isDesign

Client: Weaver Development

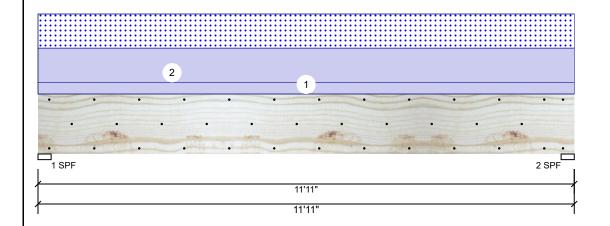
Project: Address: Date: 4/9/2021

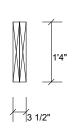
Input by: David Landry Job Name: Lot 68 Thomas Farm

Project #: J0421-2293

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM<sub>1</sub>

Level: Level





Page 1 of 8

### **Member Information**

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

Application: Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Not Checked Deck: Ceiling: Gypsum 1/2"

Reactions UNPATTERNED Ib (Uplift) Brg Live Wind Dead Snow Const 0 2869 2079 0 0 1 2 0 2869 2079 0 0

### **Bearings**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 4948 L D+S 2869 / 2079 2 - SPF 3.500" 95% 2869 / 2079 4948 L D+S

### **Analysis Results**

, ,						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13679 ft-lb	5'11 1/2"	39750 ft-lb	0.344 (34%)	D+S	L
Unbraced	13679 ft-lb	5'11 1/2"	13695 ft-lb	0.999 (100%)	D+S	L
Shear	3659 lb	1'6 5/8"	13739 lb	0.266 (27%)	D+S	L
LL Defl inch	0.069 (L/2000)	5'11 1/2"	0.287 (L/480)	0.240 (24%)	S	L
TL Defl inch	0.164 (L/840)	5'11 1/2"	0.383 (L/360)	0.430 (43%)	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 8'8 1/4" o.c.
- 6 Lateral slenderness ratio based on single ply width.

o Eateral sieriderness ratio based on single pry 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	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
2	Uniform			Тор	349 PLF	0 PLF	349 PLF	0 PLF	0 PLF	A2	
	Self Weight				12 PLF						

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 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

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



isDesign

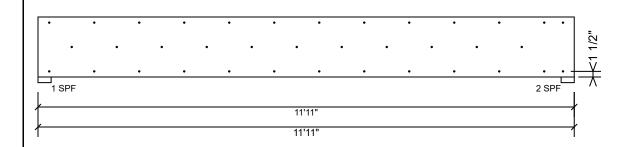
Client: Weaver Development

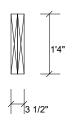
Project: Address: Date: 4/9/2021

Input by: David Landry Job Name: Lot 68 Thomas Farm Project #: J0421-2293

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM<sub>1</sub>

Level: Level





Page 2 of 8

## Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c., Maximum end distance not to exceed 6"

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

### Notes

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 cut 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

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





Client:

Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

Ceiling:

Floor

ASD

No

**IBC/IRC 2015** 

Not Checked

Gypsum 1/2"

Project:

Weaver Development

Date: 4/9/2021

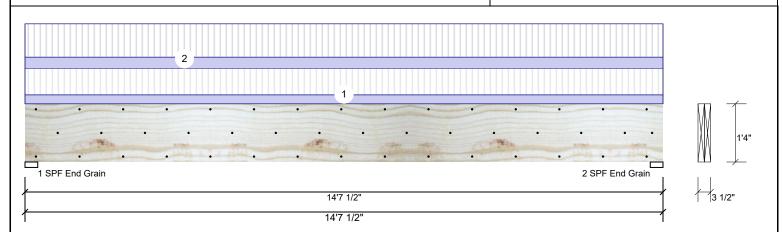
Input by: David Landry Job Name: Lot 68 Thomas Farm Page 3 of 8

Project #: J0421-2293

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM<sub>2</sub>

Address:

Level: Level



Reactions UNPATTERNED Ib (Uplift)

Brg Wind Live Dead Snow Const 0 0

## Temperature: Temp <= 100°F

2

480

360

Normal

**Member Information** 

Moisture Condition: Dry

Type:

Plies:

Deflection LL:

Deflection TL:

Importance:

## **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	18077 ft-lb	7'3 3/4"	34565 ft-lb	0.523 (52%)	D+L	L
Unbraced	18077 ft-lb	7'3 3/4"	18150 ft-lb	0.996 (100%)	D+L	L
Shear	5080 lb	13' 7/8"	11947 lb	0.425 (43%)	D+L	L
LL Defl inch	0.229 (L/743)	7'3 13/16"	0.355 (L/480)	0.650 (65%)	L	L
TL Defl inch	0.311 (L/547)	7'3 13/16"	0.473 (L/360)	0.660 (66%)	D+L	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 must be laterally braced at a maximum of 6'4 1/2" o.c.

1	3868	1385	0	0
2	3868	1385	0	0

Bearings										
Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.				
1 - SPF End Grain	3.500"	49%	1385 / 3868	5254	L	D+L				
2 - SPF End Grain	3.500"	49%	1385 / 3868	5254	L	D+L				

5 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			Near Face	79 PLF	235 PLF	0 PLF	0 PLF	0 PLF	F5
2	Uniform			Far Face	98 PLF	294 PLF	0 PLF	0 PLF	0 PLF	F4
	Self Weight				12 PI F					

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 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

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



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Client: Weaver Development

Project: Address:

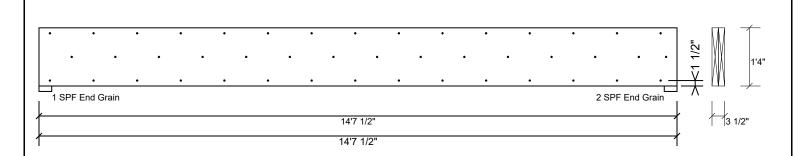
Date: 4/9/2021 Input by:

David Landry Job Name: Lot 68 Thomas Farm Project #: J0421-2293

Page 4 of 8

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM<sub>2</sub>

Level: Level



### Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

ruster an price asing a remain or real zextrians (re					
Capacity	79.8 %				
Load	196.0 PLF				
Yield Limit per Foot	245.6 PLF				
Yield Limit per Fastener	81.9 lb.				
Yield Mode	IV				
Edge Distance	1 1/2"				
Min. End Distance	3"				
Load Combination	D+L				
Duration Factor	1.00				

### Notes

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 cut 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

- For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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Client:

Weaver Development

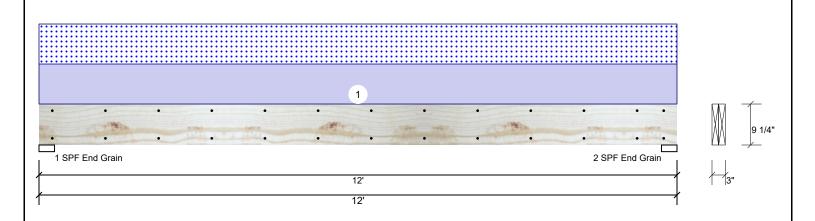
Project: Address: Date: 4/9/2021

Input by: David Landry Job Name: Lot 68 Thomas Farm Page 5 of 8

Project #: J0421-2293

2.000" X 10.000" 2-Ply - PASSED S-P-F #2

Level: Level



Member Info	rmation	Reaction	Reactions UNPATTERNED Ib (Uplift)						
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	0	564	564	0	0
Moisture Condition	on: Dry	Building Code:	IBC/IRC 2015	2	0	564	564	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	360	Deck:	Not Checked						
Importance:	Normal	Ceiling:	Gypsum 1/2"						
Temperature:	Temp <= 100°F								
				Bearing	s				
				Bearing	Length	Cap. Rea	ct D/L lb	Total Ld. Case	Ld. Comb
				1 - SPF	3.500"	25%	564 / 564	1128 L	D+S
				End					
Analysis Resu	lts			Grain					

2 - SPF 3.500"

Live 1

Snow 1.15

End

Grain

25%

564 / 564

Wind 1.6 Const. 1.25

1128 L

D+S

### Comb. Actual Location Allowed Case Analysis Capacity 3130 ft-lb Moment 6' 3946 ft-lb 0.793 (79%) D+S L Unbraced 3130 ft-lb 6' 3132 ft-lb 1.000 L (100%)940 lb 11' 2872 lb 0.327 (33%) D+S Shear L LL Defl inch 0.135 (L/1022) 6' 0.289 (L/480) 0.470 (47%) S L

### Design Notes

ID

TL Defl inch 0.271 (L/511)

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

Location

6' 0.385 (L/360) 0.700 (70%) D+S

Trib Width

Side

- 2 Refer to last page of calculations for fasteners required for specified loads.

- 5

Load Type

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 8'8 5/8" o.c.	
6. Lateral slenderness ratio based on single ply width	

94 PLF 0 PLF 94 PLF 0 PLF 0 PLF C1 Uniform Тор 1

Dead 0.9

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

CSD DESIGN

Comments

Client: Weaver Development Date: 4/9/2021 Project: Input by: David Landry isDesign Address: Job Name: Lot 68 Thomas Farm Project #: J0421-2293 2-Ply - PASSED Level: Level 2.000" X 10.000" **BM3** S-P-F #2 2 SPF End Grain 1 SPF End Grain 12' 12'

### Multi-Ply Analysis

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

0.0 % Capacity 0.0 PLF Load 157.4 PLF Yield Limit per Foot Yield Limit per Fastener 78.7 lb. Yield Mode IV Edge Distance 1 1/2" Min. End Distance 3" Load Combination Duration Factor 1.00

Manufacturer Info

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

This design is valid until 1/8/2023

CSD DRAW DESIGN BUILD

Page 6 of 8



Client: Project: Weaver Development

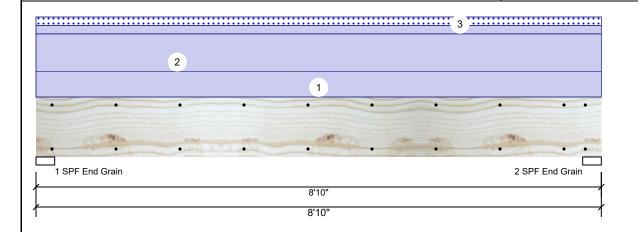
Address:

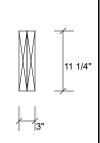
Date: 4/9/2021

Input by: David Landry Job Name: Lot 68 Thomas Farm Project #: J0421-2293

2.000" X 12.000" 2-Ply - PASSED S-P-F #2 **GDH** 

Level: Level





Page 7 of 8

### **Member Information** Type Girder

турс.	Gildei
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 Gypsum 1/2" Ceiling:

Reactions UNPATTERNED lb (Uplift)									
Brg	Live	Dead	Snow	Wind	Const				
1	0	751	88	0	0				
2	0	751	88	0	0				

# **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1490 ft-lb	4'5"	4153 ft-lb	0.359 (36%)	D	Uniform
Unbraced	1490 ft-lb	4'5"	3539 ft-lb	0.421 (42%)	D	Uniform
Shear	553 lb	1'2"	2734 lb	0.202 (20%)	D	Uniform
LL Defl inch	0.004 (L/22622)	4'5 1/16"	0.209 (L/480)	0.020 (2%)	S	L
TL Defl inch	0.042 (L/2381)	4'5 1/16"	0.279 (L/360)	0.150 (15%)	D+S	L

## **Bearings**

Bearir	ng Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SF End Grain	PF 3.500"	19%	751 / 88	839	L	D+S
2 - SF End Grain	PF 3.500"	19%	751 / 88	839	L	D+S

## **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 Lateral slenderness ratio based on single ply width

o Eateral sicriderness 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	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
2	Uniform			Тор	90 PLF	0 PLF	0 PLF	0 PLF	0 PLF	B1GE	
3	Tie-In	0-0-0 to 8-10-0	1-0-0	Тор	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof Load	

This design is valid until 1/8/2023

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

Client: Weaver Development Date: 4/9/2021 Page 8 of 8 Project: Input by: David Landry isDesign Address: Job Name: Lot 68 Thomas Farm Project #: J0421-2293 Level: Level 2.000" X 12.000" 2-Ply - PASSED **GDH** S-P-F #2 1 SPF End Grain 2 SPF End Grain 8'10" 8'10" Multi-Ply Analysis Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6" Capacity 0.0 PLF Load 157.4 PLF Yield Limit per Foot Yield Limit per Fastener 78.7 lb. Yield Mode IV Edge Distance 1 1/2" Min. End Distance 3" Load Combination Duration Factor 1.00