Murphy

LVL Limit States Design Guide

2.0 E-LVL
2.2 E-LVL

MURPHY
Engineered Wood

Murphy Company

For over 100 years, Murphy Company has manufactured wood products for discerning customers who demand quality.

From green and dry softwood veneer (White City, OR and Elma, WA), to softwood plywood (Rogue River, OR), Hardwood Plywood (Eugene, OR), or Engineered Douglas-fir LVL (Sutherlin, OR), we understand our customers' needs and provide solutions for demanding market conditions.

Controlling the entire process, from "log to finished product," allows us to customize your product at a competitive price.

Douglas fir LVL

Providing the superior performance and durability of engineered wood, Murphy Company LVL is perfectly suited to spans bearing heavy loads and multi-span applications. Common problems associated with lumber sizes – like decreased dimensional stability and uniformity – do not apply to our LVL, which utilizes ultrasonically tested and graded Douglas fir veneer.

Engineered for Quality

Checking is minimized because Murphy Company LVL is cured in a controlled process in which water-proof adhesives boost stability and reduce warps and twists. All products are machine-ripped to generate uniform size and rigid, flat surfaces with inherently superior nail-holding characteristics.

We are confident that our products will provide our customers with consistent high performance when handled and installed in accordance with our installation instructions.

Tested for strength and engineered for quality, Murphy Company LVL represents our ongoing commitment to unsurpassed performance and service.

Murphy Company LVL is third-party tested by the APA (The Engineered Wood Association), a leading industry quality assurance organization.

General notes for this product guide:

1. All tables assume dry conditions. Calculations are based on The CSA Group 086-14 (CSA 086-14), and the National Building Code of Canada 2015 (NBC 2015).
2. Lateral support of the compression edge of all beams must be provided at 24" on center.
3. Tables apply to dead, floor live, roof live and snow loads. Lateral loads must be considered by the building designer.
4. This design manual is intended to be used for preliminary design purposes. A complete structural analysis should be performed by a design professional.

2.0E/2.2E LVL Design Properties

Factored Resistance (Standard Term) - 1¾"

Depth (in)	Factored Shear Resistance V_r (lb)	Factored Moment Resistance M_r (lb-ft)	EI ($lb.in^2 \times 10^6$)	Weight (plf)
5 1/2	3113	4363	49	2.8
7 1/4	4103	7213	111	3.7
9 1/4	5235	11237	231	4.7
9 1/2	5377	11796	250	4.8
11 1/4	6367	16046	415	5.7
11 7/8	6721	17706	488	6.1
14	7923	23891	800	7.1
16	9055	30463	1195	8.2
18	10187	37746	1701	9.2
20	11319	45725	2333	10.2
22	12451	54386	3106	11.2
24	13583	63718	4032	12.3

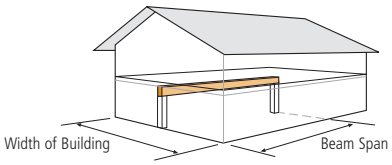
Factored Resistance (Standard Term) - 3½"

Depth (in)	Factored Shear Resistance V_r (lb)	Factored Moment Resistance M_r (lb-ft)	EI ($lb.in^2 \times 10^6$)	Weight (plf)
5 1/2	6225	8725	97	5.6
7 1/4	8206	14425	222	7.4
9 1/4	10470	22474	462	9.4
9 1/2	10753	23592	500	9.7
11 1/4	12734	32093	831	11.5
11 7/8	13441	35411	977	12.1
14	15847	47782	1601	14.3
16	18110	60927	2389	16.3
18	20374	75493	3402	18.4
20	22638	91450	4667	20.4
22	24902	108772	6211	22.5
24	27166	127437	8064	24.5

Notes:
1. The values have been calculated in accordance with CSA Standard O86-14.
2. The values are valid for dry service conditions, single member applications, standard term loading, and no treatment. Full lateral support is required for the compression edge, and both edges in the case of cantilevered and continuous beams.
3. Specified Strengths for 3100Fb-2.0E and 2.2E grade LVL for the beam orientation (edgewise):

   Bending f_b* = 5729 psi
   Shear f_v = 539 psi
   Modulus of Elasticity E = 2.0×10^6 psi
   Modulus of Elasticity E = 2.2×10^6 psi
   Compression perpendicular to grain f_{cp} = 1365 psi
   Compression parallel to grain f_c = 5107 psi
   *Adjust f_b by a factor of $(12/d)^{0.18}$ where d = depth (in).

2.0E/2.2E LVL Floor Beams



Application Table - 2.0E / 2.2E Floor Beams - 1¾" Width

Width of Building	Beam Span									
	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
24'	2- 11 1/4	2- 11 1/4	2- 11 7/8	2- 14	2- 14	2- 16	2- 16	2- 16	2- 18	2- 18
	3- 9 1/4	3- 9 1/2	3- 11 1/4	3- 11 1/4	3- 11 7/8	3- 14	3- 14	3- 14	3- 16	3- 16
28'	2- 11 1/4	2- 11 1/4	2- 14	2- 14	2- 14	2- 16	2- 16	2- 18*	2- 18*	3- 16
	3- 9 1/4	3- 11 1/4	3- 11 1/4	3- 11 7/8	3- 14	3- 14	3- 14	3- 16	3- 16	4- 16
32'	2- 11 1/4	2- 11 7/8	2- 14	2- 14	2- 16	2- 16*	2- 18*	2- 18*	2- 18*	3- 18
	3- 9 1/2	3- 11 1/4	3- 11 1/4	3- 11 7/8	3- 14	3- 14	3- 16	3- 16	3- 16	4- 16
36'	2- 11 1/4	2- 14	2- 14	2- 14	2- 16*	2- 16*	2- 18*	2- 18*	3- 16	3- 18
	3- 11 1/4	3- 11 1/4	3- 11 7/8	3- 14	3- 14	3- 14	3- 16	3- 16	4- 16	4- 16
40'	2- 11 7/8	2- 14	2- 14*	2- 16*	2- 16*	2- 18*	2- 18*	2- 18*	3- 18	3- 18
	3- 11 1/4	3- 11 1/4	3- 11 7/8	3- 14	3- 14	3- 16	3- 16	3- 16	4- 16	4- 16

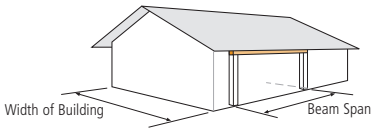
Notes:
1. The table indicates the number of 1¾" wide LVL plies to be used for the given application.
2. Beam Span is the distance from centre to centre of supports, and is based on the more restrictive of simple or continuous span. The ratio of the short span to the long span should be greater than 0.4.
3. The beam must be centered in the building if the floor joists are continuous over the top. The beam may be located off-centre and the "width of building" may be taken as 80% of the actual width if the joists are simply supported and hang from the face of the beam.
4. Live load deflection is limited to L/360. Total load deflection, including beam weight, is limited to L/240.
5. The table is based on an unfactored live load of 40 psf, and an unfactored dead load of 12 psf.
6. Provide a minimum 3" bearing at each end, 7½" bearing length at interior supports (* indicates that 4½" is required at end supports and 11¼" at interior supports). Bearing length is based on the compression perpendicular resistance of the LVL. For bearing on materials with a lower compressive resistance the designer shall calculate the required bearing length.
7. Calculations are in accordance with CSA O86-14 and the National Building Code of Canada. Live loads have been reduced in accordance with 4.1.5.8 of NBC 2015. Vibration has not been considered.

2.0E/2.2E LVL Garage Door Headers

These tables provide two selections for supporting roof loads over standard garage-door openings in various conditions.

1-Story Application Table - 2.0E / 2.2E Garage Door Headers - 1 3/4" Width

Width of Building	25 psf snow load			30 psf snow load			40 psf snow load			50 psf snow load		
	15 psf roof dead load			15 psf roof dead load			15 psf roof dead load			15 psf roof dead load		
	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"
20'	2-7 1/4	2-14	2-14	2-9 1/4	2-14	2-16	2-9 1/4	2-14	2-16	2-9 1/4	2-16	2-18
	3-7 1/4	3-11 1/4	3-14	3-7 1/4	3-11 1/4	3-14	3-7 1/4	3-14	3-14	3-9 1/4	3-14	3-16
24'	2-9 1/4	2-14	2-16	2-9 1/4	2-14	2-16	2-9 1/4	2-16	2-18	2-9 1/4	2-16*	2-18*
	3-7 1/4	3-11 7/8	3-14	3-7 1/4	3-11 7/8	3-14	3-9 1/4	3-14	3-16	3-9 1/4	3-14	3-16
28'	2-9 1/4	2-14	2-16	2-9 1/4	2-16	2-16	2-9 1/4	2-16	2-18*	2-9 1/2	2-18*	3-18
	3-7 1/4	3-11 7/8	3-14	3-7 1/4	3-14	3-14	3-9 1/4	3-14	3-16	3-9 1/4	3-16	-
32'	2-9 1/4	2-16	2-16	2-9 1/4	2-16	2-18*	2-9 1/4	2-18*	3-16	2-11 1/4	2-18*	3-18
	3-7 1/4	3-14	3-14	3-9 1/4	3-14	3-16	3-9 1/4	3-14	-	3-9 1/4	3-16	-
36'	2-9 1/4	2-16	2-18*	2-9 1/4	2-16*	2-18*	2-11 1/4	2-18*	3-18	2-11 1/4	2-18*	3-18*
	3-7 1/4	3-14	3-16	3-9 1/4	3-14	3-16	3-9 1/4	3-16	-	3-9 1/4	3-16	-



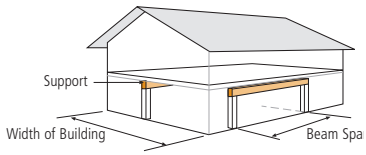
Notes:

1. The table indicates the number of 1 3/4" wide LVL plies to be used for the given application.
2. The listed span is the clear distance from face to face of supports. The design is based on a simple span for the unfactored roof loads shown in the table.
3. The roof structure is assumed to span from exterior wall to exterior wall and have a 24" overhang.
4. An unfactored live load of 10 psf has been included for an attic space with limited accessibility above the second floor ceiling.
5. Live load deflection is limited to L/360. Total load deflection, including beam weight, is limited to L/240.
6. Provide a minimum 3" bearing at each end (* indicates that 4 1/2" is required). Bearing length is based on the compression perpendicular resistance of the LVL. For bearing on materials with a lower compressive resistance the designer shall calculate the required bearing length.
7. Calculations are in accordance with CSA O86-14 and the National Building Code of Canada. Live loads have been reduced in accordance with 4.1.5.8 of NBC 2015. Vibration and creep have not been considered.

Accounting for a second-story floor and wall, these tables provide two selections for supporting roof loads over standard garage-door openings in various conditions.

2 Story Application Table - 2.0E/2.2E Garage Door Headers - 1 3/4" Width

Width of Building	25 psf snow load			30 psf snow load			40 psf snow load			50 psf snow load		
	15 psf roof dead load			15 psf roof dead load			15 psf roof dead load			15 psf roof dead load		
	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"	9' 3"	16' 3"	18' 3"
20'	2 - 9 1/4	2 - 14	2 - 16	2 - 9 1/4	2 - 16	2 - 18 *	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 9 1/4	2 - 16 *	2 - 18 *
	3 - 7 1/4	3 - 14	3 - 14	3 - 7 1/4	3 - 14	3 - 14	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 14	3 - 16
24'	2 - 9 1/4	2 - 16	2 - 18 *	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 11 1/4	2 - 18 *	3 - 18 *
	3 - 7 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 16	-
28'	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 9 1/2	2 - 18 *	3 - 18 *	2 - 11 1/4	3 - 16 *	3 - 18 *
	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 16	-	3 - 9 1/4	-	-
32'	2 - 9 1/4	2 - 16 *	2 - 18 *	2 - 9 1/2	2 - 18 *	3 - 16 *	2 - 11 1/4	3 - 16 *	3 - 18 *	2 - 11 1/4 *	3 - 16 *	3 - 18 *
	3 - 9 1/4	3 - 14	3 - 16	3 - 9 1/4	3 - 16	-	3 - 9 1/4	-	-	3 - 9 1/4	-	-
36'	2 - 9 1/2	2 - 18 *	3 - 18 *	2 - 11 1/4	3 - 16 *	3 - 18 *	2 - 11 1/4 *	3 - 16 *	3 - 18 *	2 - 11 1/4 *	3 - 18 *	-
	3 - 9 1/4	3 - 16	-	3 - 9 1/4	-	-	3 - 9 1/4	-	-	3 - 9 1/2	-	-

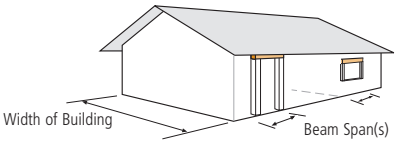


Notes:

1. The table indicates the number of 1 3/4" wide LVL plies to be used for the given application.
2. The listed span is the clear distance from face to face of supports. The design is based on a simple span for the unfactored roof loads shown in the table.
3. The roof structure is assumed to span from exterior wall to exterior wall and have a 24" overhang.
4. The floor joists must be supported at the centre of the buiding by a wall or beam.
5. The table is based on an unfactored floor live load of 40 psf, and an unfactored floor dead load of 12 psf. An unfactored dead load of 80 plf has been included for the second floor wall, and an unfactored live load of 10 psf has been included for an attic space with limited accessiblity above the second floor ceiling.
6. Live load deflection is limited to L/360. Total load deflection, including beam weight, is limited to L/240.
7. Provide a minimum 3" bearing at each end (* indicates that 4 1/2" is required). Bearing length is based on the compression perpendicular resistance of the LVL. For bearing on materials with a lower compressive resistance the designer shall calculate the required bearing length.
8. Calculations are in accordance with CSA O86-14 and the National Building Code of Canada. Live loads have been reduced in accordance with 4.1.5.8 of NBC 2015. Vibration and creep have not been considered.

2.0E/2.2E LVL Window/Door Headers

These tables provide two selections for supporting roof loads over rough openings in various conditions.



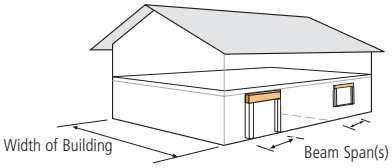
1-Story Application Table - 2.0E / 2.2E Window & Door Headers - 1 3/4" Width

Width of Building	25 psf snow load					30 psf snow load					40 psf snow load					50 psf snow load				
	15 psf roof dead load					15 psf roof dead load					15 psf roof dead load					15 psf roof dead load				
	6'	8'	9'	10'	12'	6'	8'	9'	10'	12'	6'	8'	9'	10'	12'	6'	8'	9'	10'	12'
20'	2-5 1/2	2-7 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-5 1/2	2-7 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-9 1/4	2-11 1/4
	3-5 1/2	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-5 1/2	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-11 1/4
24'	2-5 1/2	2-7 1/4	2-7 1/4	2-9 1/4	2-11 1/4	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-5 1/2	2-9 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-11 7/8
	3-5 1/2	3-7 1/4	3-7 1/4	3-7 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-7 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/2	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4
28'	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-11 7/8	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-14
	3-5 1/2	3-7 1/4	3-7 1/4	3-7 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4
32'	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-5 1/2	2-9 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-14	2-7 1/4	2-9 1/4	2-11 1/4	2-11 1/4	2-14
	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/4	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/2	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4	3-7 1/4	3-9 1/4	3-9 1/4	3-9 1/4	3-11 1/4
36'	2-5 1/2	2-7 1/4	2-9 1/4	2-9 1/4	2-11 1/4	2-7 1/4	2-9 1/4	2-9 1/4	2-9 1/2	2-11 7/8	2-7 1/4	2-9 1/4	2-9 1/2	2-11 1/4	2-14	2-7 1/4	2-9 1/4	2-11 1/4	2-11 1/4	2-14*
	3-5 1/2	3-7 1/4	3-7 1/4	3-9 1/4	3-9 1/2	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4	3-5 1/2	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4	3-7 1/4	3-9 1/4	3-9 1/4	3-11 1/4	3-11 7/8

Notes:

1. The table indicates the number of 1 3/4" wide LVL plies to be used for the given application.
2. The listed span is the clear distance from face to face of supports. The design is based on a simple span for the unfactored roof loads shown in the table.
3. The roof structure is assumed to span from exterior wall to exterior wall and have a 24" overhang.
4. An unfactored live load of 10 psf has been included for an attic space with limited accessibility above the second floor ceiling.
5. Live load deflection is limited to L/360. Total load deflection, including beam weight, is limited to L/240.
6. Provide a minimum 3" bearing at each end (* indicates that 4 1/2" is required). Bearing length is based on the compression perpendicular resistance of the LVL. For bearing on materials with a lower compressive resistance the designer shall calculate the required bearing length.
7. Calculations are in accordance with CSA O86-14 and the National Building Code of Canada. Live loads have been reduced in accordance with 4.1.5.8 of NBC 2015. Vibration and creep have not been considered.

Accounting for a second-story floor and wall, these tables provide two selections for supporting roof loads over rough openings in various conditions.



2 Story Application Table - 2.0E/2.2E Window & Door Headers - 1 3/4 Width

Width of Building	25 psf snow load					30 psf snow load					40 psf snow load					50 psf snow load				
	15 psf roof dead load					15 psf roof dead load					15 psf roof dead load					15 psf roof dead load				
	6' 0"	8' 0"	9' 0"	10' 0"	12' 0"	6' 0"	8' 0"	9' 0"	10' 0"	12' 0"	6' 0"	8' 0"	9' 0"	10' 0"	12' 0"	6' 0"	8' 0"	9' 0"	10' 0"	12' 0"
20'	2-5 ½	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-5 ½	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-7 ¼	2-9 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-11 ⅞
	3-5 ½	3-7 ¼	3-7 ¼	3-9 ¼	3-9 ¼	3-5 ½	3-7 ¼	3-7 ¼	3-9 ¼	3-9 ¼	3-5 ½	3-7 ¼	3-7 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼
24'	2-5 ½	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-7 ¼	2-9 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-11 ⅞	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-14 *
	3-5 ½	3-7 ¼	3-7 ¼	3-9 ¼	3-9 ½	3-5 ½	3-7 ¼	3-7 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼
28'	2-7 ¼	2-9 ¼	2-9 ¼	2-9 ½	2-11 ⅞	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-11 ⅞	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-14 *	2-7 ¼	2-9 ¼	2-11 ¼	2-11 ¼	2-14 *
	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-7 ¼	3-9 ¼	3-9 ¼	3-9 ½	3-11 ¼
32'	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-11 ⅞	2-7 ¼	2-9 ¼	2-9 ¼	2-11 ¼	2-14 *	2-7 ¼	2-9 ¼	2-11 ¼	2-11 ¼	2-14 *	2-7 ¼	2-9 ¼	2-11 ¼	2-11 ⅞*	2-14 *
	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-5 ½	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-7 ¼	3-9 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-7 ¼	3-9 ¼	3-9 ¼	3-11 ¼	3-11 ⅞

Notes:

1. The table indicates the number of 1 3/4" wide LVL plies to be used for the given application.
2. The listed span is the clear distance from face to face of supports. The design is based on a simple span for the unfactored roof loads shown in the table.
3. The roof structure is assumed to span from exterior wall to exterior wall and have a 24" overhang.
4. The floor joists must be supported at the centre of the buiding by a wall or beam.
5. The table is based on an unfactored floor live load of 40 psf, and an unfactored floor dead load of 12 psf. An unfactored dead load of 80 plf has been included for the second floor wall, and an unfactored live load of 10 psf has been included for an attic space with limited accessiblity above the second floor ceiling.
6. Live load deflection is limited to L/360. Total load deflection, including beam weight, is limited to L/240.
7. Provide a minimum 3" bearing at each end (* indicates that 4 1/2" is required). Bearing length is based on the compression perpendicular resistance of the LVL. For bearing on materials with a lower compressive resistance the designer shall calculate the required bearing length.
8. Calculations are in accordance with CSA O86-14 and the National Building Code of Canada. Live loads have been reduced in accordance with 4.1.5.8 of NBC 2015. Vibration and creep have not been considered.

2.0E/2.2E LVL Allowable Floor Loads

Allowable Uniform Loads (plf) - 2.0E / 2.2E - Floor 100% - 1 3/4" Width

Span (ft)	1 3/4" x 7 1/4"				1 3/4" x 9 1/4"				1 3/4" x 9 1/2"				1 3/4" x 11 1/4"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total L/240		Live Load		Total L/240		Live Load		Total L/240		Live Load		Total L/240	
	L/480	L/360			L/480	L/360			L/480	L/360			L/480	L/360		
6	571	762	1139	1299	1187	1583		1751	1286	1715		1811	2136			2256
7	360	480	716	1083	747	997		1446	810	1080		1494	1345	1793		1845
8	241	321	478	896	500	667	997	1231	542	723	1080	1271	901	1201		1560
9	169	225	335	707	351	469	698	1072	381	508	757	1106	632	843	1260	1351
10	123	164	243	572	256	341	508	893	277	370	550	937	461	615	917	1191
11	92	123	181	472	192	256	380	737	208	278	412	773	346	462	687	1053
12	71	95	139	396	148	197	292	618	160	214	316	649	267	356	528	884
13	56	74	108	336	116	155	228	526	126	168	248	552	210	280	414	752
14	45	60	86	289	93	124	182	452	101	135	197	475	168	224	330	647
15	-	48	69	251	75	101	147	393	82	109	159	413	136	182	267	563
16	-	40	56	220	62	83	120	345	67	90	130	362	112	150	219	494
17	-	-	-	-	52	69	99	305	56	75	108	320	93	125	182	437
18	-	-	-	-	43	58	83	271	47	63	90	285	79	105	152	389
20	-	-	-	-	-	42	59	218	-	46	64	229	57	76	109	313
22	-	-	-	-	-	-	-	-	-	-	-	-	43	57	80	258
24	-	-	-	-	-	-	-	-	-	-	-	-	-	44	61	215
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Span (ft)	1 3/4" x 11 7/8"				1 3/4" x 14"				1 3/4" x 16"				1 3/4" x 18"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total L/240		Live Load		Total L/240		Live Load		Total L/240		Live Load		Total L/240	
	L/480	L/360			L/480	L/360			L/480	L/360			L/480	L/360		
6	-	-	-	2427	-	-	-	3058	-	-	-	3736	-	-	-	4516
7	1582	-	-	1977	-	-	-	2460	-	-	-	2967	-	-	-	3532
8	1059	1413	-	1668	1736	-	-	2058	-	-	-	2459	-	-	-	2899
9	744	992	-	1442	1219	1626	-	1768	1820	-	-	2099	-	-	-	2458
10	542	723	1079	1270	889	1185	-	1549	1327	1769	-	1831	1890	-	-	2133
11	407	543	809	1134	668	890	1329	1379	997	1329	-	1624	1419	-	-	1884
12	314	418	622	976	514	686	1022	1242	768	1024	-	1458	1093	1458	-	1686
13	247	329	488	830	404	539	802	1122	604	805	1200	1323	860	1147	-	1526
14	197	263	389	715	324	432	641	966	483	644	959	1210	688	918	1368	1393
15	160	214	315	622	263	351	519	840	393	524	778	1073	560	746	1110	1282
16	132	176	259	545	217	289	427	737	324	432	640	941	461	615	913	1168
17	110	147	214	482	181	241	354	652	270	360	532	833	384	512	760	1033
18	93	124	180	429	152	203	297	581	227	303	447	742	324	432	639	920
20	67	90	129	346	111	148	215	469	165	221	323	599	236	315	463	743
22	50	67	95	285	83	111	160	386	124	166	241	493	177	236	345	612
24	-	52	72	238	64	85	121	323	96	128	184	413	136	182	264	512
26	-	41	55	202	50	67	94	273	75	100	143	350	107	143	206	435
28	-	-	-	-	40	54	74	235	60	80	112	300	86	114	163	373
30	-	-	-	-	-	43	58	203	49	65	90	260	70	93	130	324
32	-	-	-	-	-	-	-	-	40	54	73	227	57	76	106	283
34	-	-	-	-	-	-	-	-	-	45	59	200	48	64	87	249

Notes:

1. The values in these tables meet the requirements of the National Building Code of Canada and CSA Standard O86-14 for dry service conditions and standard term loads. The live load must be greater than the dead load in order to use these tables.
2. All values listed are based on uniform loads applied to the top of the beam.
3. Span is defined as centre-to-centre of bearings and is valid for simple span and equal, continuous span conditions.
4. These tables assume full lateral support of the compression edge.
5. The designer must check both the Factored Total Resistance and the Total L/240 Deflection Resistance, AND the appropriate Live Load column, either the L/480 or L/360 deflection limit. Unfactored Deflection Resistance values that are blank are governed by the Factored Total Resistance.
6. The Unfactored Deflection Resistance for Total L/240 does not include the effects of long term loading (creep).
7. The total load values have been adjusted to account for the self-weight of the beam.
8. Proper bearing must be provided at each support. The required bearing can be determined from the Maximum Factored Reaction Table.
9. Depths of 16" or greater should be used with a minimum of two plies.
10. The values in this table are for a single ply of 1 3/4" LVL. Double the values for a 2-ply (3 1/2" thick) beam, triple the values for a 3-ply (5 1/4" thick) beam, and quadruple the values for 4-ply (7" thick) beam.

2.0E/2.2E LVL Allowable Floor Loads

Allowable Uniform Loads (plf) - 2.0E / 2.2E - Floor 100% - 1 3/4" Width

Span (ft)	1 3/4" x 20"				1 3/4" x 22"				1 3/4" x 24"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total		Live Load		Total		Live Load		Total	
	L/480	L/360	L/240		L/480	L/360	L/240		L/480	L/360	L/240	
6	-	-	-	5420	-	-	-	6482	-	-	-	7746
7	-	-	-	4166	-	-	-	4884	-	-	-	5704
8	-	-	-	3383	-	-	-	3918	-	-	-	4512
9	-	-	-	2847	-	-	-	3269	-	-	-	3731
10	-	-	-	2457	-	-	-	2805	-	-	-	3180
11	1947	-	-	2160	-	-	-	2455	-	-	-	2771
12	1500	-	-	1927	1996	-	-	2183	-	-	-	2454
13	1180	1573	-	1740	1570	-	-	1965	2039	-	-	2202
14	944	1259	-	1585	1257	1676	-	1786	1632	-	-	1997
15	768	1024	-	1455	1022	1363	-	1637	1327	1769	-	1826
16	632	843	1255	1345	842	1123	-	1510	1093	1458	-	1682
17	527	703	1045	1251	702	936	1393	1402	911	1215	-	1559
18	444	592	879	1116	591	788	1172	1308	768	1024	-	1453
20	324	432	638	901	431	575	851	1073	560	746	1107	1259
22	243	324	476	743	324	432	637	885	420	560	829	1038
24	187	250	365	622	249	332	488	741	324	432	636	869
26	147	196	285	528	196	261	381	629	254	339	497	739
28	118	157	226	454	157	209	303	541	204	272	396	635
30	96	128	182	393	127	170	244	469	165	221	319	551
32	79	105	148	344	105	140	199	411	136	182	261	482
34	65	87	121	303	87	117	164	362	113	151	215	425

Notes:

1. The values in these tables meet the requirements of the National Building Code of Canada and CSA Standard O86-14 for dry service conditions and standard term loads. The live load must be greater than the dead load in order to use these tables.
2. All values listed are based on uniform loads applied to the top of the beam.
3. Span is defined as centre-to-centre of bearings and is valid for simple span and equal, continuous span conditions.
4. These tables assume full lateral support of the compression edge.
5. The designer must check both the Factored Total Resistance and the Total L/240 Deflection Resistance, AND the appropriate Live Load column, either the L/480 or L/360 deflection limit. Unfactored Deflection Resistance values that are blank are governed by the Factored Total Resistance.
6. The Unfactored Deflection Resistance for Total L/240 does not include the effects of long term loading (creep).
7. The total load values have been adjusted to account for the self-weight of the beam.
8. Proper bearing must be provided at each support. The required bearing can be determined from the Maximum Factored Reaction Table.
9. Depths of 16" or greater should be used with a minimum of two plies.
10. The values in this table are for a single ply of 1 3/4" LVL. Double the values for a 2-ply (3 1/2" thick) beam, triple the values for a 3-ply (5 1/4" thick) beam, and quadruple the values for 4-ply (7" thick) beam.

2.0E/2.2E LVL Allowable Roof Loads

Allowable Uniform Loads (plf) - 2.0E / 2.2E - Roof - 1 3/4" Width

Span (ft)	1 3/4" x 7 1/4"				1 3/4" x 9 1/4"				1 3/4" x 9 1/2"				1 3/4" x 11 1/4"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total		Live Load		Total		Live Load		Total		Live Load		Total	
	L/360	L/240	L/180		L/360	L/240	L/180		L/360	L/240	L/180		L/360	L/240	L/180	
6	762	1143	-	1299	1583	-	-	1751	1715	-	-	1811	-	-	-	2256
7	480	720	956	1083	997	-	-	1446	1080	-	-	1494	1793	-	-	1845
8	321	482	639	896	667	1001	-	1231	723	1085	-	1271	1201	-	-	1560
9	225	338	448	707	469	703	933	1072	508	762	1011	1106	843	1265		1351
10	164	246	325	572	341	512	679	893	370	555	736	937	615	922		1191
11	123	185	243	472	256	385	509	737	278	417	551	773	462	693	918	1053
12	95	142	186	396	197	296	391	618	214	321	423	649	356	534	706	884
13	74	112	146	336	155	233	306	526	168	252	332	552	280	420	554	752
14	60	90	116	289	124	186	244	452	135	202	265	475	224	336	442	647
15	48	73	93	251	101	151	197	393	109	164	214	413	182	273	358	563
16	40	60	76	220	83	125	162	345	90	135	176	362	150	225	294	494
17	-	50	63	195	69	104	134	305	75	113	145	320	125	187	244	437
18	-	42	52	173	58	87	112	271	63	95	122	285	105	158	205	389
20	-	-	-	-	42	64	80	218	46	69	87	229	76	115	148	313
22	-	-	-	-	-	48	59	179	-	52	64	188	57	86	109	258
24	-	-	-	-	-	-	-	-	-	40	48	157	44	66	83	215
26	-	-	-	-	-	-	-	-	-	-	-	-	-	52	64	182
28	-	-	-	-	-	-	-	-	-	-	-	-	-	42	50	156
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Span (ft)	1 3/4" x 11 7/8"				1 3/4" x 14"				1 3/4" x 16"				1 3/4" x 18"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total		Live Load		Total		Live Load		Total		Live Load		Total	
	L/360	L/240	L/180		L/360	L/240	L/180		L/360	L/240	L/180		L/360	L/240	L/180	
6	-	-	-	2427	-	-	-	3058	-	-	-	3736	-	-	-	4516
7	-	-	-	1977	-	-	-	2460	-	-	-	2967	-	-	-	3532
8	1413	-	-	1668	-	-	-	2058	-	-	-	2459	-	-	-	2899
9	992	-	-	1442	1626	-	-	1768	-	-	-	2099	-	-	-	2458
10	723	1085	-	1270	1185	-	-	1549	1769	-	-	1831	-	-	-	2133
11	543	815	1081	1134	890	1336	-	1379	1329	-	-	1624	-	-	-	1884
12	418	628	831	976	686	1029	-	1242	1024	-	-	1458	1458	-	-	1686
13	329	494	652	830	539	809	1072	1122	805	1208	-	1323	1147	-	-	1526
14	263	395	521	715	432	648	857	966	644	967	-	1210	918	1377	-	1393
15	214	321	422	622	351	526	695	840	524	786	1040	1073	746	1120	-	1282
16	176	264	347	545	289	434	571	737	432	648	856	941	615	922	-	1168
17	147	220	288	482	241	362	475	652	360	540	712	833	512	769	1016	1033
18	124	186	242	429	203	304	399	581	303	455	598	742	432	648	855	920
20	90	135	174	346	148	222	289	469	221	331	434	599	315	472	620	743
22	67	101	129	285	111	167	215	386	166	249	324	493	236	354	464	612
24	52	78	98	238	85	128	164	323	128	192	248	413	182	273	355	512
26	41	61	76	202	67	101	127	273	100	151	193	350	143	215	277	435
28	-	49	59	173	54	81	101	235	80	120	153	300	114	172	220	373
30	-	40	47	149	43	65	80	203	65	98	123	260	93	140	177	324
32	-	-	-	-	-	54	65	177	54	81	100	227	76	115	144	283
34	-	-	-	-	-	45	53	156	45	67	82	200	64	96	119	249

Notes:

1. The values in these tables meet the requirements of the National Building Code of Canada and CSA Standard O86-14 for dry service conditions and standard term loads. The live load must be greater than the dead load in order to use these tables.
2. All values listed are based on uniform loads applied to the top of the beam.
3. Span is defined as centre-to-centre of bearings and is valid for simple span and equal, continuous span conditions.
4. These tables assume full lateral support of the compression edge.
5. The designer must check both the Factored Total Resistance and the Total L/180 Deflection Resistance, AND the appropriate Live Load column, either the L/360 or L/240 deflection limit. Unfactored Deflection Resistance values that are blank are governed by the Factored Total Resistance.
6. The Unfactored Deflection Resistance for Total L/180 does not include the effects of long term loading (creep).
7. The total load values have been adjusted to account for the self-weight of the beam.
8. Proper bearing must be provided at each support. The required bearing can be determined from the Maximum Factored Reaction Table.
9. Depths of 16" or greater should be used with a minimum of two plies.
10. The values in this table are for a single ply of 1 3/4" LVL. Double the values for a 2-ply (3 1/2" thick) beam, triple the values for a 3-ply (5 1/4" thick) beam, and quadruple the values for 4-ply (7" thick) beam.

2.0E/2.2E LVL Allowable Roof Loads

Allowable Uniform Loads (plf) - 2.0E / 2.2E - Roof - 1 3/4" Width

Span (ft)	1 3/4" x 20"				1 3/4" x 22"				1 3/4" x 24"			
	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance	Unfactored Defl. Resistance			Factored Total Resistance
	Live Load		Total L/180		Live Load		Total L/180		Live Load		Total L/180	
	L/360	L/240			L/360	L/240			L/360	L/240		
6	-	-	-	5420	-	-	-	6482	-	-	-	7746
7	-	-	-	4166	-	-	-	4884	-	-	-	5704
8	-	-	-	3383	-	-	-	3918	-	-	-	4512
9	-	-	-	2847	-	-	-	3269	-	-	-	3731
10	-	-	-	2457	-	-	-	2805	-	-	-	3180
11	-	-	-	2160	-	-	-	2455	-	-	-	2771
12	-	-	-	1927	-	-	-	2183	-	-	-	2454
13	1573	-	-	1740	-	-	-	1965	-	-	-	2202
14	1259	-	-	1585	1676	-	-	1786	-	-	-	1997
15	1024	-	-	1455	1363	-	-	1637	1769	-	-	1826
16	843	1265	-	1345	1123	-	-	1510	1458	-	-	1682
17	703	1055	-	1251	936	-	-	1402	1215	-	-	1559
18	592	889	-	1116	788	1183	-	1308	1024	-	-	1453
20	432	648	854	901	575	862	-	1073	746	1120	-	1259
22	324	486	639	743	432	648	853	885	560	841	-	1038
24	250	375	490	622	332	499	654	741	432	648	852	869
26	196	295	383	528	261	392	512	629	339	509	667	739
28	157	236	304	454	209	314	408	541	272	408	532	635
30	128	192	246	393	170	255	329	469	221	331	430	551
32	105	158	200	344	140	210	269	411	182	273	352	482
34	87	131	165	303	117	175	223	362	151	227	291	425

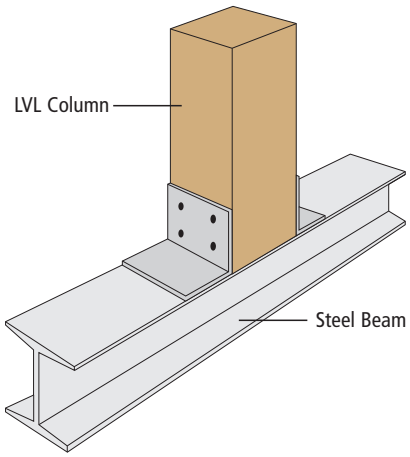
Notes:

1. The values in these tables meet the requirements of the National Building Code of Canada and CSA Standard O86-14 for dry service conditions and standard term loads. The live load must be greater than the dead load in order to use these tables.
2. All values listed are based on uniform loads applied to the top of the beam.
3. Span is defined as centre-to-centre of bearings and is valid for simple span and equal, continuous span conditions.
4. These tables assume full lateral support of the compression edge.
5. The designer must check both the Factored Total Resistance and the Total L/180 Deflection Resistance, AND the appropriate Live Load column, either the L/360 or L/240 deflection limit. Unfactored Deflection Resistance values that are blank are governed by the Factored Total Resistance.
6. The Unfactored Deflection Resistance for Total L/180 does not include the effects of long term loading (creep).
7. The total load values have been adjusted to account for the self-weight of the beam.
8. Proper bearing must be provided at each support. The required bearing can be determined from the Maximum Factored Reaction Table.
9. Depths of 16" or greater should be used with a minimum of two plies.
10. The values in this table are for a single ply of 1 3/4" LVL. Double the values for a 2-ply (3 1/2" thick) beam, triple the values for a 3-ply (5 1/4" thick) beam, and quadruple the values for 4-ply (7" thick) beam.

2.0E/2.2E LVL Allowable Column Loads

Steel or Column Bearing

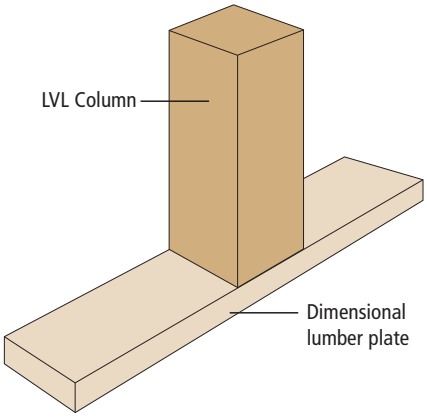
Column Length (ft)	3 1/2" x 3 1/2"	3 1/2" x 5 1/2"	3 1/2" x 7"
6	18875	29661	37750
7	15732	24721	31463
8	13061	20525	26122
9	10843	17038	21685
10	9015	14167	18031
11	7513	11806	15026
12	6277	9864	12554
13	5261	8267	10521
14	4424	6953	8849
> 14	Not Permitted	Not Permitted	Not Permitted



Column to beam connection
by design professional

SPF Plate Bearing

Column Length (ft)	3 1/2" x 3 1/2"	3 1/2" x 5 1/2"	3 1/2" x 7"
6	8663	13614	17326
7	8663	13614	17326
8	8663	13614	17326
9	8663	13614	17326
10	8663	13614	17326
11	7513	11806	15026
12	6277	9864	12554
13	5261	8267	10521
14	4424	6953	8849
> 14	Not Permitted	Not Permitted	Not Permitted



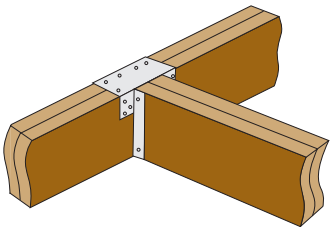
Column base not shown; verify capacity
with manufacturer

Notes:

1. This table has been prepared in accordance with the National Building Code of Canada and CSA Standard 086-14 for standard term loads and dry service conditions.
2. The compressive resistance is based on the following assumptions:
   - The effective column height is the clear height of the column between the top and bottom supports.
   - Columns are braced in both directions at the top and bottom supports.
   - The vertical load is applied with an eccentricity of 1/6 of the column width or depth, whichever controls.
   - No lateral loads are applied to the column.
   - No notching or drilling except as required for the installation of the column caps or bases.
3. These tables are for solid one-piece members. Built-up columns are beyond the scope of the tables.
4. Steel bearing refers to end-grain bearing of the column on a steel plate or beam designed by others to adequately carry the column load.
5. SPF plate bearing refers to bearing of the column on 1 1/2" thick Spruce-Pine-Fir dimension lumber plate (fcp = 769 psi). For other conditions, the designer must check the compressive resistance of the bearing material. No increase is allowed with out a complete analysis of the column resistance.

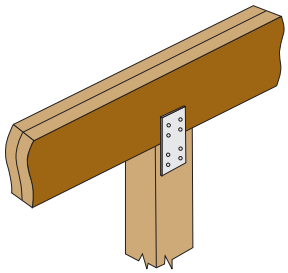
Connection Details

Beam-to-Beam Connection



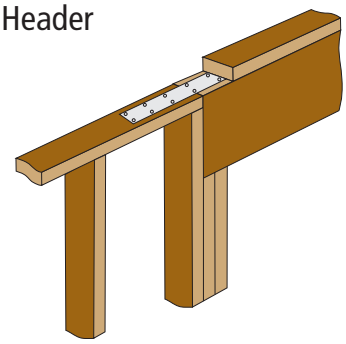
Install hanger per manufacturer's instructions. Hanger must distribute load to each ply of the assembly. Contact Murphy Company technical support with questions.

Bearing on Wood Column



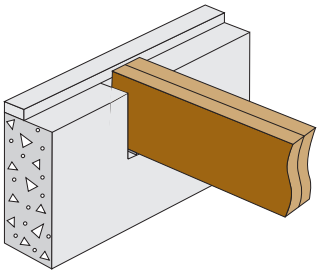
Install column cap per manufacturer's instructions; verify cap and column capacity.

Bearing for Door or Window Header



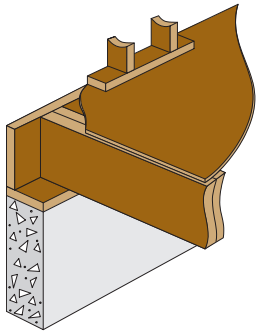
Strap per building code if top plate is not continuous over header.

Beam Pocket in Masonry Wall



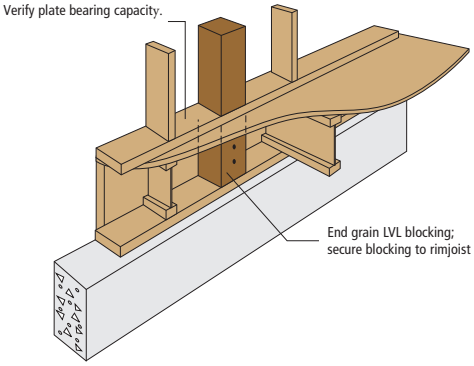
Protect LVL from moisture with a vapor barrier and airspace. LVL should not directly contact concrete.

Bearing on Exterior Wall



LVL should not directly contact concrete. Verify plate bearing capacity.

Solid Blocking at Post



Provide a continuous load path to concrete.

Minimum Nail Spacing

for nails installed parallel to the glueline

Nail Size	Single Row	Multiple Rows[1]
8d Common (2 1/2")	3"	4"
10d Common (3")	4"	5"
12d Common (3 1/4")	4"	5"
16d Common (3 1/2")	5"	6"[2]

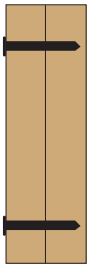
1. Offset multiple rows 1/2" and stagger nails on equal-equal layout
2. Minimum nail spacing may be reduced to 5" for 1 3/4" wide members
3. Nail penetration shall not exceed 2 1/2" for 10d and 12d nor 2" for 16d

Multiple Piece Assembly & Side Load Capacity

When assembling more than one LVL ply into a single load-bearing beam, follow the appropriate guidelines:

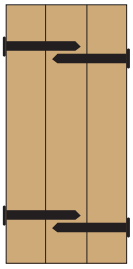
Detail A

Maximum
3 1/2" wide
2-ply beams



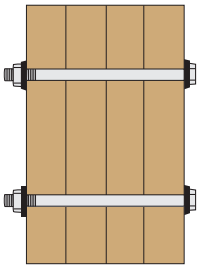
Detail B

Maximum
5 1/4" wide
3-ply beams



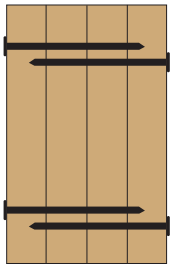
Detail C

Maximum
7" wide
4-ply beam



Detail D

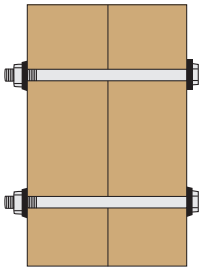
Maximum
7" wide
4-ply beam



Simpson SDS
1/4" x 6" screws
(or equal)

Detail E

Maximum
7" wide
2-ply beam



3 1/2" 3 1/2"

Max. Factored Uniform Load Applied to Either Outside Piece (plf)

Connection Detail	2 Rows of 3 1/2" Spiral Nails at 12" oc	3 Rows of 3 1/2" Spiral Nails at 12" oc	2 Rows of 1/2" dia. Bolts at 24" oc	2 Rows of 1/2" dia. Bolts at 12"oc
A	788	1182	680	1360
B	591	887	510	1020
C	-	-	453	907
D	Refer to Simpson Strong-Tie catalog for SDS capacities			
E	-	-	1362	2724

Notes:

1. The values have been calculated in accordance with CSA O86-14 for standard term loads and dry service conditions.
2. Use the sizing software or load tables to size the beam, then determine the required fastening.
3. The specified nailing applies to both faces of a 3 ply beam.
4. Four ply beams may not be loaded from one side only. They must be loaded from both sides or top loaded.
5. 3 1/2" spiral nails shall have a diameter of 0.152".
6. Bolts shall conform to ASTM A307. Bolt holes must be centered at least two inches from the top and bottom edges of the beam. Washers must be used under the bolt heads and nuts. Offset or stagger rows of bolt holes by one-half of the bolt spacing.
7. Use 3 rows of nails for beams between 12"and 18" deep.

Maximum Factored Reaction (lbs)

	Bearing Length																					
Width (in)[1]	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"	6 1/2"	7"	7 1/2"	8"	8 1/2"	9"	9 1/2"	10"	10 1/2"	11"	11 1/2"	12"
1 3/4"	2870	3820	4780	5730	6690	7640	8600	9560	10510	11470	12420	13380	14330	15290	16240	17200	18150	19110	20070	21020	21980	22930
3 1/2"	5730	7640	9560	11470	13380	15290	17200	19110	21020	22930	24840	26750	28670	30580	32490	34400	36310	38220	40130	42040	43950	45860
5 1/4"	8600	11470	14330	17200	20070	22930	25800	28670	31530	34400	37260	40130	43000	45860	48730	51600	54460	57330	60200	63060	65930	68800
7"	11470	15290	19110	22930	26750	30580	34400	38220	42040	45860	49690	53510	57330	61150	64970	68800	72620	76440	80260	84080	87910	91730

Notes:

1. Use any combination of 1 3/4" and 3 1/2" members using proper nailing or bolting guidelines.
2. Minimum bearing length is 1 1/2". Bearing across the full width of the beam is required.
3. The tabulated values are based on the compressive perpendicular to grain strength of the LVL. (F_{cp} = 1365 psi).
   Beams bearing on #2 and better, 2x plates must be increased by the following factor:
   - Spruce-Pine-Fir 1.78
   - Douglas Fir-L 1.35
   - Hem-Fir 2.05
4. Values are in accordance with CSA 086-14 for standard term loads and dry service conditions.

Clear Sealer

All Murphy Company LVL is fully sealed with a factory applied industry-leading premium grade sealer. The sealer repels water absorption and improves durability during typical yard distribution and jobsite storage conditions.

FSC® Certification

Murphy Company has achieved Forestry Stewardship Council™ Chain of Custody Certification (FSC® C011299). This ensures Murphy customers have a verifiable connection between their companies and certified manufacturers who adhere to the requirements of the FSC® certification program. Murphy Company LVL products are available with this chain of custody. Builders who utilize products manufactured from forests certified by FSC, with an intact chain of custody, can qualify for points in the US Green Building Council's LEED system, a third-party certification program and benchmark for the design, construction, and operation of high-performance green buildings. (FSC® certified panels available upon request: FSC® C011299).

Sizing Software

To better assist engineers, designers, and specifiers, we've partnered with Calculated Structured Designs, an industry leader in software development. iStruct™ is a state of the art layout, design, and structural analysis enterprise solution that combines layout/drafting, single member design, reporting, and an incredible real time 3D experience while supporting a selection of products, including I-joists, LVL, lumber, walls, rimboard, hangers, etc.

Handling and Storage Guidelines

- LVL should be protected from the weather and stored lying flat.
- Product must not be stored in contact with the ground.
- Store LVL in wrapped bundles, provide air circulation and support bundles with 2x4 stickers.
- Protect from the weather on the job site both before and after installation. LVL is intended for use in covered, dry conditions only.
- Except as described in this product guide, LVL should not be cut, drilled or notched.
- Do not install wet or visually damaged product.
- Once a factory sealed LVL product is cut, a coat of water repellent sealer should be applied to the freshly cut end to prevent moisture from entering the cut end.

Installation Instructions

Murphy Company has full installation instructions for LVL including connections, notching and hole locations. Please see the technical documentation at www.murphyplywood.com or contact your Murphy LVL salesperson for additional information.

FSC
www.fsc.org
FSC® C011299

The mark of responsible forestry

APA

Murphy

Limited Lifetime Warranty
Murphy Laminated Veneer Lumber

We warrant to each Qualified Owner (as defined below) that Murphy laminated veneer lumber (Murphy LVL) is manufactured in accordance with the exacting standards (as prescribed in the APA-EWS Quality Control Manual) and is free from defects in materials and workmanship for the expected life of the structure in which it is installed. "Qualified Owner" is any person who purchases a residential structure in which any Murphy LVL has been selected, purchased, handled and installed in accordance with our installation instructions by a person who has been trained in the installation of Engineered Wood Products.

Conditions:
We must be given reasonable prior notice and opportunity to inspect any Murphy LVL before we will honor any claim under this warranty. If inspection confirms that a defect exists and has caused a structural problem, we may repair or replace (at our option) the product at our expense. Any defect or damage resulting in whole or part from exposure to the elements, fire or natural disaster, improper handling, improper use or improper installation techniques is NOT our responsibility and is NOT covered by this warranty.

DISCLAIMER:
THE LIMITED LIFETIME WARRANTY STATED ABOVE IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CORRECTION OF THE DEFECTS IN THE MANNER AND UNDER THE CONDITIONS STATED ABOVE SHALL CONSTITUTE FULFILLMENT OF ALL OUR OBLIGATIONS AND LIABILITIES TO ANY PERSON WITH RESPECT TO THE COVERED PRODUCTS, WHETHER BASED ON CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE. NO PERSON OR ENTITY IS AUTHORIZED TO CREATE FOR US ANY OTHER OBLIGATION OR LIABILITY TO ANY PERSON RELATING TO THE COVERED PRODUCTS. IN NO EVENT WILL WE BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND SUSTAINED FROM ANY CAUSE.

Murphy Engineered Wood Division • 412 West Central • Sutherlin, OR 97479 • (541) 459-4545

Technical Support

While supplying a superior product, Murphy Company is dedicated to providing an unprecedented level of support for our customers. Phone support, bulletins, a broad library of technical materials, and other relevant information are available.

Our highly trained technical services staff, led by industry veterans, combined with extensive knowledge and state-of-the-art tools, assist with design or construction questions and provide full support for our design software.

MURPHY
Engineered Wood

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