

Client: Project: Address: Weaver Development Poplar Elev. C Poplar Elev. C

Date: 11/2/2021

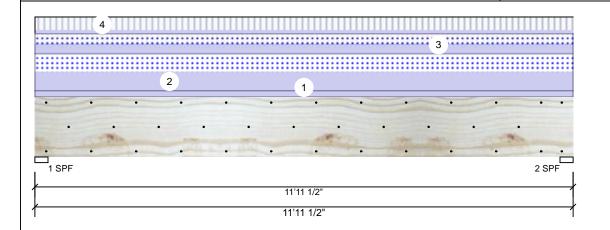
Input by: Christine Shivy Job Name: Poplar

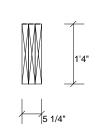
Project #:

1.750" X 16.000" **Kerto-S LVL** BM₁

3-Ply - PASSED

Level: Level





D+0.75(L+S)

Page 1 of 1

Member Info	rmation			Reactio	ns UNPAT	TERNED I	(Uplift)		
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	3	Design Method:	ASD	1	1058	3293	2350	0	0
Moisture Condition	on: Dry	Building Code:	IBC/IRC 2015	2	1058	3293	2350	0	0
Deflection LL:	480	Load Sharing:	Yes						
Deflection TL:	360	Deck:	Not Checked						
Importance:	Normal								
Temperature:	Temp <= 100°F								
				Bearing	JS				
				Bearing	Length	Cap. Rea	ct D/L lb	Total Ld. Ca	se Ld. Comb.
				1 - SPF	3.500"	75% 329	93 / 2556	5849 L	D+0.75(L+S)

2 - SPF 3.500"

75%

3293 / 2556

5849 L

Analysis Results

A 1 '						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16229 ft-lb	5'11 3/4"	62010 ft-lb	0.262 (26%)	D+0.75(L+S)	L
Unbraced	16229 ft-lb	5'11 3/4"	16274 ft-lb	0.997 (100%)	D+0.75(L+S)	L
Shear	4913 lb	10'4 7/8"	20608 lb	0.238 (24%)	D+0.75(L+S)	L
LL Defl inch	0.057 (L/2425)	5'11 3/4"	0.288 (L/480)	0.200 (20%)	0.75(L+S)	L
TL Defl inch	0.130 (L/1060)	5'11 3/4"	0.384 (L/360)	0.340 (34%)	D+0.75(L+S)	L

Design Notes

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ĺ	ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	1	Uniform			Тор	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Load
l	2	Uniform			Тор	253 PLF	0 PLF	253 PLF	0 PLF	0 PLF	B1
	3	Uniform			Near Face	140 PLF	0 PLF	140 PLF	0 PLF	0 PLF	M1
	4	Uniform			Far Face	59 PLF	177 PLF	0 PLF	0 PLF	0 PLF	F4
		Self Weight				19 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- Indicating & Installation

 I. VIL beams must not be cut or drilled

 Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

 Design assumes to be used

 Design assumes top edge is laterally restrained

 Design assumes to be used to be used

 Design assumes to pedge is laterally restrained of the product of the product

- 6. For flat roofs provide proper drainage to prevent ponding

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us ICC-ES: ESR-3633

Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS



This design is valid until 1/8/2023 CSD |

Manufacturer Info



Client: Weaver Development Project: Poplar Elev. C Address:

Date: 11/2/2021 Input by: Christine Shivy Job Name: Poplar Poplar Elev. C

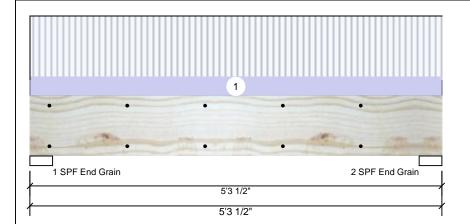
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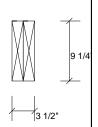
Kerto-S LVL BM₂

1.750" X 9.250"

2-Ply - PASSED

Level: Level





Page 1 of 1

iviember information							
Type:	Girder						
Plies:	2						
Moisture Condition:	Dry						
Deflection LL:	480						
Deflection TL:	360						
Importance:	Normal						
Temperature:	Temp <= 100°F						

Mambar Information

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)											
Brg	Live	Dead	Snow	Wind	Const						
1	2455	839	0	0	0						
2	2455	839	0	0	0						

Analysis Results Analysis Actual Comb. Case Location Allowed Capacity 2'7 3/4" 12542 ft-lb 0.290 (29%) D+L Moment 3636 ft-lb L Unbraced 3636 ft-lb 2'7 3/4" 10922 ft-lb 0.333 (33%) D+L L 2049 lb 1' 6907 lb 0.297 (30%) D+L Shear ī LL Defl inch 0.034 (L/1690) 2'7 3/4" 0.121 (L/480) 0.280 (28%) L TL Defl inch 0.046 (L/1259) 2'7 3/4" 0.161 (L/360) 0.290 (29%) D+L L

Bearings Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 3.500" 839 / 2455 3295 I D+I

Grain 839 / 2455 3295 L D+L 2 - SPF 3.500" 31% End Grain

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID Trib Width Side Dead 0.9 Load Type Location Live 1 Snow 1.15 Wind 1.6 Const. 1.25 Comments 1 Uniform Top 310 PLF 928 PLF 0 PLF 0 PLF 0 PLF

> Self Weight 7 PLF

Notes

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 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 1/8/2023

End

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Manufacturer Info

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Client: Weaver Development Project: Poplar Elev. C

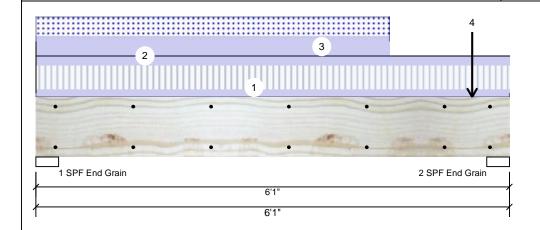
Date: 11/2/2021 Input by: Christine Shivy Poplar Elev. C

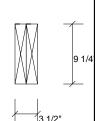
Job Name: Poplar Project #:

F. Room W. Hdr. **Kerto-S LVL** 1.750" X 9.250" 2-Ply - PASSED

Address:

Level: Level





Page 1 of 1

Member Information						
Type:	Girder					
Plies:	2					
Moisture Condition:	Dry					
Deflection LL:	480					
Deflection TL:	360					
Importance:	Normal					
Temperature:	Temp <= 100°F					

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Brg Dead Wind Const Live Snow 967 1520 795 0 0 1 967 1868 0 0 2 1144

Bearings

End Grain

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 3.500" 1520 / 1322 2842 L D+0.75(L+S) End Grain 2 - SPF 3.500" 1868 / 1583 3451 L D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3223 ft-lb	3' 3/8"	12542 ft-lb	0.257 (26%)	D+L	L
Unbraced	3676 ft-lb	3' 5/16"	10944 ft-lb	0.336 (34%)	D+0.75(L+S)	L
Shear	2099 lb	5'1"	7943 lb	0.264 (26%)	D+0.75(L+S)	L
LL Defl inch	0.027 (L/2482)	3' 1/2"	0.141 (L/480)	0.190 (19%)	0.75(L+S)	L
TL Defl inch	0.058 (L/1155)	3' 1/2"	0.188 (L/360)	0.310 (31%)	D+0.75(L+S)	L

Design Notes

- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

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to exceed 6".
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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	106 PLF	318 PLF	0 PLF	0 PLF	0 PLF	F4
2	Uniform			Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Load
3	Part. Uniform	0-0-0 to 4-6-8		Тор	264 PLF	0 PLF	264 PLF	0 PLF	0 PLF	B1
4	Point	5-7-4		Тор	740 lb	0 lb	740 lb	0 lb	0 lb	A1SE
	Self Weight				7 PLF					

Notes

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Manufacturer Info

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This design is valid until 1/8/2023





Client: Project: Address:

Weaver Development Poplar Elev. C Poplar Elev. C

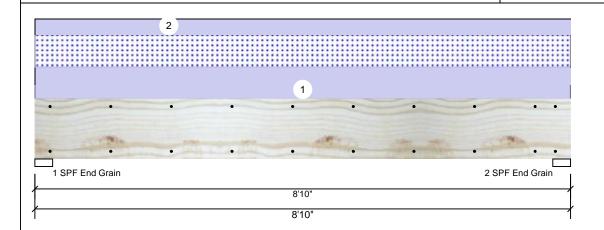
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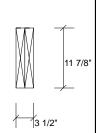
Input by: Christine Shivy Job Name: Poplar

Project #:

1.750" X 11.875" **Kerto-S LVL** 2-Ply - PASSED **GDH**

Level: Level





Page 1 of 1

Member Information						
Type:	Girder					
Plies:	2					
Moisture Condition:	Dry					
Deflection LL:	480					
Deflection TL:	360					
Importance:	Normal					

Temp <= 100°F

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Brg Live Dead Wind Const Snow 0 827 521 0 0 1 0 827 521 0 0 2

Analysis Results

Temperature:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2676 ft-lb	4'5"	22897 ft-lb	0.117 (12%)	D+S	L
Unbraced	2676 ft-lb	4'5"	10756 ft-lb	0.249 (25%)	D+S	L
Shear	976 lb	1'2 5/8"	10197 lb	0.096 (10%)	D+S	L
LL Defl inch	0.016 (L/6189)	4'5 1/16"	0.209 (L/480)	0.080 (8%)	S	L
TL Defl inch	0.042 (L/2392)	4'5 1/16"	0.279 (L/360)	0.150 (15%)	D+S	L

Bearings

Bearing Length	Cap. R	eact D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF 3.500" End Grain	13%	827 / 521	1348 L	D+S
2 - SPF 3.500" End Grain	13%	827 / 521	1348 L	D+S

Design Notes

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- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 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			Тор	118 PLF	0 PLF	118 PLF	0 PLF	0 PLF	M1
2	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Exterior Loads
	Self Weight				9 PLF					

Notes

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- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

Indiang & Installation

LVL beams must not be cut or drilled

Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

Damaged Beams must not be used

Design assumes top edge is laterally restrained.

Provide lateral support at bearing points to avoid lateral displacement and rotation

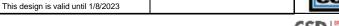
6. For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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Client: Project:

Address:

Weaver Development Poplar Elev. C Poplar Elev. C

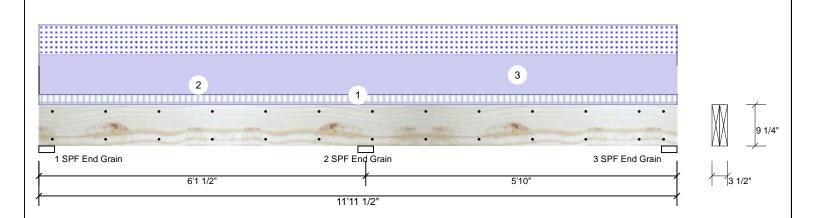
Date: 11/2/2021

Input by: Christine Shivy Job Name: Poplar

Project #:

1.750" X 9.250" Kerto-S LVL 2-Ply - PASSED PB₁

Level: Level



Member Inf	ormation					Reaction	is UNPAT	TTERNE	D lb (Uplift)		
Type:	Girder	Applica	tion: F	loor		Brg	Live	Dead	d Snow	Wind	Const
Plies:	2	Design	Method: A	SD		1	238	1352	936	0	0
Moisture Cond	ition: Dry	Buildin	g Code: IE	3C/IRC 2015		2	665	3780	2618	0	0
Deflection LL:	480	Load S	haring: N	0		3	221	1256	870	0	0
Deflection TL:	360	Deck:	N	ot Checked							
Importance:	Normal										
Temperature:	Temp <= 100°F										
						Bearings	6				
						Bearing	Length	Cap.	React D/L lb	Total Ld. Case	Ld. Comb.
ı						1 - SPF End	3.500"	22%	1322 / 976	2298 L_	D+S
Analysis Res	sults	ļ.				Grain					
Analysis	Actual Locat	ion Allowed	Capacity	Comb.	Case	2 - SPF	3.500"	61%	3841 / 2661	6502 LL	D+S
Neg Moment	-3744 ft-lb 6'1 '	/2" 14423 ft-lb	0.260 (26%) D+S	LL	End Grain					
Unbraced	-3744 ft-lb 6'1 '	/2" 10676 ft-lb	0.351 (35%) D+S	LL	3-SPF	3.500"	20%	1225 / 922	2146 _L	D+S

LL

0.168 (17%) D+S

0.226 (23%) D+S

0.328 (33%) D+S

Design Notes

Unbraced

Shear

1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".

2'11 7/8" 0.147 (L/480) 0.130 (13%) S

2'11 5/16" 0.197 (L/360) 0.210 (21%) D+S

2'6 1/2" 14423 ft-lb

2'6 1/2" 10676 ft-lb

5'4 1/4" 7943 lb

- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.

Pos Moment 2417 ft-lb

LL Defl inch 0.019 (L/3767)

TL Defl inch 0.042 (L/1677)

2417 ft-lb

2604 lb

- 6 Bottom braced at bearings.

7 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			Тор	32 PLF	94 PLF	0 PLF	0 PLF	0 PLF	F1, F2 & F5	
2	Uniform			Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Load	
3	Uniform			Тор	370 PLF	0 PLF	370 PLF	0 PLF	0 PLF	A2	
	Self Weight				7 PLF						

End Grain

Notes

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 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
 Refer to manufacturer's product information
 regarding installation requirements, multi-ply
 fastening details, beam strength values, and code
 approvals
 Damaged Beams must not be used

- Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

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Page 1 of 1

This design is valid until 1/8/2023

Manufacturer Info



Client: Weaver Development Project:

Poplar Elev. C Poplar Elev. C Date: 11/2/2021

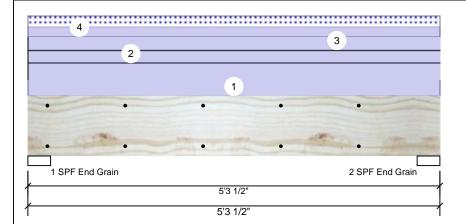
Input by: Christine Shivy Job Name: Poplar

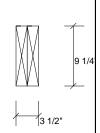
Project #:

Kerto-S LVL 2-Ply - PASSED 1.750" X 9.250" PB₂

Address:

Level: Level





Page 1 of 1

Member Information							
Type:	Girder						
Plies:	2						
Moisture Condition:	Dry						
Deflection LL:	480						
Deflection TL:	360						
Importance:	Normal						
Temperature:	Temp <= 100°F						

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Brg Live Dead Wind Const Snow 0 720 106 0 0 1 0 720 0 2 106 0

Bearings

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 720 / 106 D+S 1 - SPF 3.500" 826 L End Grain 2 - SPF 3.500" 720 / 106 826 L D+S End Grain

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	795 ft-lb	2'7 3/4"	11288 ft-lb	0.070 (7%)	D	Uniform
Unbraced	795 ft-lb	2'7 3/4"	10138 ft-lb	0.078 (8%)	D	Uniform
Shear	448 lb	4'3 1/2"	6216 lb	0.072 (7%)	D	Uniform
LL Defl inch	0.001 (L/39203)	2'7 3/4"	0.121 (L/480)	0.010 (1%)	S	L
TL Defl inch	0.012 (L/5023)	2'7 3/4"	0.161 (L/360)	0.070 (7%)	D+S	L

Design Notes

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- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 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			Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Load
2	Uniform			Тор	50 PLF	0 PLF	0 PLF	0 PLF	0 PLF	A1GE
3	Uniform			Тор	50 PLF	0 PLF	0 PLF	0 PLF	0 PLF	KW5
4	Uniform			Тор	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	Roof Load
	Self Weight				7 PLF					

Notes

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 approvals

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This design is valid until 1/8/2023 CSD I

Manufacturer Info



Client: Project:

Address:

Weaver Development Poplar Elev. C Poplar Elev. C

Date: 11/2/2021 Input by:

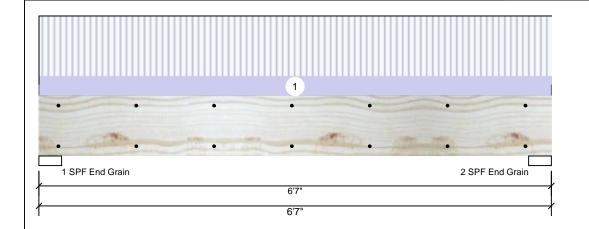
Christine Shivy Job Name: Poplar

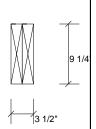
Project #:

Sliding Door Hdr. **Kerto-S LVL** 1.750" X 9.250"

2-Ply - PASSED

Level: Level





Page 1 of 1

Member Information								
Type:	Girder							
Plies:	2							
Moisture Condition:	Dry							
Deflection LL:	480							
Deflection TL:	360							
Importance:	Normal							
Temperature:	Temp <= 100°F							

Application: Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Brg Dead Snow Wind Const Live 2031 702 0 0 0 1 2031 702 0 0 0 2

Bearings

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 702 / 2031 2733 L 1 - SPF 3.500" End Grain 2 - SPF 3.500" 26% 702 / 2031 2733 L D+L End Grain

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3893 ft-lb	3'3 1/2"	12542 ft-lb	0.310 (31%)	D+L	L
Unbraced	3893 ft-lb	3'3 1/2"	9934 ft-lb	0.392 (39%)	D+L	L
Shear	1903 lb	1'	6907 lb	0.275 (28%)	D+L	L
LL Defl inch	0.053 (L/1397)	3'3 1/2"	0.153 (L/480)	0.340 (34%)	L	L
TL Defl inch	0.071 (L/1038)	3'3 1/2"	0.204 (L/360)	0.350 (35%)	D+L	L

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 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			Тор	206 PLF	617 PLF	0 PLF	0 PLF	0 PLF	F1 & F2
	Self Weight				7 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- approvals
 Damaged Beams must not be used
 Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

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This design is valid until 1/8/2023