

Weaver Homes

Project: Address:

Gaston II (181035B)

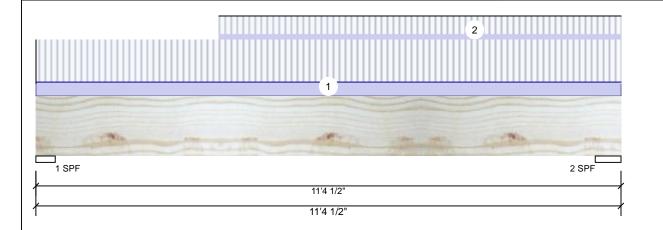
Date: 12/24/2020

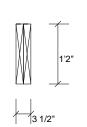
Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

1.750" X 14.000" 2-Ply - PASSED **Kerto-S LVL** FB<sub>1</sub>

Level: Level





Page 1 of 1

Member Inforr	mation			Reactio	ns UNPAT	TERNED Ib	(Uplift)		
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	2129	771	0	0	0
Moisture Condition	: Dry	Building Code:	IBC 2012	2	2523	904	0	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	360	Deck:	Not Checked						
Importance:	Normal								
Temperature:	Temp <= 100°F								
				Bearing	JS				
				Bearing	Length	Cap. Read	ct D/L lb	Total Ld. Ca	ise Ld. Comb.
				1 - SPF	4.500"	43% 77	71 / 2129	2899 L	D+L
A 1 ' D 1				2 - SPF	6.000"	38% 90	04 / 2523	3426 L	D+L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8168 ft-lb	5'9 3/16"	26999 ft-lb	0.303 (30%)	D+L	L
Unbraced	8168 ft-lb	5'9 3/16"	10258 ft-lb	0.796 (80%)	D+L	L
Shear	2446 lb	9'9 1/4"	10453 lb	0.234 (23%)	D+L	L
LL Defl inch	0.090 (L/1419)	5'8 3/16"	0.266 (L/480)	0.340 (34%)	L	L
TL Defl inch	0.122 (L/1044)	5'8 3/16"	0.354 (L/360)	0.340 (34%)	D+L	L

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 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	106 PLF	318 PLF	0 PLF	0 PLF	0 PLF	F5	
2	Part. Uniform	3-6-8 to 11-4-8		Тор	44 PLF	132 PLF	0 PLF	0 PLF	0 PLF	F9	
	Self Weight				11 PLF						

### Notes

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

Handling & Installation

- Handling & Installation

  1. UVI beams must not be out or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

- 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

Manufacturer Info

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



This design is valid until 2/26/2023 CSD BOOK



Weaver Homes

Project:

Address: Gaston II (181035B) Date: 12/24/2020

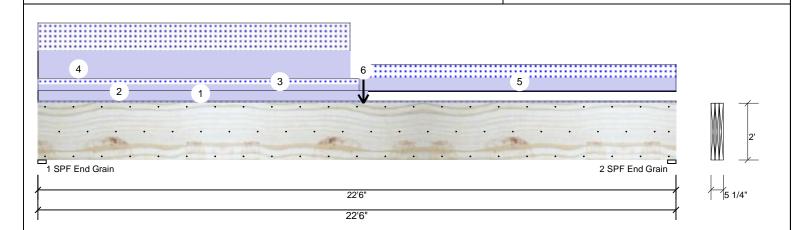
Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 1

Project #:

**Kerto-S LVL** FB<sub>2</sub>

3-Ply - PASSED 1.750" X 24.000"

evel: Level



### Member Information Reactions UNPATTERNED Ib (Uplift) Туре: Girder Application: Floor Brg Wind Const Live Dead Snow Plies: 3 Design Method: ASD 225 6536 5095 0 0 1 Moisture Condition: Dry **Building Code:** IBC 2012 225 0 2 4429 3676 0 Deflection LL: 480 Load Sharing: Yes Deflection TL: 360 Deck: Not Checked Importance: Normal Temperature: Temp <= 100°F Bearings Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb.

1 - SPF 3.500"

2 - SPF 3.500"

End Grain

End Grain

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	65477 ft-lb	11'5 3/4"	131295 ft-lb	0.499 (50%)	D+S	L
Unbraced	65477 ft-lb	11'5 3/4"	65903 ft-lb	0.994 (99%)	D+S	L
Shear	10093 lb	2'2 5/8"	30912 lb	0.327 (33%)	D+S	L
LL Defl inch	0.226 (L/1171)	11'1 11/16"	0.552 (L/480)	0.410 (41%)	S	L
TL Defl inch	0.501 (L/528)	11' 7/8"	0.735 (L/360)	0.680 (68%)	D+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 must be laterally braced at a maximum of 3'11 5/8" o.c.
- 6 Bottom braced at bearings.

7 Lateral slend	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	Tie-In	0-0-0 to 22-6-0	0-6-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	1' Floor
2	Part. Uniform	0-0-0 to 11-7-8		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Part. Uniform	0-0-0 to 11-4-0		Near Face	79 PLF	0 PLF	79 PLF	0 PLF	0 PLF	M2
4	Part. Uniform	0-0-0 to 11-0-0		Тор	341 PLF	0 PLF	341 PLF	0 PLF	0 PLF	A2
5	Part. Uniform	11-4-0 to 22-6-0		Near Face	164 PLF	0 PLF	164 PLF	0 PLF	0 PLF	M3
6	Point	11-5-12		Тор	2293 lb	0 lb	2293 lb	0 lb	0 lb	B2
	Self Weight				28 PLF					

### Notes

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- 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
- 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 2/26/2023

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

Manufacturer Info

6536 / 5095

4429 / 3676

11631 L

8104 L

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D+S

D+S





Client: Weaver Homes

Project: Address:

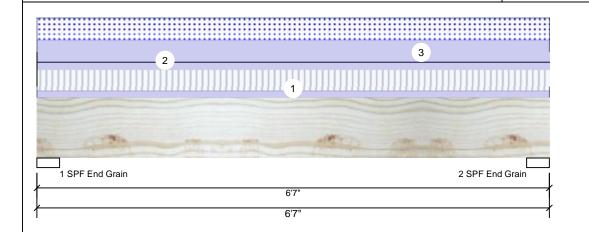
Date: 12/24/2020

Input by: Marshall Naylor Job Name: Gaston II (181035B)

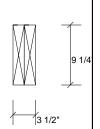
Project #:

**Kerto-S LVL** 6/0 SLIDER 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Gaston II (181035B)



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 2012 Load Sharing: No Deck: Not Checked Reactions UNPATTERNED Ib (Uplift) Brg Wind Const Live Dead Snow 1060 1887 1113 0 0 1 1060 1887 1113 0 0 2

# Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5009 ft-lb	3'3 1/2"	14423 ft-lb	0.347 (35%)	D+0.75(L+S)	L
Unbraced	5009 ft-lb	3'3 1/2"	10451 ft-lb	0.479 (48%)	D+0.75(L+S)	L
Shear	2448 lb	1'	7943 lb	0.308 (31%)	D+0.75(L+S)	L
LL Defl inch	0.042 (L/1741)	3'3 1/2"	0.153 (L/480)	0.280 (28%)	0.75(L+S)	L
TL Defl inch	0.091 (L/807)	3'3 1/2"	0.204 (L/360)	0.450 (45%)	D+0.75(L+S)	L

# **Bearings**

Grain

Bearing Le	ength (	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3. End Grain	500"	33%	1887 / 1629	3516	L	D+0.75(L+S)
2 - SPF 3. End	500"	33%	1887 / 1629	3516	L	D+0.75(L+S)

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings

o Bottom Bradea at Bearinge.
6 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	108 PLF	322 PLF	0 PLF	0 PLF	0 PLF	F4
2	Uniform			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Uniform			Тор	338 PLF	0 PLF	338 PLF	0 PLF	0 PLF	A4
	Self Weight				7 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

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

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This design is valid until 2/26/2023 CSD |



Weaver Homes

Project:

Address: Gaston II (181035B) Date: 12/24/2020

Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 1

Project #:

Kerto-S LVL 1.750" X 14.000" Front GDH 2-Ply - PASSED Level: Level

Reactions UNPATTERNED Ib (Uplift)

Dead

1619

1720

Cap. React D/L lb

1619 / 952

1720 / 1052

Snow

952

1052

Live

Bearing Length

1 - SPF 3.000"

2 - SPF 3.000"

0 PLF

0 PLF

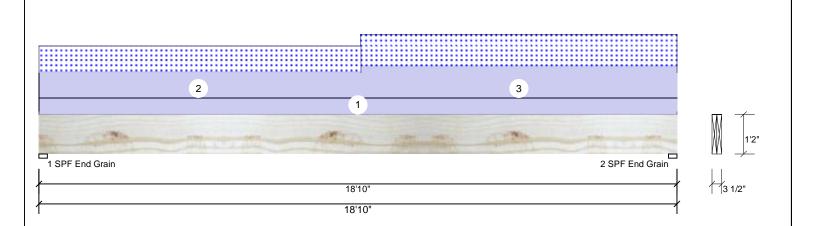
96 PLF

117 PLF

End Grain

End Grain 0

0



Brg

1

2

### Plies: 2 Design Method: ASD Moisture Condition: Dry **Building Code:** IBC 2012 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal Temperature: Analysis Results

aluie.	Temp <= 100 F	<b>—</b>
		Bearings

Application:

Floor

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12090 ft-lb	9'8 7/8"	31049 ft-lb	0.389 (39%)	D+S	L
Unbraced	12090 ft-lb	9'8 7/8"	12111 ft-lb	0.998 (100%)	D+S	L
Shear	2360 lb	17'5 3/4"	12021 lb	0.196 (20%)	D+S	L
LL Defl inch	0.184 (L/1202)	9'6 3/16"	0.461 (L/480)	0.400 (40%)	S	L
TL Defl inch	0.491 (L/451)	9'5 13/16"	0.615 (L/360)	0.800 (80%)	D+S	L

### **Design Notes**

Member Information

Girder

Туре:

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top must be laterally braced at a maximum of 8'7 7/8" o.c.

	5 Bottom braced	d at bearings.								
6 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
	1	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF

Part. Uniform 0-0-0 to 9-6-0 Тор 96 PLF 2 3 Part. Uniform 9-6-0 to 18-10-0 Top 117 PLF 11 PLF Self Weight

### 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

0 PLF

0 PLF

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Comments

wall

M2

0 PLF

0 PLF M3

Wind

Total Ld. Case

2772 L

0

0

Const

0

0

Ld. Comb.

D+S

D+S



This design is valid until 2/26/2023 CSD I



Client: Weaver Homes

Project:

Address: Gaston II (181035B) Date: 12/24/2020

Input by: Marshall Naylor Job Name: Gaston II (181035B)

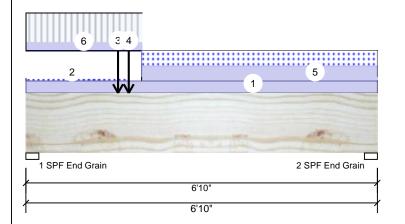
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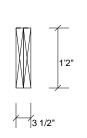
**Kerto-S LVL** Window Hdr. 1.750" X 14.000" 2-Ply - PASSED

Level: Level

Reactions UNPATTERNED Ib (Uplift)

Bearings Bearing Length





Total Ld. Case Ld. Comb.

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 2012 Load Sharing: No Deck: Not Checked

Brg	Live	Dead	Snow	Wind	Const	
1	2861	3387	1990	0	0	
2	873	1906	1168	0	0	

Cap. React D/L lb

### Analysis Results Analysis Case Actual Location Allowed Comb. Capacity 11172 ft-lb 2' 31049 ft-lb 0.360 (36%) D+0.75(L+S) L Moment Unbraced 11172 ft-lb 2' 15735 ft-lb 0.710 (71%) D+0.75(L+S) L 6425 lb 1'4 1/4" 12021 lb 0.534 (53%) D+0.75(L+S) L Shear LL Defl inch 0.033 (L/2343) 2'7 5/8" 0.161 (L/480) 0.200 (20%) 0.75(L+S) L TL Defl inch 0.067 (L/1165) 2'8 7/8" 0.215 (L/360) 0.310 (31%) D+0.75(L+S) L

1 - SPF 3.000" End Grain	77%	3387 / 3638	7025 L	D+0.75(L+S)
2 - SPF 3.000" End Grain	38%	1906 / 1531	3437 L	D+0.75(L+S)

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

11	D	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	I	Uniform			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	2	Tie-In	0-0-0 to 2-0-0	1-0-0	Тор	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	2' ROOF
3	3	Point	1-9-8		Тор	1040 lb	3115 lb	0 lb	0 lb	0 lb	F08
4	1	Point	2-0-0		Тор	2385 lb	0 lb	2385 lb	0 lb	0 lb	C3
5	5	Part. Uniform	2-3-0 to 6-10-0		Тор	160 PLF	0 PLF	160 PLF	0 PLF	0 PLF	C2
6	3	Part. Uniform	2-3-0 to 0-0-0		Тор	97 PLF	300 PLF	0 PLF	0 PLF	0 PLF	F07
		Self Weight				11 PLF					

### Notes

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- 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
- Damaged Beams must not be used
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  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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Weaver Homes Project:

Gaston II (181035B)

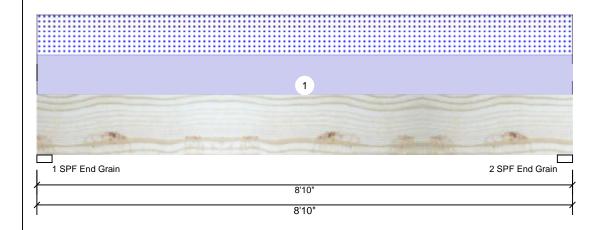
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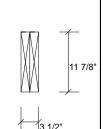
Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

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

Level: Level





Page 1 of 1

Member Information							
Girder							
2							
Dry							
480							
360							
Normal							
Temp <= 100°F							

Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked

Reaction	Reactions UNPATTERNED Ib (Uplift)											
Brg	Live	Dead	Snow	Wind	Const							
1	0	1145	1104	0	0							
2	0	1145	1104	0	0							

### Analysis Results Analysis Case Actual Location Allowed Comb. Capacity Moment 4554 ft-lb 4'5" 22897 ft-lb 0.199 (20%) D+S L Unbraced 4554 ft-lb 4'5" 10675 ft-lb 0.427 (43%) D+S L 1650 lb 1'2 1/8" 10197 lb 0.162 (16%) D+S Shear ī LL Defl inch 0.036 (L/2845) 4'5 1/16" 0.211 (L/480) 0.170 (17%) S TL Defl inch 0.073 (L/1397) 4'5 1/16" 0.282 (L/360) 0.260 (26%) D+S L

# **Bearings**

Bearing	Length	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	25%	1145 / 1104	2249	L	D+S
2 - SPF End Grain	3.000"	25%	1145 / 1104	2249	L	D+S

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

6 Lateral sienderness 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	
1	Uniform			Top	250 PLF	0 PLF	250 PLF	0 PLF	0 PLF	

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
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Comments G2



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Weaver Homes

Project:

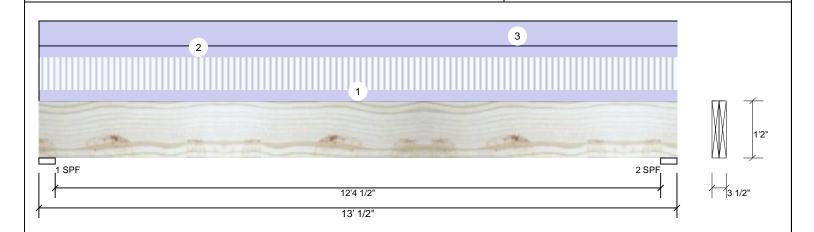
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Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 1

Project #:

1.750" X 14.000" 2-Ply - PASSED **GCO Kerto-S LVL** 

Level: Level



Member Inform	nation	Reactions UNPATTERNED lb (Uplift)							
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	2374	3468	0	0	0
Moisture Condition:	: Dry	Building Code:	IBC 2012	2	2374	3468	0	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal								
Temperature:	Temp <= 100°F								
				Bearings					
				Bearing	Length	Cap. Rea	ct D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF	4.000"	98% 34	68 / 2374	5842 L	D+L
A It It D It				2-SPF	4.000"	98% 34	68 / 2374	5842 L	D+L

Analysis Results

_	,						
	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	17498 ft-lb	6'6 1/4"	26999 ft-lb	0.648 (65%)	D+L	L
	Unbraced	17498 ft-lb	6'6 1/4"	17570 ft-lb	0.996 (100%)	D+L	L
	Shear	4554 lb	1'5 1/4"	10453 lb	0.436 (44%)	D+L	L
	LL Defl inch	0.142 (L/1059)	6'6 1/4"	0.312 (L/480)	0.450 (45%)	L	L
	TL Defl inch	0.349 (L/430)	6'6 1/4"	0.625 (L/240)	0.560 (56%)	D+L	L

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top must be laterally braced at a maximum of 5'6 3/4" o.c.
- 5 Bottom braced at bearings.
- 6 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	122 PLF	364 PLF	0 PLF	0 PLF	0 PLF	F01
2	Uniform			Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Uniform			Тор	274 PLF	0 PLF	0 PLF	0 PLF	0 PLF	A1
	Self Weight				11 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

- Handling & Installation

  1. UVI beams must not be out or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

  5. 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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This design is valid until 2/26/2023

