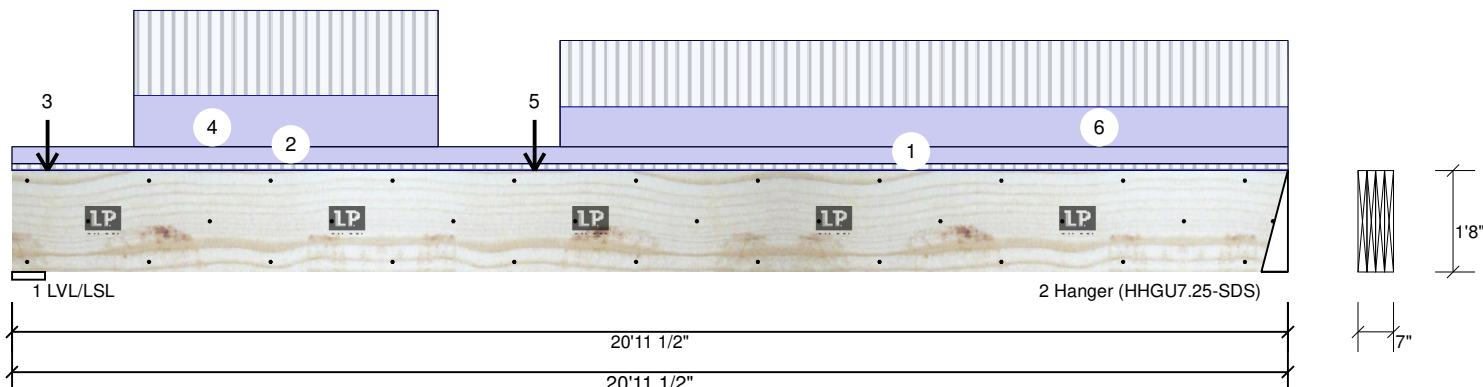




BM1 LP-LSL 1.35E 1.750" X 20.000" 4-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	4	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	9469	7304	0	0	0
2	6013	5220	0	0	0

Bearings

Bearing	Input Length	In Analysis	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL/LSL	6.500"	3.250"	98%	7304 / 9469	16773	L	D+L
2 - Hanger	5.250"	2.250"	95%	5220 / 6013	11234	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	59757 ft-lb	9'7 11/16"	65807 ft-lb	0.908 (91%)	D+L	L
Shear	10709 lb	2' 7/8"	38267 lb	0.280 (28%)	D+L	L
LL Defl inch	0.413 (L/588)	10'4"	0.674 (L/360)	0.610 (61%)	L	L
TL Defl inch	0.762 (L/318)	10'4 1/4"	1.010 (L/240)	0.750 (75%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.349", Long Term = 0.524"
- 3 Fasten all plies using 3 rows of SDW22634 at 24" o.c. Maximum end distance not to exceed 12".
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Simpson fasteners applied from a single side of the member use tip values where published.
- 6 Fill all hanger nailing holes.
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Top loads must be supported equally by all plies.
- 9 Top must be laterally braced at a maximum of 2'3 3/8" o.c.
- 10 Bottom unbraced.
- 11 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform			Top	124 PLF	0 PLF	0 PLF	0 PLF	0 PLF	9' WALL ABOVE
3	Point	0-7-0		Top	2324 lb	3873 lb	0 lb	0 lb	0 lb	T23
	Bearing Length	0-3-0								

Continued on page 2...

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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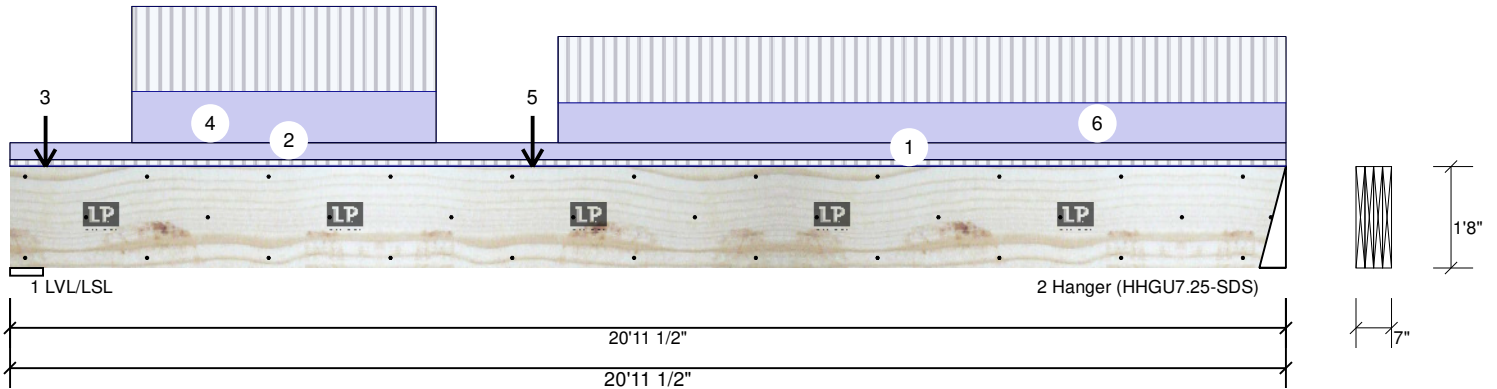
Manufacturer Info

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(888) 820-0325
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APA: PR-L280, ICC-ES: ESR-2403,
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This design is valid until
12/31/2017

BM1 LP-LSL 1.35E 1.750" X 20.000" 4-Ply - PASSED

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
4	Part. Uniform	2-0-0 to 7-0-0		Top	372 PLF	621 PLF	0 PLF	0 PLF	0 PLF	T22-T20
5	Point	8-7-0		Top	1127 lb	1878 lb	0 lb	0 lb	0 lb	T19
	Bearing Length	0-3-0								
6	Part. Uniform	9-0-0 to 20-11-8		Top	290 PLF	484 PLF	0 PLF	0 PLF	0 PLF	T18-T16
	Self Weight				45 PLF					

Notes

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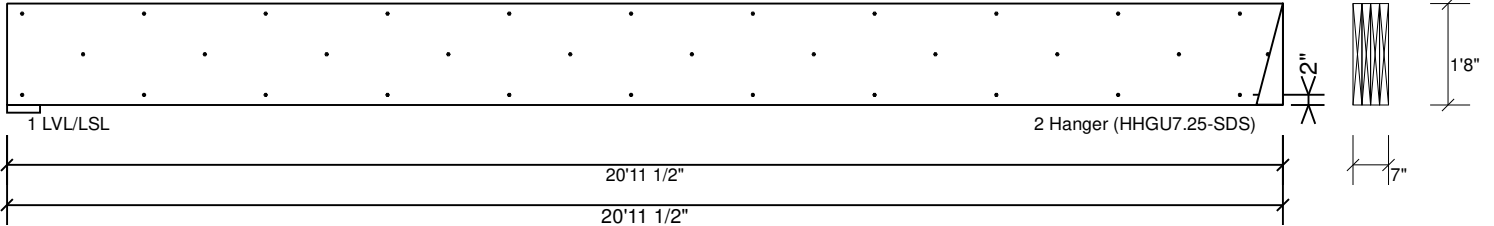
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This design is valid until
12/31/2017

BM1 LP-LSL 1.35E 1.750" X 20.000" 4-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22634 at 24" o.c.. Maximum end distance not to exceed 12"

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	450.0 PLF
Yield Limit per Fastener	300.0 lb.
Yield Mode	Lookup
Edge Distance	2"
Min. End Distance	3"

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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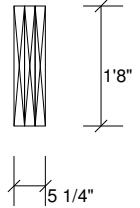
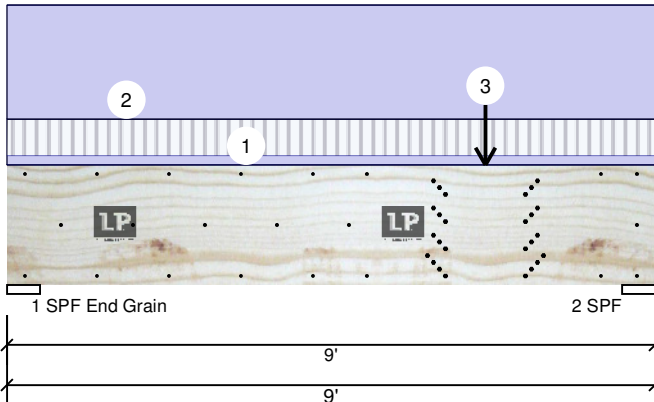
SOLIDSTART
DESIGN SOFTWARE

Client:
Project:
Address:

Date: 3/30/2017
Designer:
Job Name: BEAMS
Project #:

BM2 LP-LSL 1.35E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1686	2069	0	0	0
2	4687	4658	0	0	0

Bearings

Bearing	Input Length	In Analysis	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	1.500"	64%	2069 / 1686	3755	L	D+L
2 - SPF	5.500"	4.500"	93%	4658 / 4687	9346	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	18903 ft-lb	6'7 3/4"	49355 ft-lb	0.383 (38%)	D+L	L
Shear	8944 lb	7' 3/4"	28700 lb	0.312 (31%)	D+L	L
LL Defl inch	0.032 (L/3094)	5'10 3/16"	0.278 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.065 (L/1542)	5'8 11/16"	0.417 (L/240)	0.160 (16%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.033", Long Term = 0.049"
- 3 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Nail from both sides. Maximum end distance not to exceed 6".
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 6 Simpson fasteners applied from a single side of the member use tip values where published.
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Top loads must be supported equally by all plies.
- 9 Top must be laterally braced at a maximum of 7'10 1/8" o.c.
- 10 Bottom unbraced.
- 11 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform			Top	124 PLF	0 PLF	0 PLF	0 PLF	0 PLF	9' WALL ABOVE
3	Point	6-7-12		Far Face	5220 lb	6013 lb	0 lb	0 lb	0 lb	BM1
	Self Weight				34 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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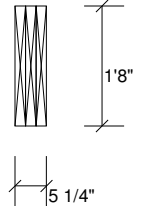
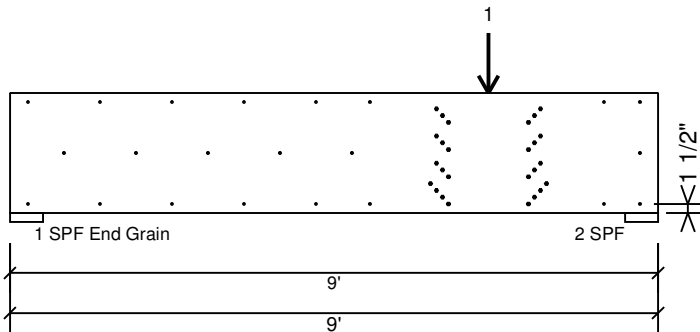
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LADBS: RR-25783, Florida: FL15228

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BM2 LP-LSL 1.35E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

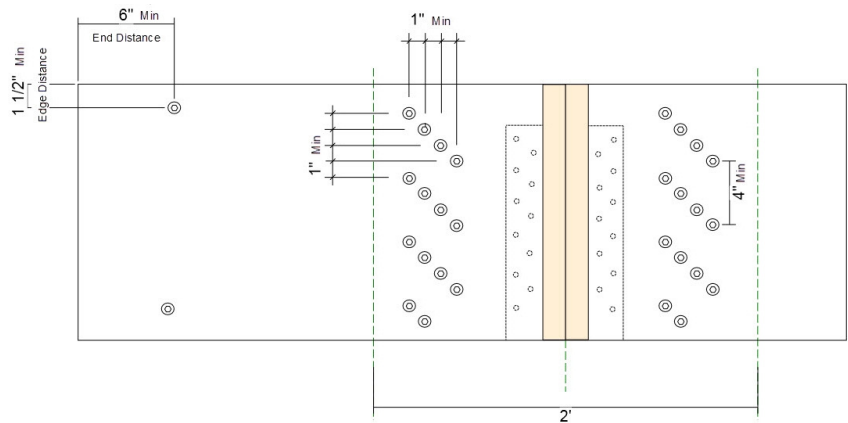
Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening.
Nail from both sides. Maximum end distance not to exceed 6"

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	296.8 PLF
Yield Limit per Fastener	98.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"

Concentrated Load

Fasten at concentrated side load at 6-7-12 with a minimum of 26 SDW22500 in the pattern shown.

Capacity	96.0 %
Load	7488.7lb.
Total Yield Limit	7800.0 lb.
Cg	1.0000
Yield Limit per Fastener	300.0 lb.
Yield Mode	Lookup



Notes

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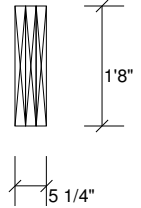
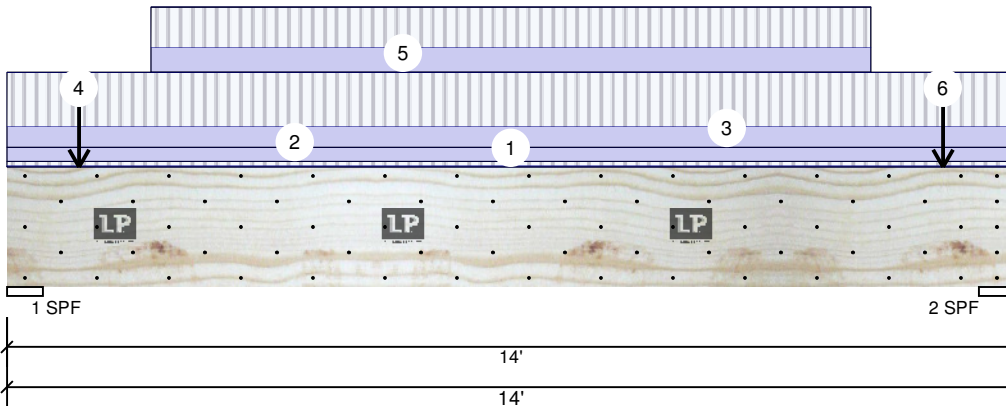
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12/31/2017

BM3 LP-LSL 1.75E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	6195	3957	0	0	0
2	6261	3997	0	0	0

Bearings

Bearing	Input Length	In Analysis	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	4.750"	96%	3957 / 6195	10152	L	D+L
2 - SPF	6.000"	4.750"	97%	3997 / 6261	10259	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	32459 ft-lb	7' 1/16"	71323 ft-lb	0.455 (46%)	D+L	L
Shear	8896 lb	12' 3/8"	28700 lb	0.310 (31%)	D+L	L
LL Defl inch	0.129 (L/1243)	7' 1/16"	0.447 (L/360)	0.290 (29%)	L	L
TL Defl inch	0.212 (L/758)	7' 1/16"	0.670 (L/240)	0.320 (32%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.083", Long Term = 0.124"
- 3 Fasten all plies using 5 rows of 10d Box nails (.128x3") at 12" o.c. Nail from both sides. Maximum end distance not to exceed 6".
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 5'10 1/8" o.c.
- 8 Bottom unbraced.
- 9 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform			Top	124 PLF	0 PLF	0 PLF	0 PLF	0 PLF	9' WALL ABOVE
3	Part. Uniform	0-0-0 to 14-0-0		Near Face	180 PLF	482 PLF	0 PLF	0 PLF	0 PLF	F10-F11
4	Point	1-0-0		Top	442 lb	737 lb	0 lb	0 lb	0 lb	T02
	Bearing Length	0-3-0								
5	Part. Uniform	2-0-0 to 12-0-0		Top	216 PLF	360 PLF	0 PLF	0 PLF	0 PLF	T03-T07

Continued on page 2...

Notes

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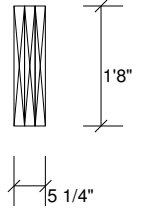
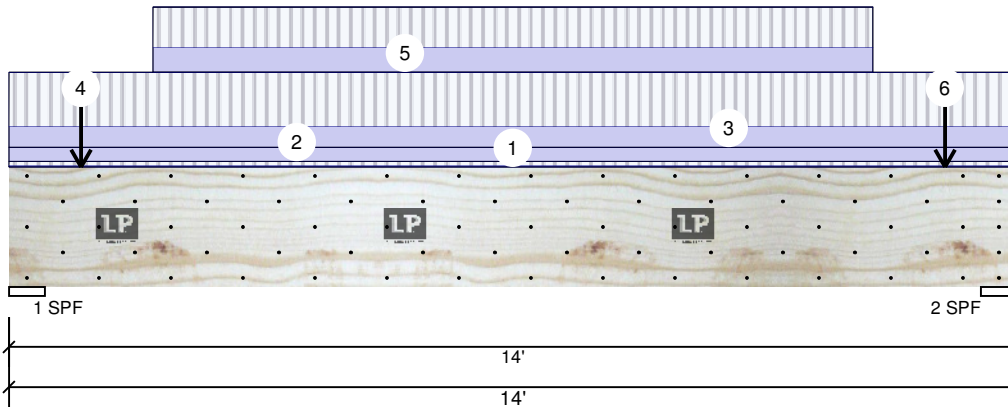
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This design is valid until
12/31/2017

BM3 LP-LSL 1.75E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
6	Point	13-0-0		Top	487 lb	811 lb	0 lb	0 lb	0 lb	T08
	Bearing Length	0-3-0								
	Self Weight				34 PLF					

Notes

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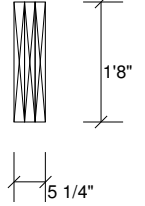
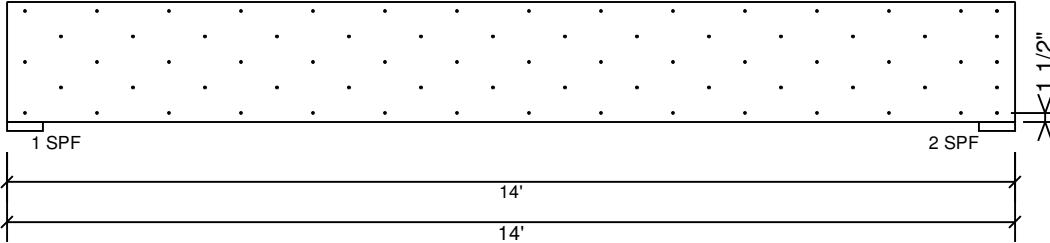
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This design is valid until
12/31/2017

BM3 LP-LSL 1.75E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 5 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6"

Capacity	89.2 %
Load	441.3 PLF
Yield Limit per Foot	494.6 PLF
Yield Limit per Fastener	98.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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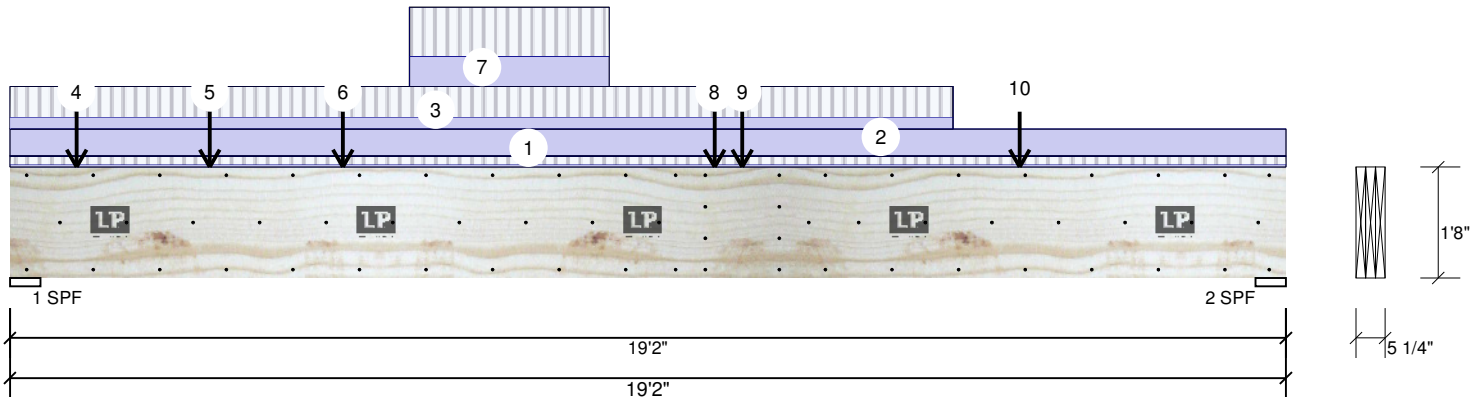
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BM4 LP-LSL 1.55E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	4714	3838	0	0	0
2	3981	3470	0	0	0

Bearings

Bearing	Input Length	In Analysis	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	4.000"	96%	3838 / 4714	8553	L	D+L
2 - SPF	5.500"	3.500"	95%	3470 / 3981	7450	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	51147 ft-lb	10'7"	67329 ft-lb	0.760 (76%)	D+L	L
Shear	7611 lb	1'11 1/2"	28700 lb	0.265 (27%)	D+L	L
LL Defl inch	0.342 (L/651)	9'9 5/8"	0.619 (L/360)	0.550 (55%)	L	L
TL Defl inch	0.603 (L/370)	9'9 1/4"	0.928 (L/240)	0.650 (65%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.261", Long Term = 0.391"
- 3 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Nail from both sides. Maximum end distance not to exceed 6".
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at a maximum of 2'11 5/8" o.c.
- 9 Bottom unbraced.
- 10 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform			Top	124 PLF	0 PLF	0 PLF	0 PLF	0 PLF	9' WALL ABOVE
3	Part. Uniform	0-0-0 to 14-2-0		Near Face	53 PLF	141 PLF	0 PLF	0 PLF	0 PLF	F06-F08
4	Point	1-0-0		Top	101 lb	169 lb	0 lb	0 lb	0 lb	J01

Continued on page 2...

Notes

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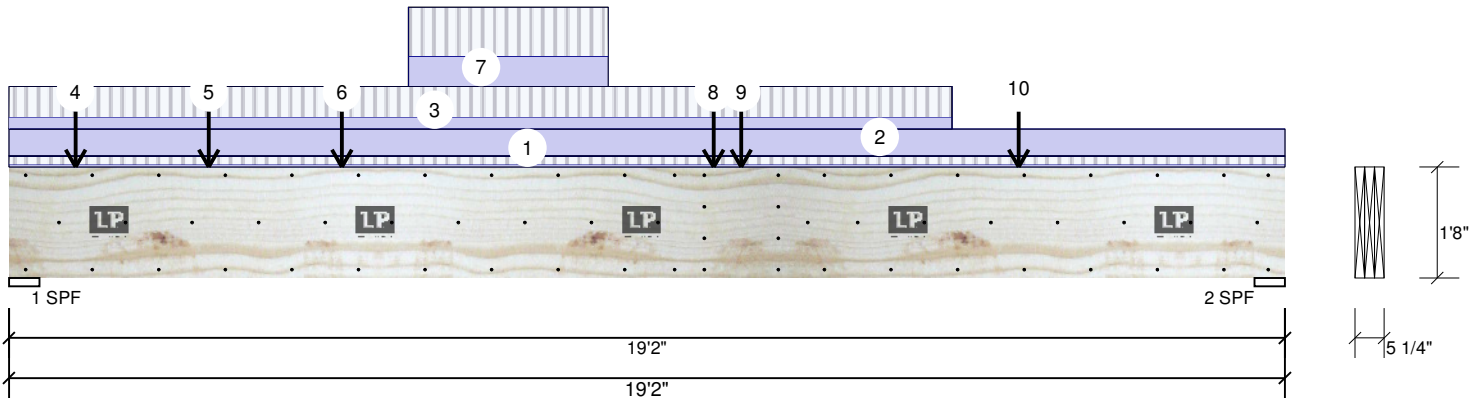
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BM4 LP-LSL 1.55E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Bearing Length	0-3-0								
5	Point	3-0-0		Top	95 lb	158 lb	0 lb	0 lb	0 lb	J02
	Bearing Length	0-3-0								
6	Point	5-0-0		Top	440 lb	733 lb	0 lb	0 lb	0 lb	T45
	Bearing Length	0-3-0								
7	Part. Uniform	6-0-0 to 9-0-0		Top	136 PLF	226 PLF	0 PLF	0 PLF	0 PLF	T46-T47
8	Point	10-7-0		Top	1947 lb	3246 lb	0 lb	0 lb	0 lb	T48
	Bearing Length	0-3-0								
9	Point	11-0-0		Far Face	286 lb	764 lb	0 lb	0 lb	0 lb	TFG02
10	Point	15-2-0		Top	69 lb	183 lb	0 lb	0 lb	0 lb	TFG03
	Bearing Length	0-3-0								
	Self Weight				34 PLF					

Notes

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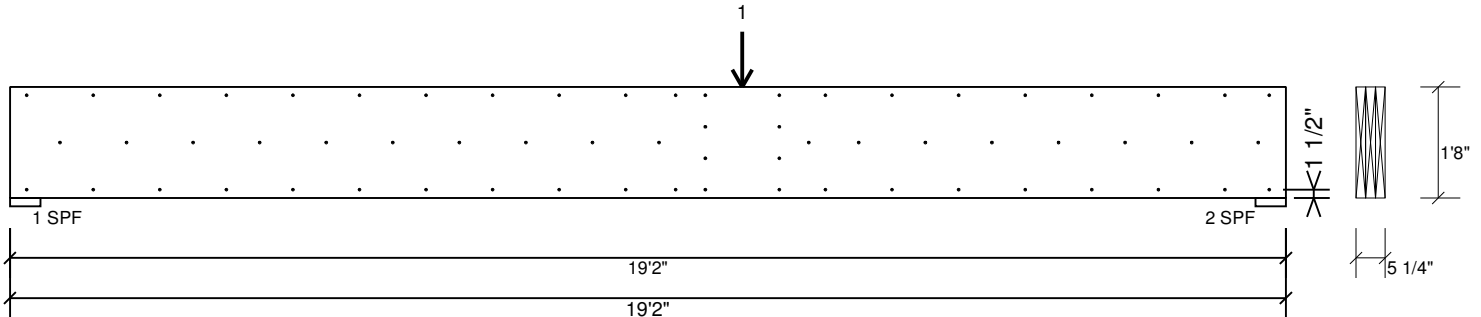
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BM4 LP-LSL 1.55E 1.750" X 20.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening. Nail from both sides. Maximum end distance not to exceed 6"

Capacity	43.6 %
Load	129.3 PLF
Yield Limit per Foot	296.8 PLF
Yield Limit per Fastener	98.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"

Concentrated Load

Fasten at concentrated side load at 11-0-0 with a minimum of 8 10d Box nails (.128x3") in the pattern shown.

Capacity	88.5 %
Load	700.0lb.
Total Yield Limit	790.8 lb.
Cg	0.9992
Yield Limit per Fastener	98.9 lb.
Yield Mode	IV

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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This design is valid until
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