

Project: Address: Ben Stout Real Estate

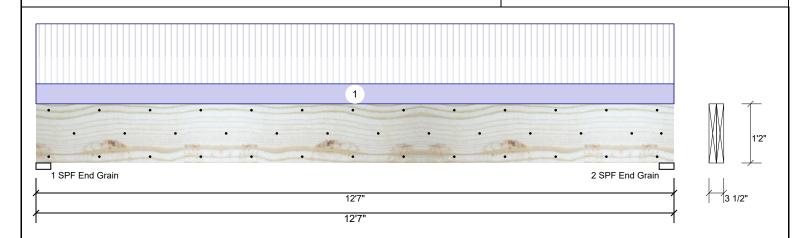
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

Page 1 of 16

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

Level: Level



### Member Information Reactions UNPATTERNED Ib (Uplift) Application: Wind Type: Floor Brg Live Dead Snow Const Plies: 2 Design Method: ASD 4568 1591 0 0 0 1 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 4568 1591 0 0 0 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal Temp <= 100°F Temperature: **Bearings** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 1591 / 4568 6159 L End Grain Analysis Results 2 - SPF 3.500" 1591 / 4568 6159 L D+L End Grain

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	17989 ft-lb	6'3 1/2"	26999 ft-lb	0.666 (67%)	D+L	L
Unbraced	17989 ft-lb	6'3 1/2"	18055 ft-lb	0.996 (100%)	D+L	L
Shear	4792 lb	11'2 1/4"	10453 lb	0.458 (46%)	D+L	L
LL Defl inch	0.252 (L/578)	6'3 1/2"	0.303 (L/480)	0.830 (83%)	L	L
TL Defl inch	0.340 (L/428)	6'3 1/2"	0.404 (L/360)	0.840 (84%)	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 loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 5'4 1/2" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width

Self Weight

I Lateral Sieriue	Lateral 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	242 PLF	726 PLF	0 PLF	0 PLF	0 PLF	F1

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
- 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
- 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



Client:

Project: Address: Ben Stout Real Estate

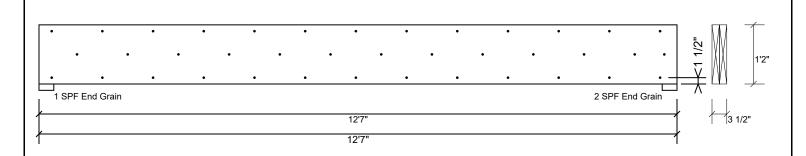
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

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

rasterrain pries asing s	TOWS OF TOO BOX Halls (.TEOXS ) at
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

For flat roofs provide proper drainage to prevent ponding

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Client:

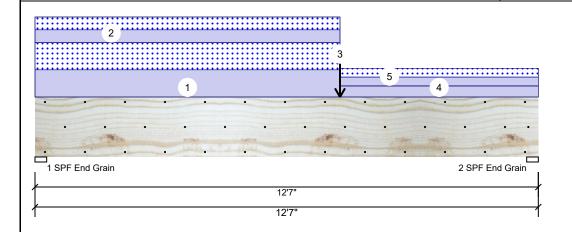
Project: Address: Ben Stout Real Estate

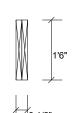
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

1.750" X 18.000" **Kerto-S LVL** 2-Ply - PASSED BM<sub>2</sub>

Level: Level





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		mation

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	Snow	Wind	Const
1	0	5114	4887	0	0
2	0	5329	4635	0	0

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	42293 ft-lb	7'7 1/2"	49428 ft-lb	0.856 (86%)	D+S	L
Unbraced	42293 ft-lb	7'7 1/2"	42329 ft-lb	0.999 (100%)	D+S	L
Shear	9273 lb	10'10 3/8"	15456 lb	0.600 (60%)	D+S	L
LL Defl inch	0.179 (L/816)	6'8 1/8"	0.304 (L/480)	0.590 (59%)	S	L
TL Defl inch	0.368 (L/396)	6'8 5/16"	0.405 (L/360)	0.910 (91%)	D+S	L

### **Analysis Results**

Unbraced	42293 ft-lb	7'7 1/2"	42329 ft-lb	0.999 (100%)	D+S	L
Shear	9273 lb	10'10 3/8"	15456 lb	0.600 (60%)	D+S	L
LL Defl inch	0.179 (L/816)	6'8 1/8"	0.304 (L/480)	0.590 (59%)	S	L
TL Defl inch	0.368 (L/396)	6'8 5/16"	0.405 (L/360)	0.910 (91%)	D+S	L
	•					

## **Bearings**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 5114 / 4887 10001 L End Grain 2 - SPF 3.500" 5329 / 4635 9964 L D+S End Grain

### **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 2'6" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width

1 Edicial sicilaciness ratio based on single pry water.												
	ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
	1	Part. Uniform	0-0-0 to 7-7-8		Тор	367 PLF	0 PLF	367 PLF	0 PLF	0 PLF	B1	
	2	Part. Uniform	0-0-0 to 7-7-8		Тор	173 PLF	0 PLF	173 PLF	0 PLF	0 PLF	G1	
	3	Point	7-7-8		Тор	4815 lb	0 lb	4815 lb	0 lb	0 lb	B1-GR	
	4	Part. Uniform	7-7-8 to 12-7-0		Тор	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above	
	5	Part. Uniform	7-7-8 to 12-7-0		Тор	119 PLF	0 PLF	119 PLF	0 PLF	0 PLF	G2	
		Self Weight				14 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

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Manufacturer Info

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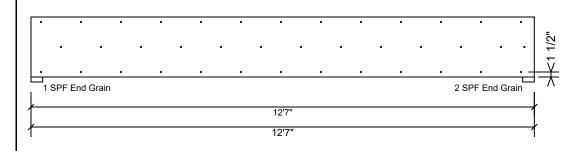
Client: Ben Stout Real Estate

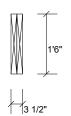
Project: Address: Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

1.750" X 18.000" 2-Ply - PASSED **Kerto-S LVL** BM<sub>2</sub>

Level: Level





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# 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"

li asteri ali piles asirig s	TOWS OF TOO BOX Halls (.TEOXS ) at
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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/26/2023

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ICC-ES: ESR-3633

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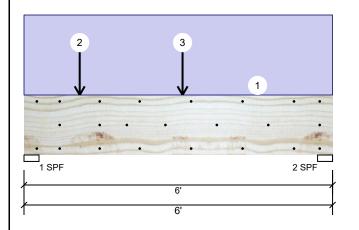
Project: Address: Ben Stout Real Estate

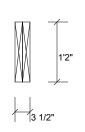
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

1.750" X 14.000" 2-Ply - PASSED **Kerto-S LVL** BM3

Level: Level





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### **Member Information**

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

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

Application:

Floor

# Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	678	709	0	0	0
2	189	546	0	0	0

# **Bearings**

Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.	
1 - SPF 3.500"	27% 709 / 678	1387 L	D+L	
2 - SPF 3.500"	14% 546 / 189	734 L	D+L	

## **Analysis Results**

•							
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	
Moment	1305 ft-lb	2'8 7/16"	26999 ft-lb	0.048 (5%)	D+L	L	
Unbraced	1305 ft-lb	2'8 7/16"	17623 ft-lb	0.074 (7%)	D+L	L	
Shear	1162 lb	1'4 3/4"	10453 lb	0.111 (11%)	D+L	L	
LL Defl inch	0.003 (L/21799)	2'7 3/8"	0.139 (L/480)	0.020 (2%)	L	L	
TL Defl inch	0.008 (L/8727)	2'10 1/16"	0.185 (L/360)	0.040 (4%)	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 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.

8 Lateral sien	derness ratio based on singl	e piy wiatn.								
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	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
2	Point	1-1-0		Far Face	238 lb	714 lb	0 lb	0 lb	0 lb	F2A
3	Point	3-1-0		Far Face	51 lb	153 lb	0 lb	0 lb	0 lb	F7
	Self Weight				11 PLF					

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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

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Manufacturer Info

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Client:

Project: Address: Ben Stout Real Estate

2/23/2021 Input by:

Date:

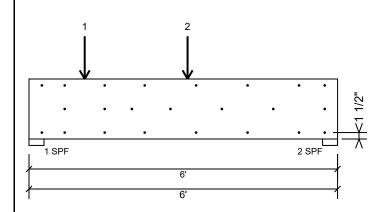
David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

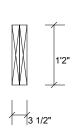
**Kerto-S LVL** BM3

1.750" X 14.000"

2-Ply - PASSED

Level: Level





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## 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. Maximum end distance not to exceed 6"

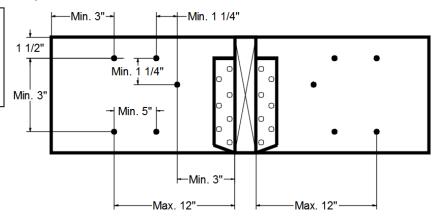
····a/·····a···· o···a· a···b·ta···c·		
Capacity	0.0 %	٦
Load	0.0 PLF	
Yield Limit per Foot	245.6 PLF	
Yield Limit per Fastener	81.9 lb.	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination		
Duration Factor	1.00	

### Concentrated Load

Fasten at concentrated side load at 1-1-0 with a minimum of (6) - 10d Box nails (.128x3") in the pattern shown

pattern snown.		
Capacity	96.9 %	
Load	476.0lb.	
Total Yield Limit	491.0 lb.	
Cg	0.9998	
Yield Limit per Fastener	81.9 lb.	
Yield Mode	IV	
Load Combination	D+L	
Duration Factor	1.00	

## Min/Max fastener distances for Concentrated Side Loads



### Notes

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
- For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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Client: Ben Stout Real Estate Date: 2/23/2021 Project: Input by: David Landry isDesign Address: Job Name: Lot 3 Spartan Ridge Project #: J0221-0893 2.000" X 12.000" 2-Ply - PASSED Level: Level S-P-F #2 1 SPF End Grain 2 SPF End Grain 12'3 1/2" 12'3 1/2" **Reactions UNPATTERNED Ib (Uplift) Member Information** Type: Application: Floor Brg Live Dead Snow Wind Const Plies: 2 Design Method: ASD 0 799 799 0 1 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 799 0 799 0 Deflection LL: Load Sharing: 480 No Deflection TL: 360 Deck: Not Checked Importance: Normal Temp <= 100°F Temperature: Bearings Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 36% 799 / 799 1598 L D+S End Grain **Analysis Results** 2 - SPF 3.500" 36% 799 / 799 1598 L D+S End Grain

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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4551 ft-lb	6'1 3/4"	5306 ft-lb	0.858 (86%)	D+S	L
Unbraced	4551 ft-lb	6'1 3/4"	4558 ft-lb	0.998 (100%)	D+S	L
Shear	1295 lb	1'2"	3493 lb	0.371 (37%)	D+S	L
LL Defl inch	0.115 (L/1234)	6'1 3/4"	0.296 (L/480)	0.390 (39%)	S	L
TL Defl inch	0.230 (L/617)	6'1 3/4"	0.394 (L/360)	0.580 (58%)	D+S	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 must be laterally braced at a maximum of 6'1 1/2" o.c.
- 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	130 PLF	0 PLF	130 PLF	0 PLF	0 PLF	D1

This design is valid until 2/26/2023

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Client: Ben Stout Real Estate Date: 2/23/2021 Page 8 of 16 Project: Input by: David Landry isDesign Address: Job Name: Lot 3 Spartan Ridge Project #: J0221-0893 Level: Level 2.000" X 12.000" 2-Ply - PASSED S-P-F #2 1 SPF End Grain 2 SPF End Grain 12'3 1/2" 12'3 1/2" 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

Manufacturer Info

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

CSD DESIGN



Client: Ben Stout Real Estate

Project: Address:

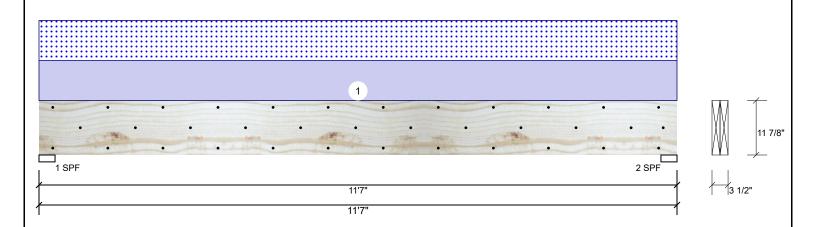
2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

evel: Level

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### 1.750" X 11.875" 2-Ply - PASSED **Kerto-S LVL** BM5



Member Infor	mation			Reactio	ns UNPAT	TERNED IL	(Uplift)		
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	0	1559	1506	0	0
Moisture Condition	n: Dry	Building Code:	IBC/IRC 2015	2	0	1559	1506	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. Rea	ct D/L lb	Total Ld. Cas	se Ld. Comb.
				1 - SPF	3.500"	59% 155	59 / 1506	3065 L	D+S
	_			2 - SPF	3.500"	59% 155	59 / 1506	3065 L	D+S

### **Analysis Results**

ĺ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	8188 ft-lb	5'9 1/2"	22897 ft-lb	0.358 (36%)	D+S	L
	Unbraced	8188 ft-lb	5'9 1/2"	8589 ft-lb	0.953 (95%)	D+S	L
	Shear	2935 lb	1'2 5/8"	10197 lb	0.288 (29%)	D+S	L
	LL Defl inch	0.103 (L/1298)	5'9 1/2"	0.278 (L/480)	0.370 (37%)	S	L
	TL Defl inch	0.209 (L/637)	5'9 1/2"	0.371 (L/360)	0.560 (56%)	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 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			Far Face	260 PLF	0 PLF	260 PLF	0 PLF	0 PLF	A2
	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

- Informing & 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

  Damaged Beams must not be used

  Design assumes top edge is laterally restrained

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

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





Client: Ben Stout Real Estate

Project: Address: 2/23/2021

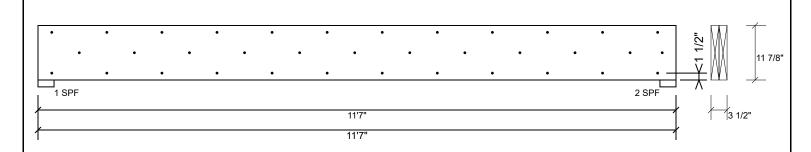
Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

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1.750" X 11.875" **Kerto-S LVL** BM5

2-Ply - PASSED

evel: 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"

		`	,
Capacity	92.1 %		
Load	260.0 PLF		
Yield Limit per Foot	282.4 PLF		
Yield Limit per Fastener	94.1 lb.		
Yield Mode	IV		
Edge Distance	1 1/2"		
Min. End Distance	3"		
Load Combination	D+S		
Duration Factor	1.15		

### 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: Ben Stout Real Estate

Project: Address:

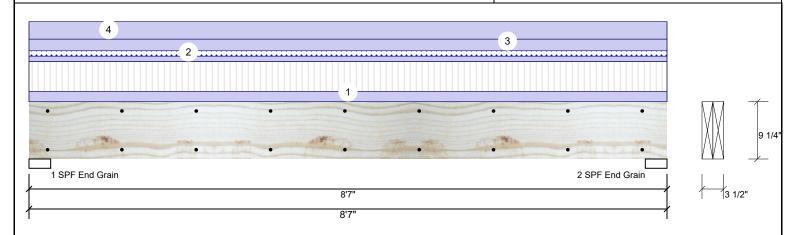
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

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1.750" X 9.250" 2-Ply - PASSED Kerto-S LVL BM6

Level: Level



Member Inforn	nation			Reaction	ns UNPAT	TERNED IL	(Uplift)		
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	1330	2005	240	0	0
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015	2	1330	2005	240	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	360	Deck:	Not Checked						
Importance:	Normal								
Temperature:	Temp <= 100°F								
				Bearings	S				
				Bearing	Length	Cap. Rea	ct D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF End Grain	3.500"	31% 200	05 / 1330	3335 L	D+L
Analysis Results		n Allowed Canac	ity Comb Cas	2 005	3.500"	31% 200	05 / 1330	3335 L	D+L

End Grain

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6413 ft-lb	4'3 1/2"	12542 ft-lb	0.511 (51%)	D+L	L
Unbraced	6413 ft-lb	4'3 1/2"	8468 ft-lb	0.757 (76%)	D+L	L
Shear	2558 lb	1'	6907 lb	0.370 (37%)	D+L	L
LL Defl inch	0.075 (L/1301)	4'3 9/16"	0.203 (L/480)	0.370 (37%)	L	L
TL Defl inch	0.188 (L/519)	4'3 9/16"	0.271 (L/360)	0.690 (69%)	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	104 PLF	310 PLF	0 PLF	0 PLF	0 PLF	F1	
2	Uniform			Тор	56 PLF	0 PLF	56 PLF	0 PLF	0 PLF	M1	
3	Uniform			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above	
4	Uniform			Тор	180 PLF	0 PLF	0 PLF	0 PLF	0 PLF	C1GE	
	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
- 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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Client: Ben Stout Real Estate

Project: Address: Date: 2/23/2021 Input by:

David Landry Job Name: Lot 3 Spartan Ridge Page 12 of 16

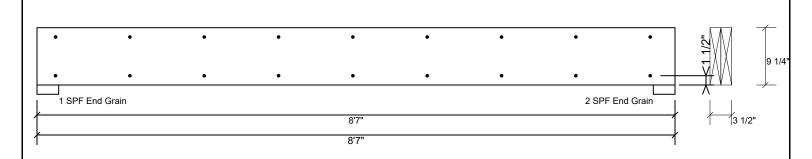
Project #: J0221-0893

**Kerto-S LVL** BM6

1.750" X 9.250"

2-Ply - PASSED

Level: Level



## 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 %		
Load	0.0 PLF		
Yield Limit per Foot	163.7 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
- For flat roofs provide proper drainage to prevent ponding

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Project: Address: Ben Stout Real Estate

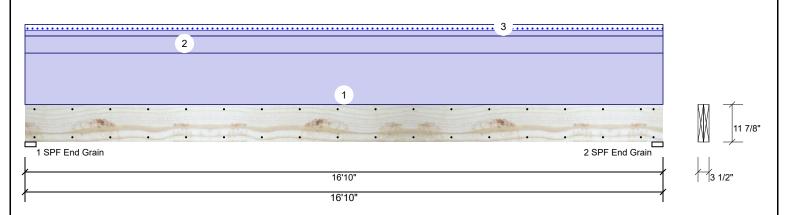
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

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

Level: Level



Member Infor	mation						Reaction	ns UNPAT	TERNE	D lb (Uplift)			
Type:	Girder		Applicatio	n:	Floor		Brg	Live	Dea	` ' '		Wind	Const
Plies:	2		Design M	ethod:	ASD		1	0	226	66 168		0	0
Moisture Condition	n: Dry		Building C	Code:	IBC/IRC 2015		2	0	226	66 168		0	0
Deflection LL:	480		Load Sha	ring:	No								
Deflection TL:	360		Deck:		Not Checked								
Importance:	Normal												
Temperature:	Temp <= 100°F												
							Bearing:	s					
							Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
							1 - SPF	3.500"	23%	2266 / 168	2434	L	D+S
Analysis Resul	ts						End Grain						
Analysis Ad	tual Loc	ation	Allowed	Capacity	Comb.	Case	2-SPF	3.500"	23%	2266 / 168	2434	L	D+S
Moment 90	24 ft-lb	8'5"	17919 ft-lb	0.504 (50	%) D	Uniform	End Grain						

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9024 ft-lb	8'5"	17919 ft-lb	0.504 (50%)	D	Uniform
Unbraced	9694 ft-lb	8'5"	9704 ft-lb	0.999 (100%)	D+S	L
Shear	1938 lb	15'7 3/8"	7980 lb	0.243 (24%)	D	Uniform
LL Defl inch	0.035 (L/5617)	8'5 1/16"	0.409 (L/480)	0.090 (9%)	S	L
TL Defl inch	0.506 (L/388)	8'5 1/16"	0.546 (L/360)	0.930 (93%)	D+S	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 must be laterally braced at a maximum of 9'6 3/4" o.c.
- 6 Bottom braced at bearings.

/ Lateral siende	erness rado based on										
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	180 PLF	0 PLF	0 PLF	0 PLF	0 PLF	B1GE	
2	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above	
3	Tie-In	0-0-0 to 16-10-0	1-0-0	Тор	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof Load	
	Self Weight				9 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

- Informing & 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

  Damaged Beams must not be used

  Design assumes top edge is laterally restrained

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

- This design is valid until 2/26/2023

For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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Client:

Project: Address: Ben Stout Real Estate

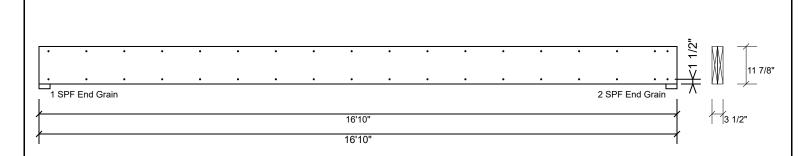
Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Page 14 of 16

Project #: J0221-0893

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

Level: Level



## 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 %		
Load	0.0 PLF		
Yield Limit per Foot	163.7 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/26/2023

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Manufacturer Info

ICC-ES: ESR-3633

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Ben Stout Real Estate

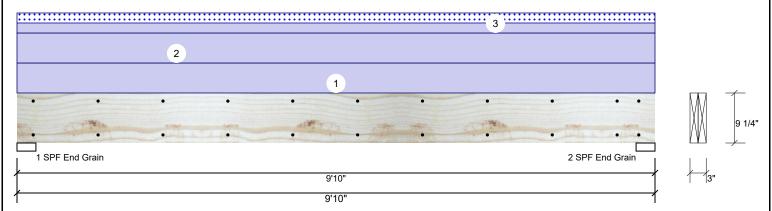
Project: Address: Date: 2/23/2021

Input by: David Landry Job Name: Lot 3 Spartan Ridge Project #: J0221-0893

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2.000" X 10.000" 2-Ply - PASSED GDH2 S-P-F #2

Level: Level



Member Infori	nation						Reaction	ns UNPAT	TERNE	D lb (Uplift)	)		
Type:	Girder		Applicat	ion:	Floor		Brg	Live	Dead	d Snow		Wind	Const
Plies:	2		Design	Method:	ASD		1	0	688	98		0	0
Moisture Condition	: Dry		Building	Code:	IBC/IRC 2015		2	0	688	98		0	0
Deflection LL:	480		Load Sh	naring:	No								
Deflection TL:	360		Deck:		Not Checked								
Importance:	Normal												
Temperature:	Temp <= 100	)°F											
							Bearing	S					
							Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb
							1 - SPF End	3.500"	18%	688 / 98	787	L	D+S
Analysis Result	:S						Grain						
Analysis Ac	tual	Location	Allowed	Capacity	Comb.	Case	2 - SPF	3.500"	18%	688 / 98	787	L	D+S
Moment 15	38 ft-lb	4'11"	3088 ft-lb	0.498 (509	%) D	Uniform	End Grain						
Unbraced 175	58 ft-lb	4'11"	3017 ft-lb	0.583 (589	%) D+S	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".

4'11" 0.234 (L/480) 0.050 (5%) S

4'11" 0.312 (L/360) 0.320 (32%) D+S

- 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.

LL Defl inch 0.013 (L/8965)

TL Defl inch 0.100 (L/1121)

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	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
2	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	G1GE
3	Tie-In	0-0-0 to 9-10-0	1-0-0	Тор	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof Load

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Client: Ben Stout Real Estate Date: 2/23/2021 Page 16 of 16 Project: Input by: David Landry isDesign Address: Job Name: Lot 3 Spartan Ridge Project #: J0221-0893 Level: Level 2.000" X 10.000" 2-Ply - PASSED S-P-F #2 GDH<sub>2</sub> \_l \_1 SPF End Grain 2 SPF End Grain 9'10" 9'10' 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



Manufacturer Info

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