1445	299	433	1057	200	285	804	140	196	632	102	139	508	
			11.25	788	1165	1509	496	727	1290	332	481	1108	233	333	871	170	238	701	
			11.875	927	1373	1508	584	857	1289	391	568	1125	274	393	965	200	282	777	
			14			1504	957		1285	641	940	1121	450	653	993	328	470	891	
			16			1500			1281	957		1117	672	983	989	490	710	887	

Design Assumptions

1) Span is the center-to-center distance of 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/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 1-3/4" and the min. interior bearing length of 3-1/2".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 6: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/4" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 3.5"; MIN. INTERIOR BEARING LENGTH = 5.25"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				4			5			6			8			10			
				Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E	1-1/4	1	5.5	622	931	1134	318	475	724	184	274	502	77	114	281			
			7.25	1425		1719	729	1091	1217	422	630	844	178	264	473	91	133	301
			9.25			1718			1374	877		1144	370	551	748	189	280	477
			9.5			1718			1373	950		1144	400	597	787	205	304	502
		2	5.5	1244	1862	2268	637	951	1449	368	548	1005	155	229	562	79	115	358
			7.25	2850		3439	1459	2183	2435	844	1261	1689	356	528	946	182	267	603
			9.25			3437			2748	1754		2288	740	1102	1497	378	561	955
			9.5			3437			2747	1900		2288	801	1195	1574	410	608	1004
			11.25			3435			2746			2286	1331		1712	681	1013	1367
			11.875			3434			2745			2286	1565		1711	801	1193	1366
			14			3432			2743			2283			1709	1313		1364
			16			3430			2741			2281			1707			1362
		3	5.5	1866	2793	3538	955	1427	2261	553	823	1568	233	343	878	119	172	559
			7.25	4275		5159	2189	3275	3799	1266	1891	2635	534	793	1477	273	401	941
			9.25			5156			4122	2631		3432	1110	1654	2336	568	841	1490
			9.5			5155			4121	2850		3432	1202	1792	2456	615	912	1567
			11.25			5153			4119			3429	1996		2568	1022	1520	2051
			11.875			5152			4118			3429	2348		2567	1202	1789	2050
			14			5149			4115			3425			2564	1970		2047
			16			5146			4112			3422			2561			2044
		4	5.5	2489	3724	4718	1274	1902	3015	737	1097	2090	311	458	1171	159	230	745
			7.25	5701		6878	2918	4367	5066	1689	2522	3513	712	1057	1970	364	535	1255
			9.25			6874			5496	3508		4577	1480	2205	3115	757	1122	1987
			9.5			6874			5495	3800		4576	1603	2390	3275	820	1216	2089
			11.25			6870			5492			4573	2662		3424	1363	2027	2735
			11.875			6869			5491			4572	3131		3423	1603	2386	2733
			14			6865			5486			4567			3419	2627		2729
			16			6861			5483			4563			3415			2725

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Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				12			14			16			18			20			
				Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)	Unfactored Deflection Resistance		Total Factored Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E	1-1/4	1	5.5																
			7.25	52	76	208													
			9.25	109	160	330	69	99	241	46	65	183							
			9.5	118	174	347	74	108	253	50	71	193							
		2	5.5	46	64	247													
			7.25	105	152	416	66	94	304	44	61	231							
			9.25	219	321	660	138	199	482	92	131	367	64	90	288	47	63	231	
			9.5	237	348	694	149	216	507	100	142	386	70	98	303	51	69	244	
			11.25	394	582	955	248	363	699	166	240	532	116	166	418	85	119	336	
			11.875	463	686	1057	292	428	774	195	284	590	137	196	463	100	141	373	
			14	760	1129	1135	478	707	971	320	470	805	225	326	633	164	235	510	
			16			1133	714		969	478	705	845	336	491	750	245	355	657	
		3	5.5	69	97	386	43	58	281										
			7.25	158	229	650	99	141	475	66	91	361	46	61	283				
			9.25	328	482	1030	207	299	753	138	197	573	97	135	450	71	95	362	
			9.5	356	523	1084	224	325	792	150	214	603	105	147	474	76	104	381	
			11.25	591	874	1491	372	545	1091	249	361	831	175	249	653	127	178	526	
			11.875	695	1029	1651	438	643	1208	293	426	921	206	295	724	150	211	583	
			14	1140	1694	1702	718	1060	1456	481	705	1257	337	490	989	246	353	797	
			16			1699	1071		1453	718	1058	1268	504	737	1125	367	532	1010	
		4	5.5	92	129	514	58	78	375										
			7.25	211	305	867	132	188	633	89	122	481	62	82	377	45	57	303	
			9.25	438	643	1374	276	399	1005	185	263	765	129	180	600	94	127	483	
			9.5	475	697	1445	299	433	1057	200	285	804	140	196	632	102	139	508	
			11.25	788	1165	1988	496	727	1454	332	481	1108	233	333	871	170	238	701	
			11.875	927	1373	2201	584	857	1611	391	568	1228	274	393	965	200	282	777	
			14	1520	2258	2270	957	1414	1942	641	940	1676	450	653	1318	328	470	1063	
			16			2266	1429		1938	957	1411	1691	672	983	1500	490	710	1347	

Design Assumptions

1) Span is the center-to-center distance of 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 3-1/2", and minimum interior bearing of 5-1/4".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration K_D > 1.0
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 3-1/2" and the min. interior bearing length of 5-1/4".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 7: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/2" (LIVE LOAD DEFLECTION = L/360; TOTAL-LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 1.5"; MIN. INTERIOR BEARING LENGTH = 3.5"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				4			5			6			8			10			
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E T-TEC LSL	1-1/2	1	5.5	746	1117	1360	382	570	869	221	329	603	93	137	337	47	69	215
			7.25			1374	875		1098	506	756	914	213	317	568	109	160	362
			9.25			1373			1097			913	444	661	683	227	336	546
			9.5			1373			1097			913	481		683	246	364	545
			11.25			1371			1096			912			682	408		544
			11.875			1371			1095			912			682	481		544
		2	5.5	1493	2234	2721	764	1141	1739	442	658	1206	186	274	675	95	138	430
			7.25			2748	1751		2197	1013	1513	1829	427	634	1136	218	321	724
			9.25			2746			2194			1827	888	1323	1367	454	673	1092
			9.5			2746			2194			1826	962		1367	492	729	1091
			11.25			2743			2192			1824			1365	817		1089
			11.875			2743			2191			1824			1364	962		1088
			14			2740			2189			1821			1362			1086
			16			2738			2186			1819			1359			1084
		3	5.5	2240	3352	4126	1146	1712	2714	663	987	1881	280	412	1054	143	207	671
			7.25			4122	2627		3295	1520	2270	2744	641	951	1773	328	482	1130
			9.25			4119			3292			2740	1332	1985	2051	682	1009	1638
			9.5			4119			3291			2740	1443		2051	738	1094	1637
			11.25			4115			3288			2737			2048	1226		1634
			11.875			4114			3287			2736			2046	1443		1633
			14			4111			3283			2732			2043			1629
			16			4107			3280			2729			2039			1626
		4	5.5	2986	4469	5501	1529	2283	3618	884	1317	2509	373	549	1405	191	276	895
			7.25			5497	3502		4394	2027	3026	3659	855	1269	2364	437	643	1507
			9.25			5492			4389			3654	1776	2646	2735	909	1346	2184
			9.5			5492			4389			3653	1924		2734	985	1459	2183
			11.25			5487			4385			3649			2730	1635		2179
			11.875			5486			4383			3648			2729	1924		2177
			14			5481			4378			3643			2724			2172
			16			5476			4373			3638			2719			2168

Continued on next page

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.55E T-TEC LSL	1-1/2	1	5.5																	
			7.25	63	91	250														
			9.25	131	193	396	82	119	289	55	78	220								
			9.5	142	209	416	89	130	304	60	85	231	42	58	182					
			11.25	236	349	452	149	218	387	99	144	319	70	99	251	51	71	202		
			11.875	278	411	452	175	257	386	117	170	337	82	118	278	60	84	224		
		2	5.5	55	77	296														
			7.25	126	183	500	79	112	365	53	73	277								
			9.25	263	386	792	165	239	579	111	157	441	77	108	346	56	76	278		
			9.5	285	418	833	179	260	609	120	171	463	84	117	364	61	83	292		
			11.25	473	699	905	298	436	774	199	288	639	140	199	502	102	142	404		
			11.875	556	823	905	350	514	773	234	341	675	164	236	556	120	169	448		
			14			902	574		771	384	564	672	270	392	596	197	282	535		
			16			900			768	574		670	403	590	593	294	426	532		
		3	5.5	82	116	463	52	70	337											
			7.25	190	274	781	119	169	570	80	110	433	56	74	340	41	51	273		
			9.25	394	579	1237	248	359	904	166	236	688	116	162	540	85	114	434		
			9.5	427	627	1300	269	390	951	180	257	724	126	176	568	92	125	457		
			11.25	710	1049	1358	447	654	1161	299	433	997	210	299	784	153	214	631		
			11.875	835	1235	1357	525	772	1160	352	511	1013	247	354	868	180	253	699		
			14			1353	861		1157	577	846	1009	405	588	894	295	423	802		
			16			1350			1153	861		1005	605	885	890	441	639	798		
		4	5.5	110	155	617	69	94	450	46	59	341								
			7.25	253	366	1041	159	225	760	106	146	578	75	99	453	54	68	364		
			9.25	526	772	1649	331	479	1206	222	315	918	155	216	721	113	153	579		
			9.5	570	837	1734	358	520	1268	240	342	965	168	235	758	123	166	610		
			11.25	946	1398	1811	596	873	1549	399	577	1330	280	399	1045	204	285	842		
			11.875	1113	1647	1810	701	1029	1547	469	682	1350	329	472	1158	240	338	933		
			14			1805	1148		1542	769	1128	1345	540	784	1192	394	564	1070		
			16			1800			1537	1148		1341	806	1180	1187	588	852	1065		

Design Assumptions

1) Span is the center-to-center distance of 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 1-1/2", and minimum interior bearing of 3-1/2".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 1-1/2" and the min. interior bearing length of 3-1/2".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 8: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.55E T-TEC LSL 1-1/2" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 3.5"; MIN. INTERIOR BEARING LENGTH = 5.25"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)														
				4			5			6			8			10		
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.55E T-TEC LSL	1-1/2	1	5.5	746	1117	1360	382	570	869	221	329	603	93	137	337	47	69	215
			7.25	1710		2063	875	1310	1461	506	756	1013	213	317	568	109	160	362
			9.25			2062			1648	1052		1373	444	661	898	227	336	573
			9.5			2062			1648	1140		1373	481	717	944	246	364	602
			11.25			2061			1647			1371	798		1027	408	608	820
			11.875			2060			1647			1371	939		1026	481	715	820
		2	5.5	1493	2234	2721	764	1141	1739	442	658	1206	186	274	675	95	138	430
			7.25	3420		4127	1751	2620	2922	1013	1513	2026	427	634	1136	218	321	724
			9.25			4124			3297	2104		2746	888	1323	1796	454	673	1146
			9.5			4124			3297	2280		2746	962	1434	1889	492	729	1205
			11.25			4122			3295			2743	1597		2054	817	1216	1641
			11.875			4121			3294			2743	1878		2053	962	1431	1640
			14			4119			3292			2740			2051	1576		1637
			16			4116			3289			2738			2049			1635
		3	5.5	2240	3352	4246	1146	1712	2714	663	987	1881	280	412	1054	143	207	671
			7.25	5130		6190	2627	3930	4559	1520	2270	3162	641	951	1773	328	482	1130
			9.25			6187			4946	3157		4119	1332	1985	2803	682	1009	1788
			9.5			6186			4946	3420		4119	1443	2151	2948	738	1094	1880
			11.25			6183			4943			4115	2396		3081	1226	1824	2461
			11.875			6182			4941			4114	2818		3080	1443	2147	2460
			14			6178			4938			4111			3077	2364		2456
			16			6175			4934			4107			3073			2453
		4	5.5	2986	4469	5661	1529	2283	3618	884	1317	2509	373	549	1405	191	276	895
			7.25	6841		8254	3502	5240	6079	2027	3026	4216	855	1269	2364	437	643	1507
			9.25			8249			6595	4209		5492	1776	2646	3738	909	1346	2384
			9.5			8249			6594	4560		5492	1924	2868	3930	985	1459	2507
			11.25			8245			6590			5487	3195		4109	1635	2432	3282
			11.875			8243			6589			5486	3757		4107	1924	2863	3280
			14			8238			6584			5481			4102	3152		3275
			16			8233			6579			5476			4098			3271

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Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.55E T-TEC LSL	1-1/2	1	5.5																	
			7.25	63	91	250														
			9.25	131	193	396	82	119	289	55	78	220								
			9.5	142	209	416	89	130	304	60	85	231	42	58	182					
			11.25	236	349	573	149	218	419	99	144	319	70	99	251	51	71	202		
			11.875	278	411	634	175	257	464	117	170	354	82	118	278	60	84	224		
		2	5.5	55	77	296														
			7.25	126	183	500	79	112	365	53	73	277								
			9.25	263	386	792	165	239	579	111	157	441	77	108	346	56	76	278		
			9.5	285	418	833	179	260	609	120	171	463	84	117	364	61	83	292		
			11.25	473	699	1146	298	436	838	199	288	639	140	199	502	102	142	404		
			11.875	556	823	1269	350	514	929	234	341	708	164	236	556	120	169	448		
			14	912	1355	1362	574	848	1165	384	564	966	270	392	760	197	282	612		
			16			1359	857		1162	574	846	1015	403	590	900	294	426	789		
		3	5.5	82	116	463	52	70	337											
			7.25	190	274	781	119	169	570	80	110	433	56	74	340	41	51	273		
			9.25	394	579	1237	248	359	904	166	236	688	116	162	540	85	114	434		
			9.5	427	627	1300	269	390	951	180	257	724	126	176	568	92	125	457		
			11.25	710	1049	1789	447	654	1309	299	433	997	210	299	784	153	214	631		
			11.875	835	1235	1981	525	772	1450	352	511	1105	247	354	868	180	253	699		
			14	1368	2032	2043	861	1272	1747	577	846	1508	405	588	1187	295	423	956		
			16			2039	1286		1744	861	1270	1522	605	885	1350	441	639	1212		
		4	5.5	110	155	617	69	94	450	46	59	341								
			7.25	253	366	1041	159	225	760	106	146	578	75	99	453	54	68	364		
			9.25	526	772	1649	331	479	1206	222	315	918	155	216	721	113	153	579		
			9.5	570	837	1734	358	520	1268	240	342	965	168	235	758	123	166	610		
			11.25	946	1398	2385	596	873	1745	399	577	1330	280	399	1045	204	285	842		
			11.875	1113	1647	2641	701	1029	1933	469	682	1473	329	472	1158	240	338	933		
			14	1824	2710	2724	1148	1697	2330	769	1128	2011	540	784	1582	394	564	1275		
			16			2719	1715		2325	1148	1693	2030	806	1180	1800	588	852	1616		

Design Assumptions

1) Span is the center-to-center distance of 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 3-1/2", and minimum interior bearing of 5-1/4".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 3-1/2" and the min. interior bearing length of 5-1/4".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 9: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.35E T-TEC LSL 1-1/2" (LIVE LOAD DEFLECTION = L/360; TOTAL-LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 1.5"; MIN. INTERIOR BEARING LENGTH = 3.5"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)														
				4			5			6			8			10		
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.35E T-TEC LSL	1-1/2	1	5.5	650	972	1066	332	496	681	192	286	472	81	119	264	41	59	167
			7.25			1147	762		917	441	658	763	186	275	444	95	139	283
			9.25			1146			915			762	386		570	198	292	448
			9.5			1146			915			762	418		570	214	317	455
			11.25			1145			914			761			569	356		454
			11.875			1144			914			760			568	418		453
		2	5.5	1300	1945	2133	665	993	1363	385	572	944	162	238	528	83	119	335
			7.25			2294	1525		1834	882	1317	1526	372	551	889	190	279	566
			9.25			2292			1831			1524	773		1140	396	585	896
			9.5			2292			1831			1524	837		1140	428	634	910
			11.25			2290			1829			1522			1138	712		908
			11.875			2289			1828			1521			1137	837		907
			14			2286			1826			1519			1135			904
			16			2284			1823			1516			1132			902
		3	5.5	1951	2918	3328	998	1490	2126	578	859	1474	243	358	824	124	179	524
			7.25			3442	2288		2751	1324	1975	2290	558	827	1388	286	418	883
			9.25			3438			2747			2286	1160		1711	594	877	1365
			9.5			3438			2747			2286	1256		1710	643	951	1365
			11.25			3435			2744			2283			1707	1068		1362
			11.875			3433			2742			2282			1706	1256		1361
			14			3430			2739			2278			1702			1357
			16			3426			2735			2275			1699			1353
		4	5.5	2601	3891	4438	1331	1987	2835	770	1145	1965	325	477	1099	166	239	699
			7.25			4589	3050		3668	1765	2634	3053	744	1103	1850	381	558	1178
			9.25			4584			3663			3049	1546		2281	792	1170	1820
			9.5			4584			3662			3048	1675		2280	857	1269	1820
			11.25			4580			3658			3044			2276	1424		1816
			11.875			4578			3657			3043			2275	1675		1814
			14			4573			3652			3038			2270			1809
			16			4568			3647			3033			2265			1805

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Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.35E T-TEC LSL	1-1/2	1	5.5																	
			7.25	55	79	195														
			9.25	114	167	309	72	103	226	48	68	171								
			9.5	124	181	325	78	112	237	52	74	180								
			11.25	206	303	377	129	189	322	86	125	249	61	86	195	44	61	157		
			11.875	242	358	376	152	223	322	102	147	276	71	102	216	52	72	174		
		2	5.5	48	67	231														
			7.25	110	158	390	69	97	284	46	63	216								
			9.25	229	335	619	144	207	452	96	136	343	67	93	269	49	65	216		
			9.5	248	363	651	156	225	475	104	148	361	73	101	283	53	71	227		
			11.25	412	607	754	259	378	644	173	250	498	122	172	391	89	123	314		
			11.875	484	716	753	305	446	644	204	295	552	143	204	433	104	145	348		
			14			751	500		641	335	489	559	235	339	495	171	244	444		
			16			748			639	500		557	351		493	256	369	441		
		3	5.5	72	100	361	45	60	262											
			7.25	165	238	609	104	146	444	69	94	337	49	63	263					
			9.25	343	502	966	216	311	706	145	204	536	101	139	420	74	98	337		
			9.5	372	545	1016	234	338	742	157	222	564	110	152	442	80	107	355		
			11.25	618	911	1131	389	568	967	260	375	778	183	259	610	133	184	491		
			11.875	727	1074	1130	458	670	966	306	443	842	215	306	677	157	218	544		
			14			1126	750		962	502	734	839	353	509	743	257	366	666		
			16			1123			958	750		835	527		739	384	553	662		
		4	5.5	96	134	481	60	80	350	40	50	265								
			7.25	220	317	813	138	194	592	93	126	449	65	84	351	47	57	281		
			9.25	458	670	1289	288	415	941	193	272	715	135	186	560	99	131	450		
			9.5	496	726	1355	312	451	990	209	296	752	147	202	590	107	143	473		
			11.25	824	1215	1509	519	757	1289	347	500	1037	244	345	814	178	246	654		
			11.875	969	1432	1507	610	893	1288	409	591	1123	287	408	902	209	291	726		
			14			1502	1000		1283	670	979	1118	470	679	990	343	488	888		
			16			1497			1278	1000		1114	702		986	512	738	883		

Design Assumptions

1) Span is the center-to-center distance of 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 1-1/2", and minimum interior bearing of 3-1/2".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 1-1/2" and the min. interior bearing length of 3-1/2".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 10: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.35E T-TEC LSL 1-1/2" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 3.5"; MIN. INTERIOR BEARING LENGTH = 5.25"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)														
				4			5			6			8			10		
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.35E T-TEC LSL	1-1/2	1	5.5	650	972	1066	332	496	681	192	286	472	81	119	264	41	59	167
			7.25	1489		1723	762	1140	1145	441	658	794	186	275	444	95	139	283
			9.25			1721			1376	916		1146	386	575	703	198	292	448
			9.5			1721			1376	993		1146	418	623	739	214	317	471
			11.25			1720			1375			1145	695		857	356	529	648
			11.875			1720			1374			1144	818		856	418	622	684
		2	5.5	1300	1945	2133	665	993	1363	385	572	944	162	238	528	83	119	335
			7.25	2979		3446	1525	2281	2290	882	1317	1588	372	551	889	190	279	566
			9.25			3443			2753	1833		2292	773	1151	1407	396	585	896
			9.5			3443			2752	1986		2292	837	1247	1479	428	634	942
			11.25			3441			2750			2290	1391		1714	712	1058	1296
			11.875			3440			2749			2289	1636		1713	837	1245	1368
			14			3438			2747			2286			1711			1365
			16			3436			2745			2284			1708			1363
		3	5.5	1951	2918	3328	998	1490	2126	578	859	1474	243	358	824	124	179	524
			7.25	4468		5169	2288	3421	3573	1324	1975	2477	558	827	1388	286	418	883
			9.25			5165			4129	2750		3438	1160	1727	2195	594	877	1399
			9.5			5165			4129	2979		3438	1256	1871	2308	643	951	1471
			11.25			5162			4126			3435	2087		2571	1068	1587	2023
			11.875			5161			4124			3433	2454		2570	1256	1868	2052
			14			5157			4121			3430			2566			2048
			16			5154			4117			3426			2562			2044
		4	5.5	2601	3891	4438	1331	1987	2835	770	1145	1965	325	477	1099	166	239	699
			7.25	5958		6892	3050	4562	4764	1765	2634	3303	744	1103	1850	381	558	1178
			9.25			6887			5506	3666		4584	1546	2302	2927	792	1170	1865
			9.5			6887			5505	3972		4584	1675	2495	3078	857	1269	1962
			11.25			6883			5501			4580	2782		3428	1424	2116	2698
			11.875			6881			5499			4578	3272		3426	1675	2491	2736
			14			6876			5494			4573			3422			2731
			16			6872			5490			4568			3417			2726

Continued on next page

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.35E T-TEC LSL	1-1/2	1	5.5																	
			7.25	55	79	195														
			9.25	114	167	309	72	103	226	48	68	171								
			9.5	124	181	325	78	112	237	52	74	180								
			11.25	206	303	448	129	189	327	86	125	249	61	86	195	44	61	157		
			11.875	242	358	496	152	223	362	102	147	276	71	102	216	52	72	174		
		2	5.5	48	67	231														
			7.25	110	158	390	69	97	284	46	63	216								
			9.25	229	335	619	144	207	452	96	136	343	67	93	269	49	65	216		
			9.5	248	363	651	156	225	475	104	148	361	73	101	283	53	71	227		
			11.25	412	607	896	259	378	655	173	250	498	122	172	391	89	123	314		
			11.875	484	716	992	305	446	725	204	295	552	143	204	433	104	145	348		
			14	794		1135	500	737	970	335	489	754	235	339	592	171	244	477		
			16			1132	746		968	500	735	844	351	512	748	256	369	615		
		3	5.5	72	100	361	45	60	262											
			7.25	165	238	609	104	146	444	69	94	337	49	63	263					
			9.25	343	502	966	216	311	706	145	204	536	101	139	420	74	98	337		
			9.5	372	545	1016	234	338	742	157	222	564	110	152	442	80	107	355		
			11.25	618	911	1399	389	568	1022	260	375	778	183	259	610	133	184	491		
			11.875	727	1074	1549	458	670	1132	306	443	862	215	306	677	157	218	544		
			14	1191		1702	750	1106	1456	502	734	1178	353	509	925	257	366	745		
			16			1699	1120		1452	750	1103	1267	527	768	1123	384	553	960		
		4	5.5	96	134	481	60	80	350	40	50	265								
			7.25	220	317	813	138	194	592	93	126	449	65	84	351	47	57	281		
			9.25	458	670	1289	288	415	941	193	272	715	135	186	560	99	131	450		
			9.5	496	726	1355	312	451	990	209	296	752	147	202	590	107	143	473		
			11.25	824	1215	1865	519	757	1363	347	500	1037	244	345	814	178	246	654		
			11.875	969	1432	2066	610	893	1510	409	591	1150	287	408	902	209	291	726		
			14	1589		2270	1000	1474	1941	670	979	1571	470	679	1234	343	488	993		
			16			2265	1493		1936	1000	1471	1689	702	1024	1497	512	738	1280		

Design Assumptions

1) Span is the center-to-center distance of 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 3-1/2", and minimum interior bearing of 5-1/4".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs them design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 3-1/2" and the min. interior bearing length of 5-1/4".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 11: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.35E T-TEC LSL 1-3/4" (LIVE LOAD DEFLECTION = L/360; TOTAL LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 1.5"; MIN. INTERIOR BEARING LENGTH = 3.5"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)															
				4			5			6			8			10			
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.35E T-TEC LSL	1-3/4	1	5.5	758	1135	1244	388	579	795	224	334	551	94	139	308	48	69	195
			7.25			1338	889		1069	514	768	890	217	321	518	111	162	330
			9.25			1337			1068			889	451		665	231	341	523
			9.5			1337			1068			889	488		665	250	370	530
			11.25			1335			1067			888			664	415		529
			11.875			1335			1066			887			663	488		529
			14			1333			1065			886			662			527
		2	5.5	1517	2270	2489	776	1159	1590	449	668	1102	189	278	616	97	139	391
			7.25			2677	1779		2139	1029	1536	1781	434	643	1037	222	325	660
			9.25			2674			2137			1778	902		1330	462	682	1046
			9.5			2674			2136			1778	977		1330	500	740	1061
			11.25			2671			2134			1776			1328	831		1059
			11.875			2670			2133			1775			1327	977		1058
			14			2667			2130			1772			1324			1055
			16			2665			2127			1769			1321			1052
		3	5.5	2276	3405	3883	1165	1739	2481	674	1002	1719	284	417	962	145	209	611
			7.25			4015	2669		3209	1544	2305	2672	651	965	1619	333	488	1031
			9.25			4011			3205			2668	1353		1996	693	1024	1593
			9.5			4011			3205			2667	1466		1995	750	1110	1592
			11.25			4007			3201			2664			1992	1246		1589
			11.875			4006			3200			2662			1990	1466		1587
			14			4001			3195			2658			1986			1583
			16			3997			3191			2654			1982			1579
		4	5.5	3035	4540	5177	1553	2318	3308	899	1336	2292	379	557	1283	194	279	815
			7.25			5354	3559		4279	2059	3073	3562	868	1287	2159	444	651	1374
			9.25			5348			4274			3557	1804		2661	924	1365	2124
			9.5			5348			4273			3556	1955		2661	1000	1480	2123
			11.25			5343			4268			3552			2656	1662		2118
			11.875			5341			4266			3550			2654	1955		2117
			14			5335			4261			3544			2648			2111
			16			5330			4255			3539			2643			2105

Continued on next page

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.35E T-TEC LSL	1-3/4	1	5.5																	
			7.25	64	92	227	40	56	166											
			9.25	133	195	361	84	121	263	56	79	200								
			9.5	144	212	379	91	131	277	61	86	210	42	59	165					
			11.25	240	354	440	151	221	376	101	146	290	71	100	228	51	71	183		
			11.875	282	417	439	178	260	375	119	172	322	83	119	252	61	85	203		
		2	5.5			438	291		374	195	285	326	137	198	288	100	142	259		
			7.25	56	78	269														
			9.25	128	185	455	81	113	332	54	73	252								
			9.5	267	390	722	168	242	527	112	159	400	79	108	314	57	76	252		
			11.25	289	424	759	182	263	554	122	172	421	85	118	330	62	83	265		
			11.875	480	709	880	302	442	752	202	292	581	142	201	456	103	143	366		
			14	565	835	879	356	521	751	238	344	644	167	238	505	122	170	406		
			16			876	583		748	391	571	652	274	396	577	200	285	518		
		3	5.5			873			745	583		649	409		575	298	430	515		
			7.25	84	117	421	53	70	306											
			9.25	193	277	711	121	170	518	81	110	393	57	73	307	41	50	246		
			9.5	401	586	1128	252	363	823	169	238	626	118	163	490	86	114	393		
			11.25	434	636	1186	273	394	866	183	259	658	128	177	516	93	125	414		
			11.875	721	1063	1320	454	663	1128	304	438	908	213	302	712	155	215	572		
			14	848	1253	1319	534	782	1127	357	517	983	251	357	789	183	255	635		
			16			1314	875		1122	586	856	978	411	594	866	300	427	777		
		4	5.5			1310			1118	875		974	614		862	448	646	773		
			7.25	112	156	561	70	94	408	47	59	309								
			9.25	257	370	948	162	227	691	108	147	524	76	98	410	55	67	328		
			9.5	534	781	1504	336	484	1098	225	318	834	158	217	654	115	153	525		
			11.25	579	848	1581	364	526	1155	244	345	878	171	236	688	125	166	552		
			11.875	961	1418	1760	605	884	1504	405	584	1210	285	402	950	207	287	763		
			14	1131	1671	1758	712	1042	1502	477	689	1311	335	476	1053	244	340	847		
			16			1753	1167		1497	782	1142	1305	549	793	1155	400	570	1036		
						1747			1491	1167		1299	819		1150	597	861	1031		

Design Assumptions

1) Span is the center-to-center distance of 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 1-1/2", and minimum interior bearing of 3-1/2".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 1-1/2" and the min. interior bearing length of 3-1/2".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

TABLE 12: ALLOWABLE UNIFORM PLF LIVE/SNOW LOADS (100%) - 1.35E T-TEC LSL 1-3/4" (LIVE LOAD DEFLECTION = L/360; TOTAL-LOAD DEFLECTION = L/240) – MIN. END BEARING LENGTH = 3.5"; MIN. INTERIOR BEARING LENGTH = 5.25"

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)														
				4			5			6			8			10		
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)	
1.35E T-TEC LSL	1-3/4	1	5.5	758	1135	1244	388	579	795	224	334	551	94	139	308	48	69	195
			7.25	1737		2010	889	1330	1336	514	768	926	217	321	518	111	162	330
			9.25			2008			1605	1069		1337	451	671	820	231	341	523
			9.5			2008			1605	1158		1337	488	727	863	250	370	550
			11.25			2007			1604			1335	811		999	415	617	756
			11.875			2007			1604			1335	954		999	488	726	798
			14			2005			1602			1333			998			796
		2	5.5	1517	2270	2489	776	1159	1590	449	668	1102	189	278	616	97	139	391
			7.25	3475		4020	1779	2661	2672	1029	1536	1852	434	643	1037	222	325	660
			9.25			4017			3211	2138		2674	902	1343	1641	462	682	1046
			9.5			4017			3211	2317		2674	977	1455	1726	500	740	1100
			11.25			4015			3209			2671	1623		1999	831	1234	1512
			11.875			4014			3208			2670	1909		1999	977	1453	1596
			14			4011			3205			2667			1996			1593
			16			4008			3202			2665			1993			1590
		3	5.5	2276	3405	3883	1165	1739	2481	674	1002	1719	284	417	962	145	209	611
			7.25	5213		6031	2669	3992	4169	1544	2305	2890	651	965	1619	333	488	1031
			9.25			6026			4817	3208		4011	1353	2015	2561	693	1024	1632
			9.5			6026			4817	3475		4011	1466	2183	2693	750	1110	1716
			11.25			6022			4813			4007	2435		2999	1246	1851	2361
			11.875			6021			4812			4006	2863		2998	1466	2179	2394
			14			6017			4808			4001			2994			2389
			16			6013			4803			3997			2990			2385
		4	5.5	3035	4540	5177	1553	2318	3308	899	1336	2292	379	557	1283	194	279	815
			7.25	6951		8041	3559	5322	5559	2059	3073	3854	868	1287	2159	444	651	1374
			9.25			8035			6423	4277		5348	1804	2686	3415	924	1365	2176
			9.5			8035			6423	4634		5348	1955	2911	3591	1000	1480	2289
			11.25			8030			6418			5343	3246		3999	1662	2468	3148
			11.875			8028			6416			5341	3818		3998	1955	2906	3192
			14			8022			6410			5335			3992			3186
			16			8017			6405			5330			3986			3180

Continued on next page

Product Grade	Single Ply Thickness (in.)	# of plies	Depth (in.)	Span (ft)																
				12			14			16			18			20				
				Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)	Unfactored Deflection Resistance		Factored Total Load (PLF)		
				Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)		Live and/or Snow Load (PLF)	Total Load (PLF)			
1.35E T-TEC LSL	1-3/4	1	5.5																	
			7.25	64	92	227	40	56	166											
			9.25	133	195	361	84	121	263	56	79	200								
			9.5	144	212	379	91	131	277	61	86	210	42	59	165					
			11.25	240	354	522	151	221	382	101	146	290	71	100	228	51	71	183		
			11.875	282	417	579	178	260	423	119	172	322	83	119	252	61	85	203		
		2	5.5	463		662	291	430	566	195	285	440	137	198	345	100	142	278		
			7.25	56	78	269														
			9.25	128	185	455	81	113	332	54	73	252								
			9.5	267	390	722	168	242	527	112	159	400	79	108	314	57	76	252		
			11.25	289	424	759	182	263	554	122	172	421	85	118	330	62	83	265		
			11.875	480	709	1045	302	442	764	202	292	581	142	201	456	103	143	366		
			14	565	835	1158	356	521	846	238	344	644	167	238	505	122	170	406		
			16	926		1324	583	860	1132	391	571	880	274	396	691	200	285	556		
		3	5.5			1321	871		1129	583	858	985	409	597	873	298	430	717		
			7.25	84	117	421	53	70	306											
			9.25	193	277	711	121	170	518	81	110	393	57	73	307	41	50	246		
			9.5	401	586	1128	252	363	823	169	238	626	118	163	490	86	114	393		
			11.25	434	636	1186	273	394	866	183	259	658	128	177	516	93	125	414		
			11.875	721	1063	1632	454	663	1193	304	438	908	213	302	712	155	215	572		
			14	848	1253	1807	534	782	1321	357	517	1006	251	357	789	183	255	635		
			16	1390		1986	875	1290	1698	586	856	1374	411	594	1080	300	427	869		
		4	5.5			1982	1307		1694	875	1287	1478	614	896	1310	448	646	1120		
			7.25	112	156	561	70	94	408	47	59	309								
			9.25	257	370	948	162	227	691	108	147	524	76	98	410	55	67	328		
			9.5	534	781	1504	336	484	1098	225	318	834	158	217	654	115	153	525		
			11.25	579	848	1581	364	526	1155	244	345	878	171	236	688	125	166	552		
			11.875	961	1418	2176	605	884	1591	405	584	1210	285	402	950	207	287	763		
			14	1131	1671	2410	712	1042	1762	477	689	1341	335	476	1053	244	340	847		
			16	1853		2648	1167	1720	2264	782	1142	1832	549	793	1440	400	570	1159		
						2643	1742		2259	1167	1716	1971	819	1194	1747	597	861	1494		

Design Assumptions

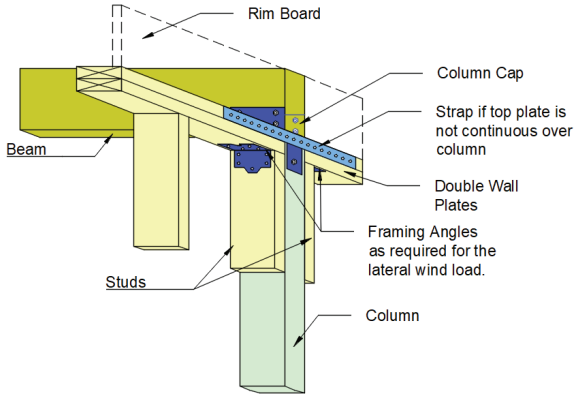
1) Span is the center-to-center distance of supports and is valid for simple or continuous span applications.
2) The allowable loads represent the capacity in pounds per lineal foot (plf) of length.
3) Tabulated values are valid for uniform loads only.
4) Minimum end bearing of 3-1/2", and minimum interior bearing of 5-1/4".
5) Deflection of L/360 for the live load and L/240 for the total load. Long term deflection (creep) has not been considered.
6) Tabulated factored total loads shall not be increased for a load duration $K_D > 1.0$
7) Tabulated values assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
8) Tabulated values are valid for dry service conditions.
9) Tabulated values are based on the factored comp. resistance perp. to grain of the LSL.

How to use this table:

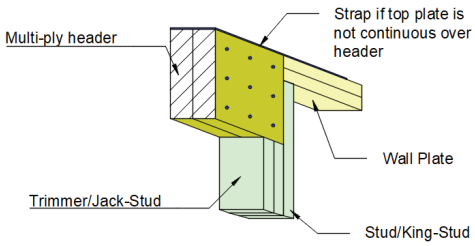
1) Both Total and Live and/or Snow Loads, unfactored and factored, shall be checked. Where the unfactored deflection resistance is blank, the factored total load governs the design.
2) Self-weight shall be included in the total load.
3) Select the appropriate Span = center-to-center distance of supports.
4) Scan vertically to find the proper ply thickness, number of plies, and depth with the capacities that exceed the actual unfactored and factored live and total loads.
5) Verify the min. end bearing length of 3-1/2" and the min. interior bearing length of 5-1/4".
6) For a Live and/or Snow Load deflection limit of L/480, the Live and/or Snow Load column values shall be multiplied by 0.75. The resulting Live and/or Snow Load shall not exceed the Total Unfactored Load.
7) For a Total Load deflection limit of L/180, the Total Load column values could be multiplied by 1.33.
8) Resulting Factored Total Load shall not exceed the Factored Total Load shown.
9) For loading conditions not shown, use CSD® software or contact your Tolko representative.

BEAM DETAILS

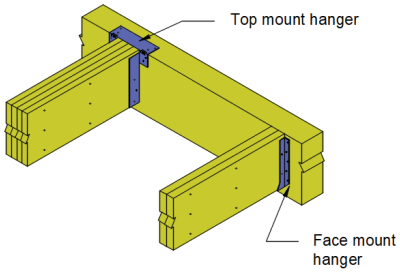
Detail 1: Bearing at Wall



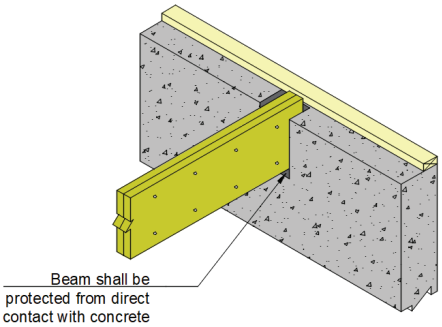
Detail 2: Bearing for Door or Window Header



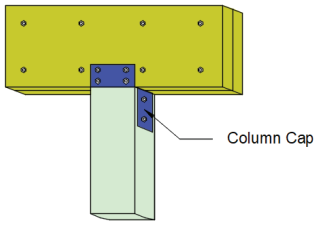
Detail 3: Beam to Beam Connection



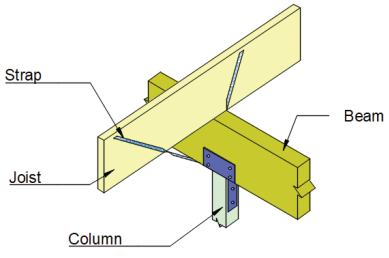
Detail 4: Bearing at Concrete Wall



Detail 5: Bearing at Column

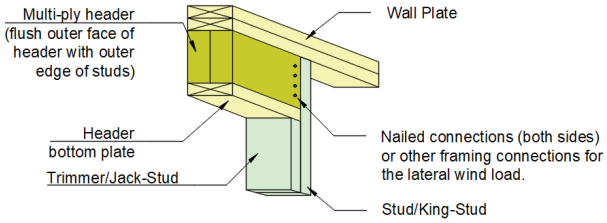


Detail 6: Beam to Column Lateral Brace

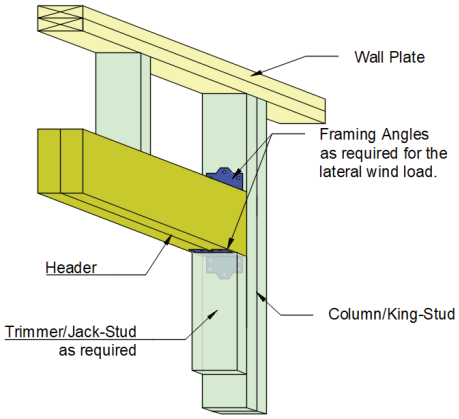


HEADER DETAILS

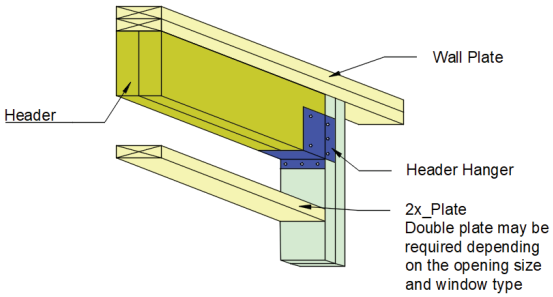
Detail 7: Full Depth Header



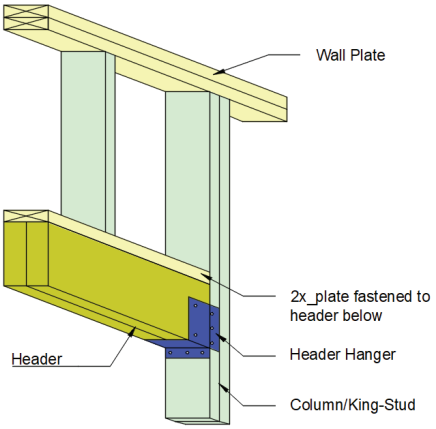
Detail 8: Low Header with Framing Angles



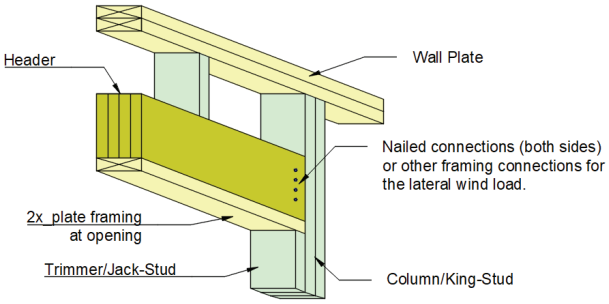
Detail 9: High Header



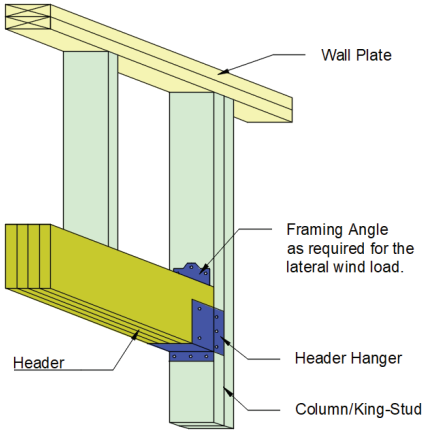
Detail 10: Low Header with Top Plate



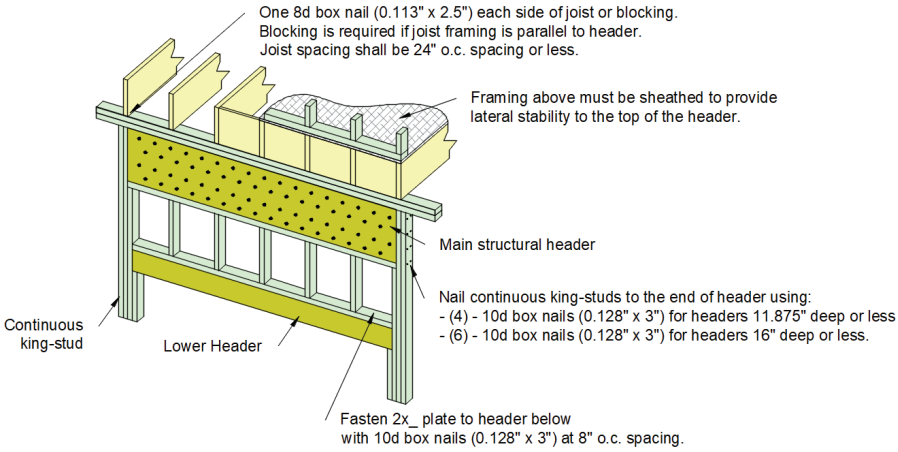
Detail 11: Low Header with Bottom Plate



Detail 12: Low Header with Hanger and Framing Angles

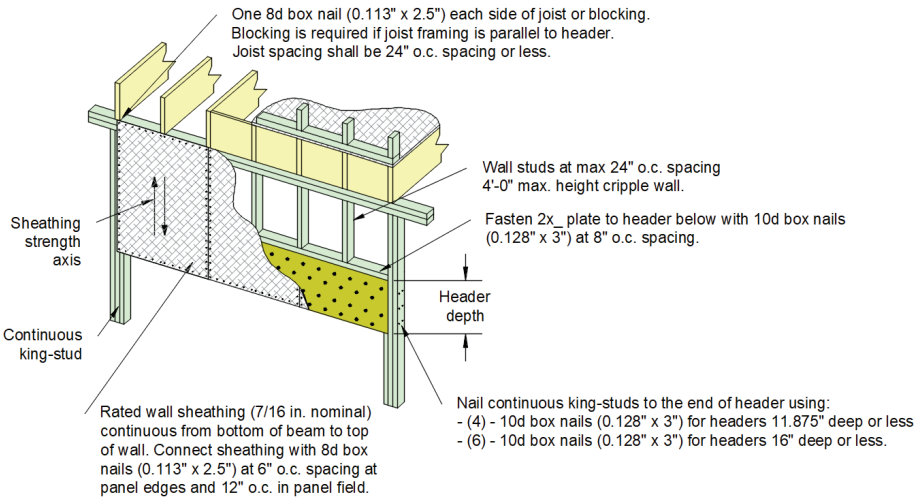


Detail 13: Dropped Header with Full Lateral Bracing



Reference: WIJMA – Dropped Header Design Guide

Detail 14: Dropped Header with Acceptable Lateral Bracing



Reference: WIJMA – Dropped Header Design Guide

Notes:

When framed as shown above, the dropped header is considered fully braced under uniform-load, for the following simple/multiple span conditions:

Single-ply Headers	Multiply-ply Headers
1 ½" width; 9 1/2" deep or less	Up to four 1 1/8", 1 1/4"; 7 ¼" deep or less
1 ¾" width; 11 7/8" deep or less	Up to four 1 ½" plies; 9 ½" deep or less
	Up to four 1 ¾" plies; 11 7/8" deep or less

Else, the lateral stability factor shall be included in the header design as per CSA086.

ALLOWABLE HOLES

MAXIMUM 1.5” – 2” DIAMETER ROUND HOLES (SINGLE OR MULTIPLE SPANS)

Product Grade	Width (in)	Depth (in)	Max. Round Hole Diameter (in)
1.35E / 1.55E T-TEC LSL	1-1/8, 1 1/4”	7-1/4	1.5
	1-1/2, 1-3/4	9-1/4 to 16	2

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 by a professional engineer.

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

FIGURE 1: MAXIMUM 1.5” – 2” DIAMETER ROUND HOLES (SINGLE OR MULTIPLE SPANS)

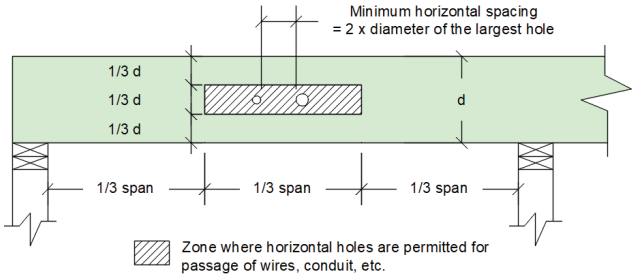
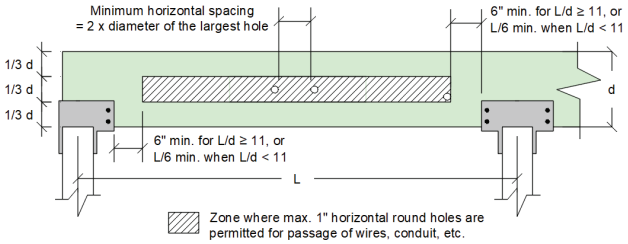


FIGURE 2: MAXIMUM 1” DIAMETER ROUND HOLES (SINGLE OR MULTIPLE SPANS)



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

BEARING LENGTH REQUIREMENTS

TABLE 13: BEARING LENGTHS REQUIREMENTS - 1.55E T-TEC LSL 1-1/8" WIDTH

Reaction (lbs)	1.55E T-TEC LSL						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1-1/8	2-1/4	3-3/8	4-1/2	3-1/2	5-1/2	7-1/4
3000	2-1/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4
6000	4-1/4	2-1/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4
9000	6-1/4	3-1/4	2-1/4	1-3/4	2-1/2	1-3/4	1-3/4
12000		4-1/4	2-3/4	2-1/4	3-1/4	2	1-3/4
15000		5-1/4	3-1/2	2-3/4	4	2-1/2	2
18000		6-1/4	4-1/4	3-1/4	4-3/4	3	2-1/4
21000		7-1/4	4-3/4	3-3/4	5-1/2	3-1/2	2-3/4
24000			5-1/2	4-1/4	6-1/4	4	3
27000			6-1/4	4-3/4	7	4-1/2	3-1/2
30000			7	5-1/4	7-3/4	5	3-3/4
33000			7-1/2	5-3/4		5-1/2	4-1/4
36000				6-1/4		6	4-1/2
39000				6-3/4		6-1/2	5
42000				7-1/4		7	5-1/4
45000				7-3/4		7-1/2	5-3/4

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 1405 psi; fcp_edge (specified strength) = 1640 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-3/4", and 3-1/2" for the interior bearing supports.

Member shall be supported across the full width at all bearing supports.

TABLE 14: BEARING LENGTHS REQUIRED - 1.55E T-TEC LSL - 1-1/4" WIDTH

Factored Reaction (lbs)	1.55E LSL						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1 1/4	2 1/2	3 3/4	5	3 1/2	5 1/2	7 1/4
3000	2	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4
6000	3 3/4	2	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4
9000	5 1/2	2 3/4	2	1 3/4	2 1/2	1 3/4	1 3/4
12000	7 1/2	3 3/4	2 1/2	2	3 1/4	2	1 3/4
15000		4 3/4	3 1/4	2 1/2	4	2 1/2	2
18000		5 1/2	3 3/4	2 3/4	4 3/4	3	2 1/4
21000		6 1/2	4 1/2	3 1/4	5 1/2	3 1/2	2 3/4
24000		7 1/2	5	3 3/4	6 1/4	4	3
27000			5 1/2	4 1/4	7	4 1/2	3 1/2
30000			6 1/4	4 3/4	7 3/4	5	3 3/4
33000			6 3/4	5 1/4		5 1/2	4 1/4
36000			7 1/2	5 1/2		6	4 1/2
39000				6		6 1/2	5
42000				6 1/2		7	5 1/4
45000				7		7 1/2	5 3/4

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 1405 psi; fcp_edge (specified strength) = 1640 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-3/4", and 3-1/2" for the interior bearing supports.
3) Member shall be supported across full width at all bering supports.

TABLE 15: BEARING LENGTHS REQUIRED - 1.55E T-TEC LSL - 1-1/2" WIDTH

Factored Reaction (lbs)	1.55E LSL						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1 1/2	3	4 1/2	6	3 1/2	5 1/2	7 1/4
3000	1 3/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
6000	3 1/4	1 3/4	1 1/2	1 1/2	1 3/4	1 1/2	1 1/2
9000	4 3/4	2 1/2	1 3/4	1 1/2	2 1/2	1 1/2	1 1/2
12000	6 1/4	3 1/4	2 1/4	1 3/4	3 1/4	2	1 1/2
15000	7 3/4	4	2 3/4	2	4	2 1/2	2
18000		4 3/4	3 1/4	2 1/2	4 3/4	3	2 1/4
21000		5 1/2	3 3/4	2 3/4	5 1/2	3 1/2	2 3/4
24000		6 1/4	4 1/4	3 1/4	6 1/4	4	3
27000		7	4 3/4	3 1/2	7	4 1/2	3 1/2
30000		7 3/4	5 1/4	4	7 3/4	5	3 3/4
33000			5 3/4	4 1/4		5 1/2	4 1/4
36000			6 1/4	4 3/4		6	4 1/2
39000			6 3/4	5		6 1/2	5
42000			7 1/4	5 1/2		7	5 1/4
45000			7 3/4	5 3/4		7 1/2	5 3/4

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 1405 psi; fcp_edge (specified strength) = 1640 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-1/2", and 3-1/2" for the interior bearing supports.
3) Member shall be supported across full width at all bering supports.

TABLE 16: BEARING LENGTHS REQUIRED - SPF

Factored Reaction (lbs)	SPF						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1 1/2	3	4 1/2	6	3 1/2	5 1/2	7 1/4
3000	3 1/2	1 3/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
6000	6 3/4	3 1/2	2 1/4	1 3/4	3	2	1 1/2
9000		5	3 1/2	2 1/2	4 1/4	2 3/4	2 1/4
12000		6 3/4	4 1/2	3 1/2	5 3/4	3 3/4	2 3/4
15000			5 1/2	4 1/4	7	4 1/2	3 1/2
18000			6 3/4	5		5 1/2	4 1/4
21000			7 3/4	5 3/4		6 1/4	4 3/4
24000				6 3/4		7 1/4	5 1/2
27000				7 1/2			6 1/4
30000							6 3/4
33000							7 1/2

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 769 psi; fcp_edge (specified strength) = 769 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-1/2", and 3-1/2" for the interior bearing supports.
3) Member shall be supported across full width at all bering supports.

TABLE 17: BEARING LENGTHS REQUIREMENTS- 1.35E T-TEC LSL 1-1/2" WIDTH

Reaction (lbs)	1.35E T-TEC LSL						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1-1/2	3	4-1/2	6	3-1/2	5-1/2	7-1/4
3000	2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
6000	3-3/4	2	1-1/2	1-1/2	1-3/4	1-1/2	1-1/2
9000	5-1/2	2-3/4	2	1-1/2	2-3/4	1-3/4	1-1/2
12000	7-1/2	3-3/4	2-1/2	2	3-1/2	2-1/4	1-3/4
15000		4-3/4	3-1/4	2-1/2	4-1/2	2-3/4	2-1/4
18000		5-1/2	3-3/4	2-3/4	5-1/4	3-1/2	2-1/2
21000		6-1/2	4-1/2	3-1/4	6	4	3
24000		7-1/2	5	3-3/4	7	4-1/2	3-1/2
27000			5-1/2	4-1/4		5	3-3/4
30000			6-1/4	4-3/4		5-1/2	4-1/4
33000			6-3/4	5-1/4		6	4-3/4
36000			7-1/2	5-1/2		6-3/4	5
39000				6		7-1/4	5-1/2
42000				6-1/2			6
45000				7			6-1/4

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 1250 psi; fcp_edge (specified strength) = 1370 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-1/2", and 3-1/2" for the interior bearing supports.
3) Member shall be supported across the full width at all bearing supports.

TABLE 18: BEARING LENGTHS REQUIREMENTS - 1.35E T-TEC LSL 1-3/4" WIDTH

Reaction (lbs)	1.35E T-TEC LSL						
	Width (in)						
	Beam Orientation				Plank Orientation		
	1-3/4	3-1/2	5-1/4	7	3-1/2	5-1/2	7-1/4
3000	1-3/4	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
6000	3-1/4	1-3/4	1-1/2	1-1/2	1-3/4	1-1/2	1-1/2
9000	4-3/4	2-1/2	1-3/4	1-1/2	2-3/4	1-3/4	1-1/2
12000	6-1/2	3-1/4	2-1/4	1-3/4	3-1/2	2-1/4	1-3/4
15000		4	2-3/4	2	4-1/2	2-3/4	2-1/4
18000		4-3/4	3-1/4	2-1/2	5-1/4	3-1/2	2-1/2
21000		5-1/2	3-3/4	2-3/4	6	4	3
24000		6-1/2	4-1/4	3-1/4	7	4-1/2	3-1/2
27000		7-1/4	4-3/4	3-3/4		5	3-3/4
30000			5-1/4	4		5-1/2	4-1/4
33000			5-3/4	4-1/2		6	4-3/4
36000			6-1/2	4-3/4		6-3/4	5
39000			7	5-1/4		7-1/4	5-1/2
42000			7-1/2	5-1/2			6
45000				6			6-1/4

Notes:

1) Bearing lengths are based on fcp_plank (specified strength) = 1250 psi; fcp_edge (specified strength) = 1370 psi; K_D (load duration) = 1.0
2) Min. end bearing lengths = 1-1/2", and 3-1/2" for the interior bearing supports.
3) Member shall be supported across the full width at all bearing supports.

TAPERED END CUTS

TABLE 19: ALLOWABLE REACTIONS FOR TAPERED END CUTS – 1.55E T-TEC LSL 1-1/8" WIDTH

Bearing Support	Beam Depth	Allowable Reactions (lbs) for 3-3/8" wide - 1.55E LSL Beams							
		Heel Height - D1							
		4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"
3-1/2" Wood Plate	7-1/4"	7267	7267	7267	7267				
	9-1/4"		7267	7267	7267	7267	7267	7267	7267
	9-1/2"		7267	7267	7267	7267	7267	7267	7267
	11-1/4"				7267	7267	7267	7267	7267
	11-7/8"					7267	7267	7267	7267
	14"								7267
5-1/4" Wood Plate	7-1/4"	9972	10901	10901	10901				
	9-1/4"	9946	10801	10901	10901	10901	10901	10901	10901
	9-1/2"	9946	10801	10901	10901	10901	10901	10901	10901
	11-1/4"			10901	10901	10901	10901	10901	10901
	11-7/8"				10901	10901	10901	10901	10901
	14"							10901	10901
3-1/2" Column	7-1/4"	9197	10203	11584	12266				
	9-1/4"		10053	10908	11764	12620	14185	15202	15498
	9-1/2"		10053	10908	11764	12620	13961	15221	15498
	11-1/4"				11764	12620	13475	14331	15186
	11-7/8"					12620	13475	14331	15186
	14"								15186

Notes:

1) For 1-1/8", 2-1/4", and 4-1/2" wide beams, multiply tabulated reactions by 0.33, 0.66, and 1.33, respectively.
2) For 1-1/8" single ply beams, the max. depth = 7.25".
3) Bearing length is based on the bearing resistance (specified strength) of 769 psi for the Wood Plates and 1640 psi for the Column bearing supports.
4) Table considers only downward loading conditions. For beams with uplift loads contact Tolko's representative.
5) Load duration factor K_D = 1.0
6) Holes or concentrated loads are not allowed within the tapered cut.
7) Tapered cut length should not exceed (1/3) of the span.
8) Min. tapered cut slope = 3/12.
9) Contact Tolko's representative for other design conditions.

TABLE 20: ALLOWABLE REACTIONS FOR TAPERED END CUTS – 1.55E T-TEC LSL 1-1/4" WIDTH

Bearing Support	Beam Depth	Allowable Factored Reactions (lbs) for 3 3/4" wide - 1.55E LSL Beams							
		Heel Height - D1							
		4 1/2"	5"	5 1/2"	6"	6 1/2"	7"	7 1/2"	8"
3 1/2" Wood Plate	7 1/4"	8,075	8,075	8,075	8,075				
	9 1/4"		8,075	8,075	8,075	8,075	8,075	8,075	8,075
	9 1/2"		8,075	8,075	8,075	8,075	8,075	8,075	8,075
	11 1/4"				8,075	8,075	8,075	8,075	8,075
	11 7/8"					8,075	8,075	8,075	8,075
	14"								8,075
5 1/4" Wood Plate	7 1/4"	11,080	12,112	12,112	12,112				
	9 1/4"	11,051	12,002	12,112	12,112	12,112	12,112	12,112	12,112
	9 1/2"	11,051	12,002	12,112	12,112	12,112	12,112	12,112	12,112
	11 1/4"			12,112	12,112	12,112	12,112	12,112	12,112
	11 7/8"				12,112	12,112	12,112	12,112	12,112
	14"							12,112	12,112
3 1/2" Column	7 1/4"	10,219	11,337	12,871	13,629				
	9 1/4"		11,170	12,120	13,071	14,022	15,761	16,891	17,220
	9 1/2"		11,170	12,120	13,071	14,022	15,512	16,913	17,220
	11 1/4"				13,071	14,022	14,972	15,923	16,874
	11 7/8"					14,022	14,972	15,923	16,874
	14"								16,874

Notes:

1) For 1 1/4", 2 1/2", and 5" wide beams, multiply tabulated reactions by 0.33, 0.66, and 1.33, respectively.
2) For 1 1/4" wide beams, the max. depth = 9.5".
3) Bearing length is based on the bearing resistance (specified strength) of 769 psi for the Wood Plates and 1640 psi for the Column bearing supports.
4) Table considers only downward loading conditions. For beams with uplift loads contact Tolko's representative.
5) Load duration factor K_D = 1.0.
6) Holes or concentrated loads are not allowed within the tapered cut.
7) Tapered cut length should not exceed (1/3) of the span.
8) Min. tapered cut slope = 3/12.
9) Contact Tolko's representative for other design conditions.

TABLE 21: ALLOWABLE REACTIONS FOR TAPERED END CUTS – 1.35E & 1.55E T-TEC LSL 1-1/2" WIDTH

Bearing Support	Beam Depth	Allowable Reactions (lbs) for 3" wide - 1.35E LSL Beams							
		Heel Height - D1							
		4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"
3-1/2" Wood Plate	7-1/4"	5612	6225	6460	6460				
	9-1/4"		6134	6460	6460	6460	6460	6460	6460
	9-1/2"		6134	6460	6460	6460	6460	6460	6460
	11-1/4"				6460	6460	6460	6460	6460
	11-7/8"					6460	6460	6460	6460
	14"								6460
5-1/4" Wood Plate	7-1/4"	6084	6988	7452	7569				
	9-1/4"	6068	6590	7112	7634	8552	9215	9566	9657
	9-1/2"	6068	6590	7112	7634	8396	9210	9689	9689
	11-1/4"			7112	7634	8156	8678	9200	9689
	11-7/8"				7634	8156	8678	9200	9689
	14"							9200	9689
3-1/2" Column	7-1/4"	5612	6225	7067	7484				
	9-1/4"		6134	6656	7178	7700	8654	9275	9591
	9-1/2"		6134	6656	7178	7700	8518	9287	9734
	11-1/4"				7178	7700	8222	8744	9266
	11-7/8"					7700	8222	8744	9266
	14"								9266

Notes:

1) For 1 1/2", 4 1/2", and 6" beams, multiply tabulated reactions by 0.5, 1.5, and 2, respectively.
2) For 1 1/2" single-ply beams, the max. depth = 11.875".
3) Bearing length is based on the bearing resistance (specified strength) of 769 psi for the Wood Plates and 1370 psi for the Column bearing supports.
4) Table considers only downward loading conditions. For beams with uplift loads contact Tolko's representative.
5) Load duration factor K_D = 1.0
6) Holes or concentrated loads are not allowed within the tapered cut.
7) Tapered cut length should not exceed (1/3) of the span.
8) Min. tapered cut slope = 3/12.
9) Contact Tolko's representative for other design conditions.

TABLE 22: ALLOWABLE REACTIONS FOR TAPERED END CUTS – 1.35E T-TEC LSL 1-3/4" WIDTH

Bearing Support	Beam Depth	Allowable Reactions (lbs) for 3-1/2" wide - 1.35E LSL Beams							
		Heel Height - D1							
		4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"
3-1/2" Wood Plate	7-1/4"	6547	7263	7536	7536				
	9-1/4"		7156	7536	7536	7536	7536	7536	7536
	9-1/2"		7156	7536	7536	7536	7536	7536	7536
	11-1/4"				7536	7536	7536	7536	7536
	11-7/8"					7536	7536	7536	7536
	14"								7536
5-1/4" Wood Plate	7-1/4"	7098	8152	8694	8831				
	9-1/4"	7080	7689	8298	8907	9978	10751	11161	11267
	9-1/2"	7080	7689	8298	8907	9795	10745	11304	11304
	11-1/4"			8298	8907	9516	10125	10734	11304
	11-7/8"				8907	9516	10125	10734	11304
	14"							10734	11304
3-1/2" Column	7-1/4"	6547	7263	8245	8731				
	9-1/4"		7156	7765	8374	8983	10097	10821	11189
	9-1/2"		7156	7765	8374	8983	9937	10835	11357
	11-1/4"				8374	8983	9592	10201	10810
	11-7/8"					8983	9592	10201	10810
	14"								10810

Notes:

1) For 1-3/4", 5-1/4", and 7" wide beams, multiply tabulated reactions by 0.5, 1.5, and 2, respectively.
2) Bearing length is based on the bearing resistance (specified strength) of 769 psi for the Wood Plates and 1370 psi for the Column bearing supports.
3) Table considers only downward loading conditions. For beams with uplift loads contact Tolko's representative.
4) Load duration factor K_D = 1.0
5) Holes or concentrated loads are not allowed within the tapered cut.
6) Tapered cut length should not exceed (1/3) of the span.
7) Min. tapered cut slope = 3/12.
8) Contact Tolko's representative for other design conditions.

FIGURE 3: TAPERED END CUT – WOOD PLATE CONNECTION

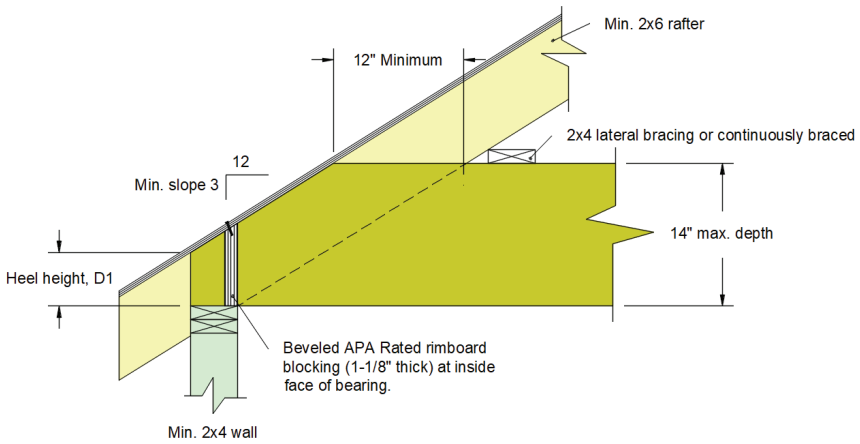


FIGURE 4: TAPERED END CUT – COLUMN CONNECTIONS

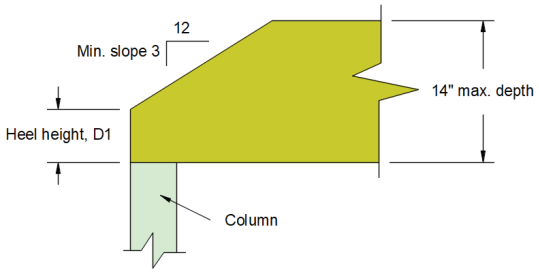
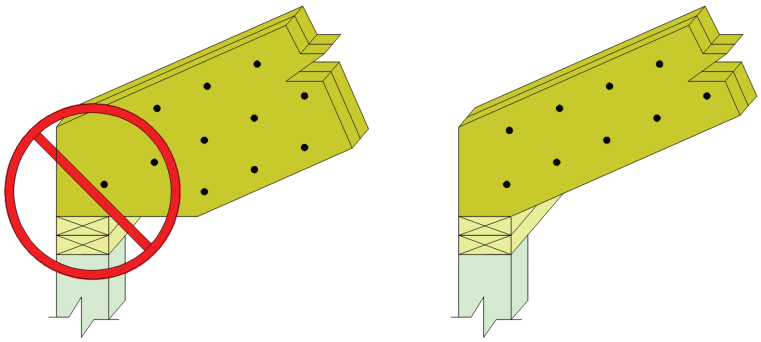


FIGURE 5: DO NOT OVERHANG SEAT CUT BEYOND INSIDE FACE OF THE BEARING SUPPORT



MULTIPLE MEMBER CONNECTIONS: TOP LOADED MEMBERS

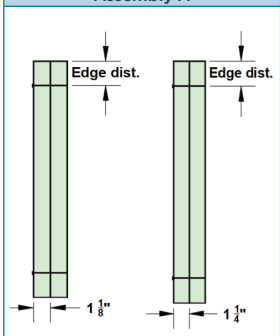
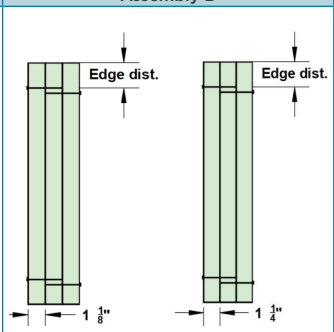
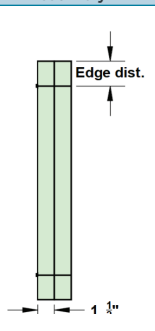
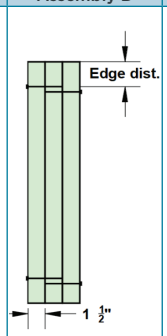
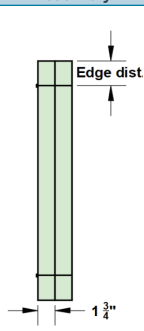
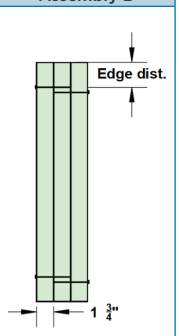
TABLE 23: MULTIPLE MEMBER CONNECTIONS: TOP LOADED MEMBERS- 1.35E & 1.55E LSL

Ply Thickness (in)	# of Plies	Fastener Type	Depth (in)	# Rows	On-Center Spacing (in)	Location	Min. Edge Distance (in)	Min. End Distance (in)	Min. Distance Between Rows of Fasteners (in)
1 1/8, 1 1/4	2	8d box nail (0.113" x 2.5")	7-1/4	2	12	One side (front or back)	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14	4					
	3		7-1/4	2	12	Both side (front and back) - stagger nails on the opposite side by 6"	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14, 16	4					
1 1/8	4	SDW22438	7-1/4, 9-1/4, 9-1/2	2	12	One side (front or back)	1.5	6	4
			11-1/4, 11-7/8, 14	3					
			16	4					
1 1/4		SDW22500, WS5, WSWH5	7 1/4, 9 1/4, 9 1/2	2	12	One side (front or back)	1.5	6	4
			11 1/4, 11 7/8, 14	3					
			16	4					
1-1/2	2	10d box nail (0.128" x 3")	7-1/4	2	12	One side (front or back)	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14, 16	4					
	3		7-1/4	2	12	Both side (front and back) - stagger nails on the opposite side by 6"	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14, 16	4					
	4	SDW22600, WS6, WSWH6	7-1/4, 9-1/4, 9-1/2	2	12	One side (front or back)	1.5	6	4
			11-1/4, 11-7/8, 14	3					
			16	4					
1-3/4	2	16d box nail (0.135" x 3.5")	7-1/4	2	12	One side (front or back)	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14, 16	4					
	3		7-1/4	2	12	Both side (front and back) - stagger nails on the opposite side by 6"	1.5	3	3
			9-1/4, 9-1/2, 11-1/4, 11-7/8	3					
			14, 16	4					
	4	SDW22634, WSWH634	7-1/4, 9-1/4, 9-1/2	2	12	One side (front or back)	1.5	6	4
			11-1/4, 11-7/8, 14	3					
			16	4					

Notes:
Top Loads (uniform or concentrated) must be applied evenly across the entire total width.
Otherwise, the side-loaded connections (uniform or concentrated) shall be used.

MULTIPLE MEMBER CONNECTIONS: UNIFORM SIDE LOADS

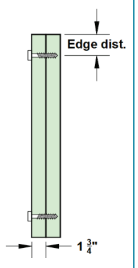
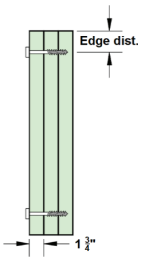
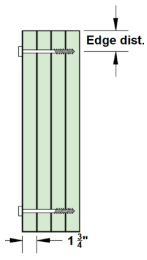
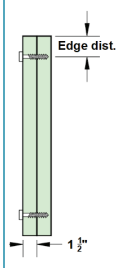
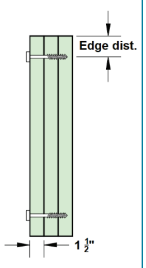
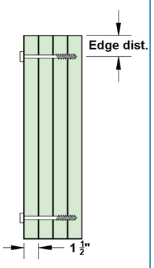
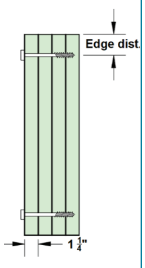
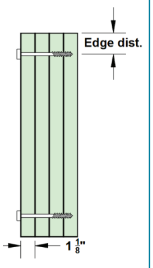
TABLE 24: MULTIPLE MEMBER CONNECTIONS FOR MAX. FACTORED UNIFORM SIDE LOADS - NAILS

Min. depth (in)	Number of Rows	Fastener o.c. spacing (in)	Assembly A	Assembly B	Assembly A	Assembly B	Assembly A	Assembly B
								
Fastener type			8d Box Nail (0.113" x 2.5")		10d Box Nail (0.128" x 3")		16d Box Nail (0.135" x 3.5")	
Side Member thickness			1 1/8" or 1 1/4"	1 1/8" or 1 1/4"	1 1/2"	1 1/2"	1 3/4"	1 3/4"
Main member thickness			1 1/8" or 1 1/4"	1 1/8" or 1 1/4"	1 1/2"	1 1/2"	1 3/4"	1 3/4"
7.25	2	12	400	300	500	375	560	420
9.25	3		600	450	750	565	840	630
14	4		800	600	1000	750	1120	840

Notes:

1) Min. nail edge distance = 1.5”
2) Min. nail end distance = 3”
3) Min. distance between rows of nails = 3”
4) Min. distance between nails in a row = 6”
5) Nails staggering distance = o.c. spacing/2
6) For other nails o.c. spacings, mutiply the tabulated PLF load by 12/o.c. spacing (max. fasteners o.c. spacing = 24”)
7) For three-ply members (Assembly B), min. o.c. spacing = 12”

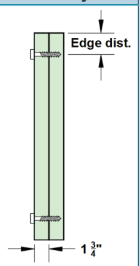
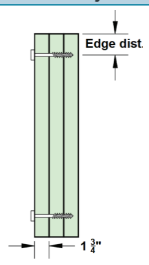
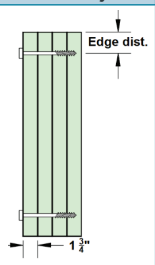
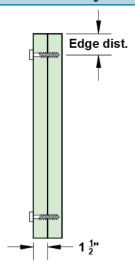
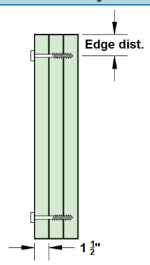
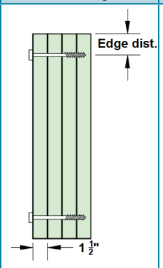
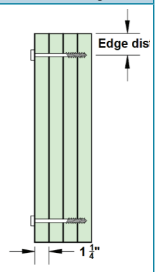
TABLE 25: MULTIPLE MEMBER CONNECTIONS FOR MAX. FACTORED UNIFORM SIDE LOADS - SIMPSON STRONG-DRIVE® SDW SCREWS

Min. depth (in)	No. of rows of fasteners	Fastener o.c. spacing (in)	Assembly A	Assembly B	Assembly F	Assembly A	Assembly B	Assembly F	Assembly F	Assembly F
										
		Fastener type	SDW22338	SDW22500	SDW22634	SDW22300	SDW22458	SDW22600	SDW22500	SDW22438
		Fastener nominal length (in)	3 3/8	5	6 3/4	3	4 5/8	6	5	4.375
		Side Member Thickness	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	1 1/8"
		Main Member Thickness	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	1 1/8"
7.25	2	12	1265	1070	950	1220	1200	1095	795	730
11.25	3		1895	1605	1425	1830	1800	1640	1190	1095
16	4		2530	2135	1900	2440	2395	2190	1585	1460

Notes:

1) Min. fastener edge distance = 1.5”
2) Min. fastener end distance = 6”
3) Min. distance between rows of fasteners = 4”
4) Fasteners staggering distance = o.c. spacing/2
5) For other fasteners o.c. spacings, mutiply the tabulated PLF load by 12/o.c. spacing (max. fasteners o.c. spacing = 24”)
6) Fasteners installed on one side only.

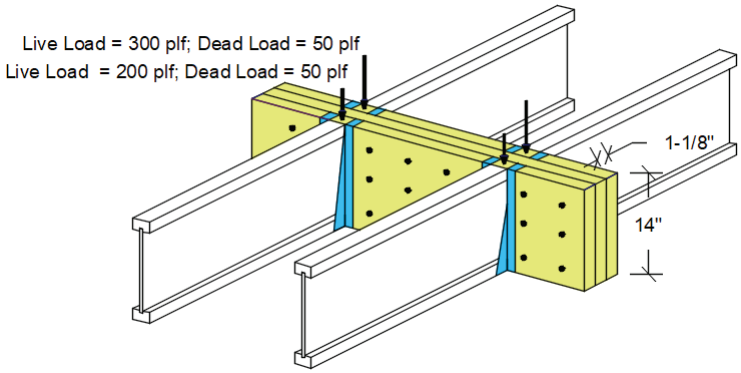
TABLE 26: TABLE 26: MULTIPLE MEMBER CONNECTIONS FOR UNIFORM SIDE LOADS - MITEK MIFLK® SCREWS

Min. depth (in)	No. of rows of fasteners	Fastener o.c. spacing (in)	Assembly A	Assembly B	Assembly F	Assembly A	Assembly B	Assembly F	Assembly F
									
		Fastener type	MIFLK312	MIFLK005	MIFLK634	MIFLK278	MIFLK412	MIFLK22600	MIFLK005
		Fastener nominal length (in)	3 1/2	5	6 3/4	3	4 5/8	6	5
		Side Member Thickness	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"
		Main Member Thickness	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"
7.25	2	12	1540	1200	1060	1180	1005	895	690
11.25	3		2310	1800	1590	1770	1505	1340	1030
16	4		3080	2400	2120	2360	2005	1785	1375

Notes:

1) Min. fastener edge distance = 1.5”
2) Min. fastener end distance = 6”
3) Min. distance between rows of fasteners = 4”
4) Fasteners staggering distance = o.c. spacing/2
5) For other fasteners o.c. spacings, mutiply the tabulated PLF load by 12/o.c. spacing (max. fasteners o.c. spacing = 24”)
6) Fasteners installed on one side only.

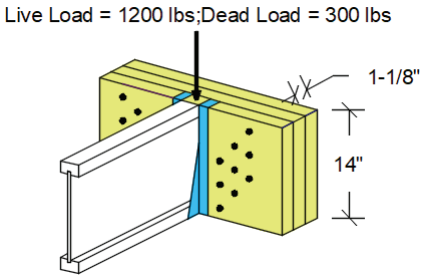
FIGURE 6: UNIFORM SIDE LOAD DESIGN EXAMPLE



Notes:

1) Verify that a 3-ply, 1-1/8” x 14” header can support the total factored load of 1.5*300 + 1.25*50 = 513 PLF with proper live and total deflection criteria.
2) The actual factored uniform load applied to the outer ply member is 513 PLF.
3) Three 1-1/8” plies (Assembly B), 4 rows of 8d Box nails (0.113” x 2.5”) at 12” o.c. spacing fastened on both sides (face and back) are good for 600 PLF factored uniform side load. Therefore, use 4 rows of 8d Box nails (0.113” x 2.5”) at 12” o.c. spacing.
4) Since nails are required on both sides (face and back) for 3-ply members, stagger fasteners on the back side by half the distance between the fasteners on the face side.
5) Verify hanger capacity. Capacity reduction may be required for the selected header thickness. Refer to hanger manufacturer for appropriate reductions.

FIGURE 7: CONCENTRATED SIDE LOAD EXAMPLE



Notes:

1) Verify that a 3-ply, 1-1/8” x 14” header can support a factored concentrated side load of 1.5*1200+1.25*300 = 2250 lbs and all other loads applied.
2) The 2250 lbs factored side point load is transferred to the header with a face mount hanger.
3) For an assembly of three 1-1/8” plies (Assembly B), 16 – 8d box nails (0.113” x 2.5”) are good for 2400 lbs.
4) Verify hanger capacity. Capacity reduction may be required for the selected header thickness. Refer to hanger manufacturer for appropriate reductions.

MULTIPLE MEMBER CONNECTIONS: CONCENTRATED SIDE LOADS

TABLE 27: MULTIPLE MEMBER CONNECTIONS FOR CONCENTRATED SIDE LOADS – NAILS

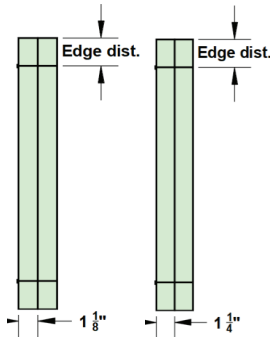
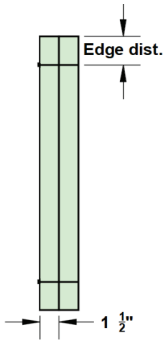
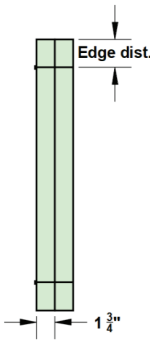
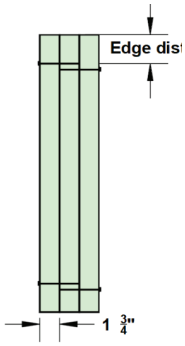
Min. depth (in)	Total Number of Fasteners	Assembly A	Assembly A	Assembly A	Assembly B
					
	Fastener type	8d Box Nail (0.113" x 2.5")	10d Box Nail (0.128" x 3")	16d Box Nail (0.135" x 3.5")	
	Side Member thickness	1 1/8" or 1 1/4"	1 1/2"	1 3/4"	1 3/4"
	Main member thickness	1 1/8" or 1 1/4"	1 1/2"	1 3/4"	1 3/4"
7.25	6	1200	1500	1680	1260
9.25	8	1600	2000	2240	1680
9.5	12	2400	3000	3360	2520
11.25	16	3200	4000	4480	3360
14	18	3600	4500	5040	3780
16	24	4800	6000	6720	5040

FIGURE 8: 6 NAILS

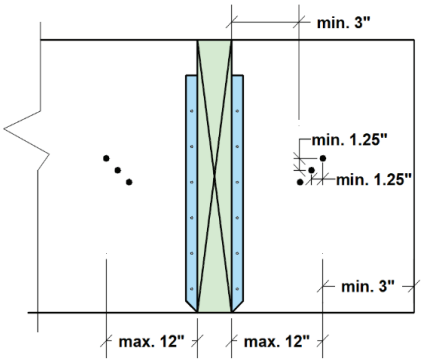


FIGURE 9: 8 NAILS

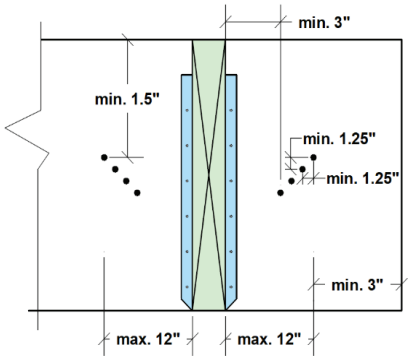


FIGURE 10: 12 NAILS

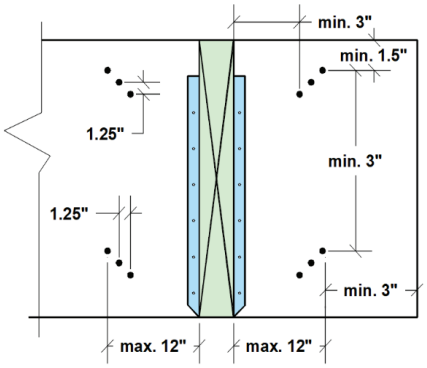


FIGURE 11: 16 NAILS

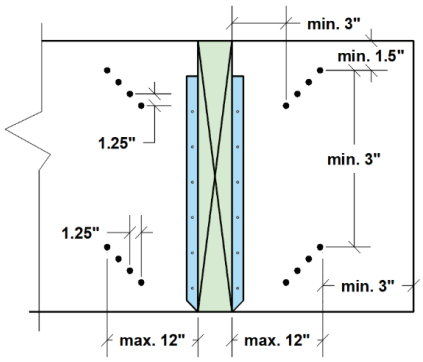


FIGURE 12: 18 NAILS

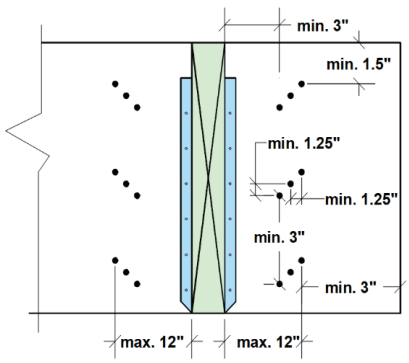


FIGURE 13: 24 NAILS

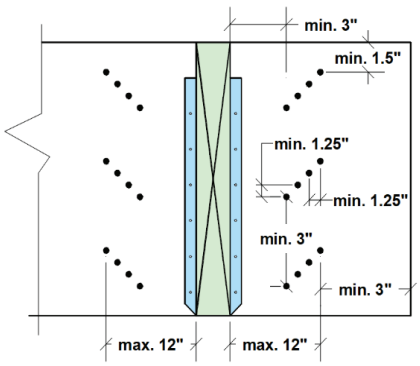
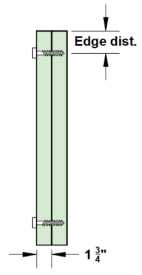
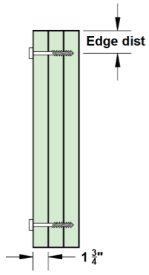
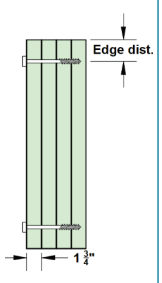
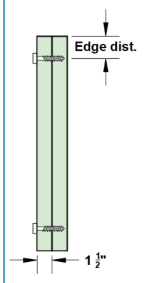
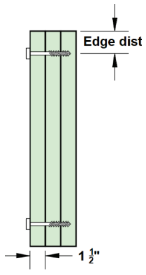
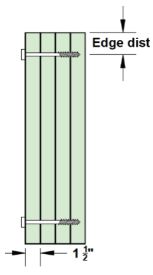
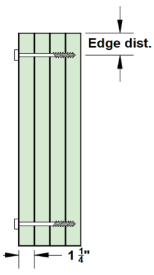
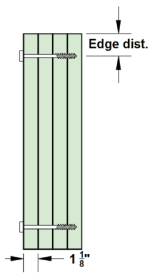


TABLE 28: MULTIPLE MEMBER CONNECTIONS FOR MAX. FACTORED CONCENTRATED SIDE LOADS - SIMPSON STRONG-DRIVE® SDW SCREWS

Min depth (in.)	Total # of Fasteners	Max. Concentrated Load (lbs)							
		Assembly A	Assembly B	Assembly F	Assembly A	Assembly B	Assembly F	Assembly F	Assembly F
									
	Fastener type	SDW22338	SDW22500	SDW22634	SDW22300	SDW22458	SDW22600	SDW22500	SDW22438
	Fastener nominal length (in)	3 3/8	5	6 3/4	3	4 5/8	6	5	4.375
	Side Member	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	1 1/8"
	Main Member	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	1 1/8"
7.25	6	3790	3205	2850	3660	3595	3280	2375	2190
9.25	8	5055	4270	3795	4880	4790	4375	3165	2920
9.5	12	7580	6405	5695	7320	7185	6560	4745	4375
11.25	16	10105	8540	7590	9760	9575	8750	6325	5835
14	18	11370	9605	8540	10980	10775	9840	7115	6560

Tabulated values shall not be increased for a load duration K_D > 1.0

FIGURE 14: 6 SDW SCREWS

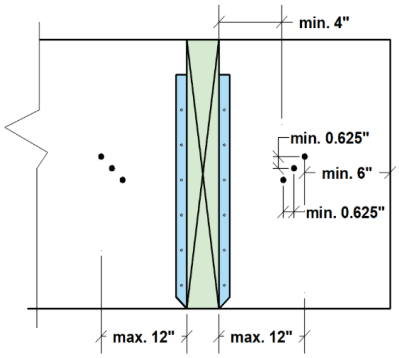


FIGURE 15: 8 SDW SCREWS

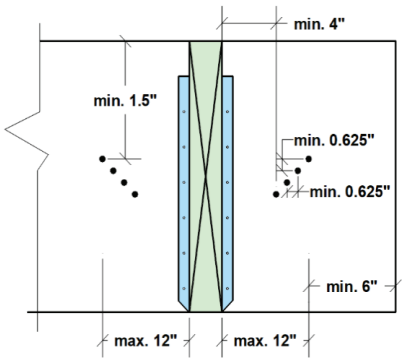


FIGURE 16: 12 SDW SCREWS

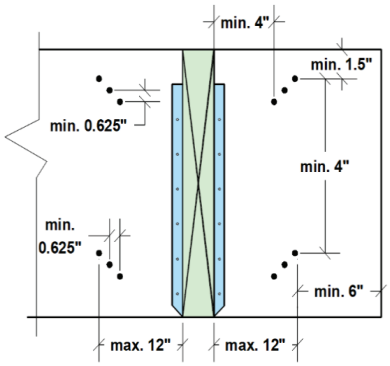


FIGURE 17: 16 SDW SCREWS

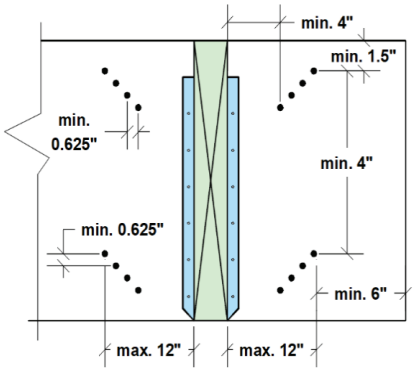


FIGURE 18: 18 SDW SCREWS

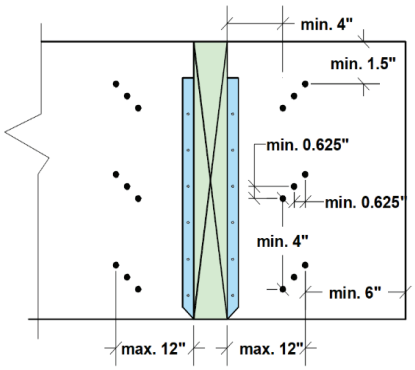
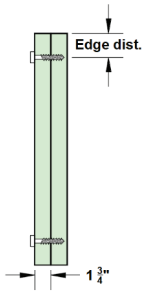
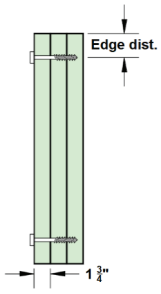
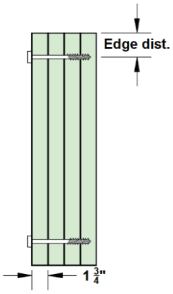
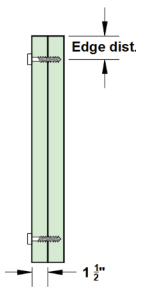
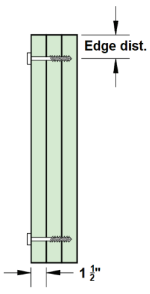
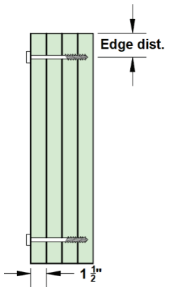
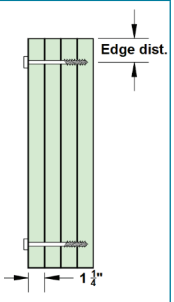


TABLE 29: MULTIPLE MEMBER CONNECTIONS FOR MAX. FACTORED CONCENTRATED SIDE LOADS – MITEK MIFLK® SCREWS

Min depth (in.)	Total # of Fasteners	Max. Concentrated Load (lbs)						
		Assembly A	Assembly B	Assembly F	Assembly A	Assembly B	Assembly F	Assembly F
								
	Fastener type	MIFLK312	MIFLK005	MIFLK634	MIFLK278	MIFLK412	MIFLK22600	MIFLK005
	Fastener nominal length (in)	3 1/2	5	6 3/4	3	4 5/8	6	5
	Side Member	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"
	Main Member	1 3/4"	1 3/4"	1 3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/4"
7.25	6	4620	3600	3180	3540	3010	2675	2060
9.25	8	6160	4800	4240	4720	4010	3565	2745
9.5	12	9240	7200	6360	7080	6015	5345	4115
11.25	16	12320	9600	8480	9440	8020	7130	5490
14	18	13860	10800	9540	10620	9020	8020	6175

Tabulated values shall not be increased for a load duration K_D > 1.0

FIGURE 19: 6 MIFLK SCREWS

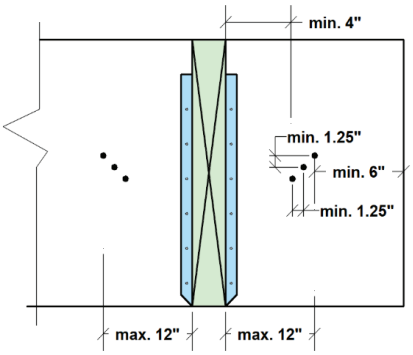


FIGURE 20: 8 MIFLK SCREWS

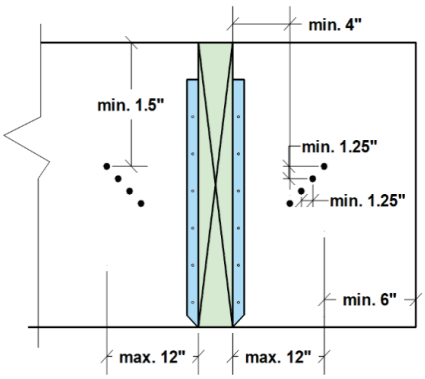


FIGURE 21: 12 MIFLK SCREWS

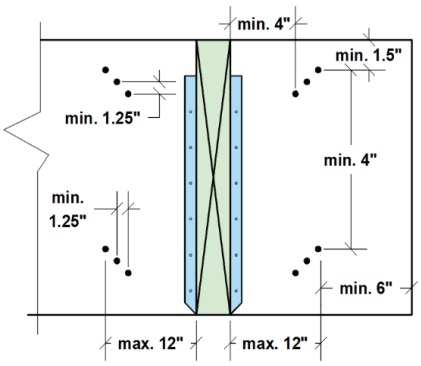


FIGURE 22: 16 MIFLK SCREWS

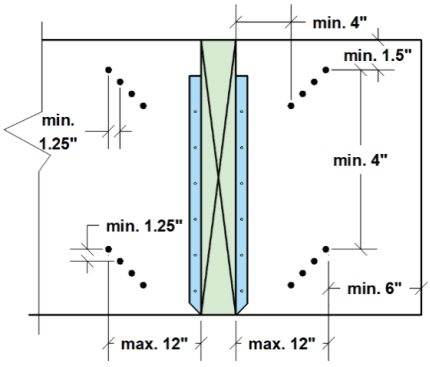
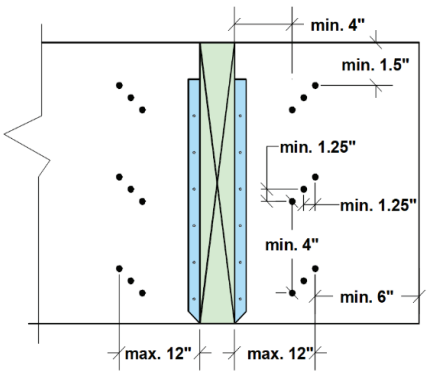


FIGURE 23: 18 MIFLK SCREWS



COLUMNS: ALLOWABLE AXIAL LOADS

TABLE 30: ALLOWABLE FACTORED AXIAL LOADS (LBS) FOR 1.35E T-TEC LSL 1 -1/2" WIDTH

Column Heigth (ft.)	ALLOWABLE FACTORED AXIAL LOAD (LBS) FOR 1.35E T-TEC LSL 1-1/2" WIDTH					
	Column Size					
	1-1/2" x 3-1/2"	1-1/2" x 5-1/4"		1-1/2" x 7-1/4"		
	2 plies	2 plies	3 plies	2 plies	3 plies	4 plies
6	4544	6816	13706	9413	18928	20391
7	3511	5267	12350	7273	17055	17478
8	2693	4039	10887	5578	15034	15293
9	2071	3107	9430	4291	13022	13594
10	1607	2411	8066	3330	11139	12234
11	1262	1893	6847	2614	9455	11122
12	1003	1505	5791	2078	7998	10195
13		1211	4896	1673	6762	9411
14		987	4147	1363	5727	8739

Design Assumptions:

1) Columns shall be only designed for the max. tabulated factored vertical loads
2) Bracing in both directions must be provided at column ends
3) Dry service conditions only
4) Eccentricity of 1/6 of the column width or depth has been applied (the worst case scenario)
5) Live load deflection criteria = L/180

How to size a Column:

1) Determine the clear height of the Column
2) Scan the cells with the height higher or equal to the actual column height, and select a size with the factored vertical load capacity ≥ factored reaction/vertical load transferred

TABLE 31: ALLOWABLE FACTORED AXIAL LOAD (LBS) FOR 1.35E T-TEC LSL 1-3/4" WIDTH

Column Heigth (ft.)	ALLOWABLE FACTORED AXIAL LOAD (LBS) FOR 1.35E T-TEC LSL 1-3/4" WIDTH					
	Column Size					
	1-1/2" x 3-1/2"	1-1/2" x 5-1/4"		1-1/2" x 7-1/4"		
	2 plies	2 plies	3 plies	2 plies	3 plies	4 plies
6	6496	9745	16957	13458	23417	27755
7	5301	7952	15991	10982	22083	23790
8	4253	6380	14645	8811	20225	20816
9	3389	5084	13194	7021	18220	18503
10	2702	4053	11722	5597	16187	16653
11	2165	3248	10302	4485	14226	15139
12	1748	2622	8985	3621	12408	13877
13	1424	2136	7800	2949	10772	12810
14	1170	1756	6757	2425	9331	11895

Design Assumptions:

1) Columns shall be only designed for the max. tabulated factored vertical loads
2) Bracing in both directions must be provided at column ends
3) Dry service conditions only
4) Eccentricity of 1/6 of the column width or depth has been applied (the worst case scenario)
5) Live load deflection criteria = L/180

How to size a Column:

1) Determine the clear height of the Column
2) Scan the cells with the height higher or equal to the actual column height, and select a size with the factored vertical load capacity ≥ factored reaction/vertical load

TABLE 32: ALLOWABLE FACTORED AXIAL LOAD (LBS) FOR 1.55E T-TEC LSL 1-1/2" WIDTH

Column Heigth (ft.)	ALLOWABLE FACTORED AXIAL LOAD (LBS) FOR 1.55E T-TEC LSL 1-1/2" WIDTH					
	Column Size					
	1-1/2" x 3-1/2"	1-1/2" x 5-1/4"		1-1/2" x 7-1/4"		
	2 plies	2 plies	3 plies	2 plies	3 plies	4 plies
6	5116	7675	14534	10599	20071	23412
7	3970	5955	13952	8223	19267	20067
8	3055	4583	12311	6328	17001	17559
9	2356	3534	10678	4881	14746	15608
10	1832	2748	9148	3796	12633	14047
11	1441	2161	7777	2985	10740	12770
12	1146	1720	6588	2375	9097	11706
13		1386	5577	1914	7702	10805
14		1130	4729	1560	6530	10033

Design Assumptions:

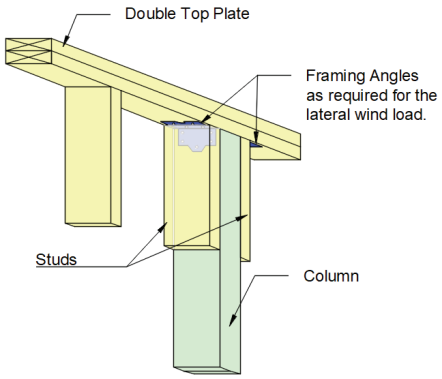
1) Columns shall be only designed for the max. tabulated factored vertical loads
2) Bracing in both directions must be provided at column ends
3) Dry service conditions only
4) Eccentricity of 1/6 of the column width or depth has been applied (the worst case scenario)
5) Live load deflection criteria = L/180

How to size a Column:

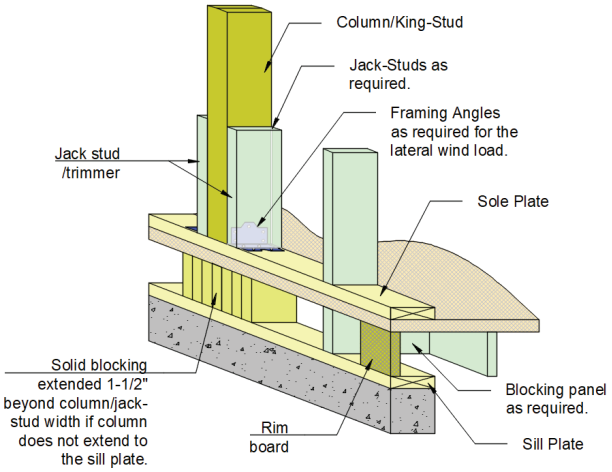
1) Determine the clear height of the Column
2) Scan the cells with the height higher or equal to the actual column height, and select a size with the factored vertical load capacity ≥ factored reaction/vertical load transferred

COLUMN DETAILS

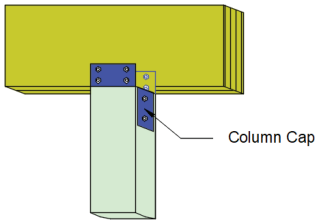
Detail 15: Column to Top Plate



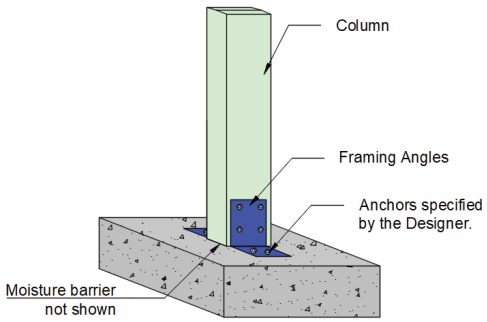
Detail 16: Column to Bottom Plate



Detail 17: Beam to Column Cap



Detail 18: Column Base



Detail 19: Beam on Column

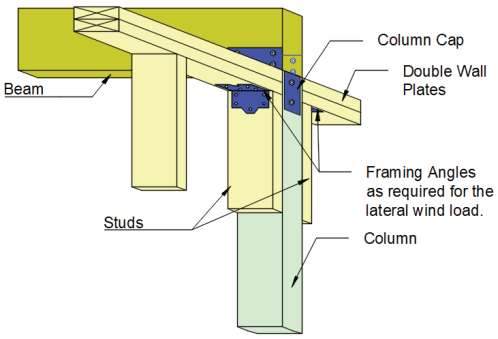


TABLE 33: MULTI-PLY CONNECTIONS FOR COLUMNS 1.35E & 1.55E T-TEC LSL

Ply thickness (in)	No. of plies	Depth range	Fastener type	No. of rows of fasteners	o.c. spacing	Min. end distance (in)	Min. edge distance (in)	Notes
1-1/2	2	Depth ≤ 7.25"	10d common nail (0.148" x 3")	2	6"	2-1/4"	1"	staggered; adjacent nails driven from opposite side
	3	5.25" ≤ Depth ≤ 7.25"	SDS1/4x4-1/2, SDW22458, WSWH45, WS45 screws	2	8"	6"	2"	staggered; adjacent screws driven from opposite side
	4	5.25" ≤ Depth ≤ 7.25"	SDS1/4x6, SDW22600, WSWHS6, WS6 screws	2	8"	6"	2"	staggered; adjacent screws driven from opposite side
1-3/4	2	Depth ≤ 7.25"	16d common nail (0.162" x 3-1/2")	2	6"	2-1/4"	1"	staggered; adjacent nails driven from opposite side
	3	5.25" ≤ Depth ≤ 7.25"	SDW22500, MIFLK005 (F5.0FL), WSWH5, WS5 screws	2	8"	6"	2"	staggered; adjacent screws driven from opposite side
	4	5.25" ≤ Depth ≤ 7.25"	SDW22634, MIFLK634 (F6.7FL), WSWHS634 screws	2	8"	6"	2"	staggered; adjacent screws driven from opposite side

Note:

1) Columns shall not be drilled or notched.

TABLE 34: COLUMN CAPS FOR 1.35E & 1.55E T-TEC LSL

Beam Total Width	Column Size	Location of Beam	Simpson Strong-Tie®		USP Structural Connectors®	
			Connector	Factored Normal Resistance (lbs)	Connector	Factored Normal Resistance (lbs)
3"	3" x 3 1/2"	End	ECC3 1/4-4	8,880	KECCQ325-4	21,095
		Intermediate	CC3 1/4-4	23,080	KCCQ325-4	30,940
	3" x 5 1/4"	End	ECC3 1/4-6	13,955	KECCQ325-6	21,095
		Intermediate	CC3 1/4-6	27,915	KCCQ325-6	30,940
4-1/2"	4 1/2" x 5 1/4"	End	ECC4.62-5.50	20,095	-	-
		Intermediate	CC4.62-5.50	40,195	-	-
3-1/2"	3 1/2" x 3 1/2"	End	ECC44	9,945	KECCQ44	24,430
		Intermediate	CC44	19,850	KCCQ44	34,655
	3 1/2" x 5 1/4"	End	ECC46	15,630	KECCQ46	26,775
		Intermediate	CC46	31,260	KCCQ46	34,655
	3 1/2" x 7 1/4"	End	ECC48	21,315	KECCQ48	26,775
		Intermediate	CC48	31,260	KCCQ48	34,655
5-1/4"	5 1/4" x 5 1/4"	End	ECC66	24,565	KECCQ66	41,630
		Intermediate	CC66	49,125	KCCQ66	54,455
	5 1/4" x 7 1/4"	End	ECC68	33,495	KECCQ68	42,075
		Intermediate	CC68	49,125	KCCQ68	54,455
7"	7" x 7 1/4"	End	ECC7 1/8-7 1/8	53,510	KECCQ71-8	53,555
		Intermediate	CC7 1/8-7 1/8	99,370	KCCQ71-8	69,300

Notes:

1) Splice conditions must be detailed by the Designer to transfer tension loads between spliced members by means other than the column cap.
2) Tabulated downloads shall be reduced where limited by allowable loads of the column or the beam.
3) Tabulated values shall not be increased by load duration factors $K_D > 1.0$.

TABLE 35: COLUMN BASES FOR 1.35E & 1.55E T-TEC LSL

Column Size	Simpson Strong-Tie®		USP Structural Connectors®	
	Connector	Factored Normal Resistance (lbs)	Connector	Factored Normal Resistance (lbs)
4 1/2" x 5 1/4"	CB5-4.5	Post or concrete control	KCBQ5	Post or concrete control
4 1/2" x 7 1/4"	CB5-4.5		KCBQ5	
6" x 7 1/4"	CB5-6		KCBQ5	
3 1/2" x 3 1/2"	CB44		KCBQ44	
3 1/2" x 5 1/4"	CB46		KCBQ46	
3 1/2" x 7 1/4"	CB48		KCBQ48	
5 1/4" x 5 1/4"	CB64		KCBQ64	
5 1/4" x 7 1/4"	CB6-7		-	
7" x 7 1/4"	CB7 1/8-7		KCBQ71-7	

Notes:

1) Concrete shall have a minimum compressive strength of f'c = 2,500 psi or greater at 28 days.
2) Designer is responsible for concrete design.

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/

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- Draw the way you want. iStruct® will follow
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ACCESS THE CSD SOFTWARE

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

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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®

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