isDesign

Client: Wellco Contractors

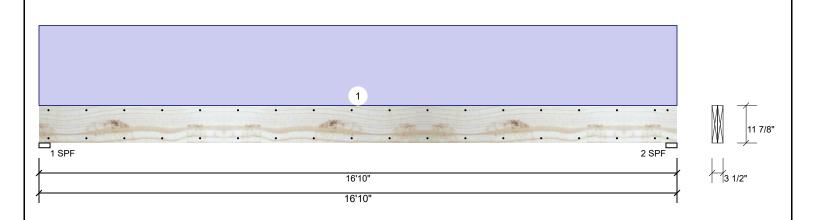
Project: Address: 7/15/2022

Input by: Curtis Quick Job Name: Plan 2 Beams

Project #:

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

Level: Level



Member Info	rmation	Rea	Reactions UNPATTERNED Ib (Uplift)								
Type:	Girder	Application:	Floor	Brg	Direction	Live		Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	0	;	2182	0	0	0
Moisture Condition	n: Dry	Building Code:	IBC/IRC 2015	2	Vertical	0	:	2182	0	0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	360	Deck:	Not Checked								
Importance:	Normal - II										
Temperature:	Temp <= 100°F			-							
				Bea	rings						
				Bea	aring Length	Dir.	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 3.500"	Vert	42%	2182 / 0	2182	Uniform	D
				2 -	SPF 3.500"	Vert	42%	2182 / 0	2182	Uniform	D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8689 ft-lb	8'5"	17919 ft-lb	0.485 (48%)	D	Uniform
Unbraced	8689 ft-lb	8'5"	8702 ft-lb	0.998 (100%)	D	Uniform
Shear	1859 lb	15'6 5/8"	7980 lb	0.233 (23%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.453 (L/433)	8'5 1/16"	0.546 (L/360)	0.831 (83%)	D	Uniform

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 10'8 15/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 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	250 PLF	0 PLF	0 PLF	0 PLF	0 PLF		
	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

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
2 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

Manufacturer Info

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

CSD DESIGN



Page 1 of 6

This design is valid until 11/3/2024

isDesign

Client: Wellco Contractors

Project: Address:

7/15/2022 Input by:

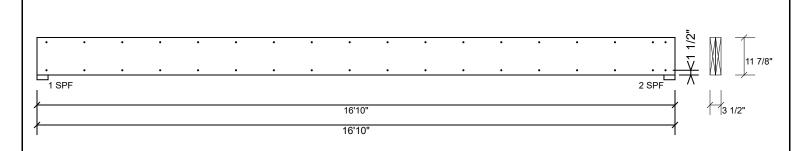
Curtis Quick Job Name: Plan 2 Beams

Project #:

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

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".

1 3		•	,
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

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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 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 11/3/2024

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Manufacturer Info

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Page 2 of 6





Client: Wellco Contractors

Project: Address:

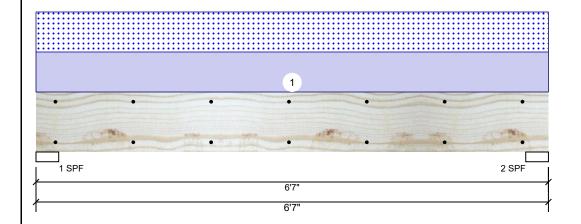
7/15/2022 Input by: Curtis Quick

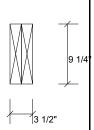
> Job Name: Plan 2 Beams Project #:

Kerto-S LVL BM1

1.750" X 9.250" 2-Ply - PASSED

Level: Level





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Member Information

Type: Girder	
Plies: 2	
Moisture Condition: Dry	
Deflection LL: 480	
Deflection TL: 360	
Importance: Normal - II	
Temperature: Temp <= 10	0°F

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

Reactions UNPATTERNED Ib (Uplift) Live Wind Brg Direction Dead Snow Const 0 2015 1991 0 Vertical 0 1 2 Vertical 0 2015 1991 0 0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	77%	2015 / 1991	4007	L	D+S
2 - SPF	3.500"	Vert	77%	2015 / 1991	4007	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5708 ft-lb	3'3 1/2"	14423 ft-lb	0.396 (40%)	D+S	L
Unbraced	5708 ft-lb	3'3 1/2"	10451 ft-lb	0.546 (55%)	D+S	L
Shear	2719 lb	1' 3/4"	7943 lb	0.342 (34%)	D+S	L
LL Defl inch	0.052 (L/1425)	3'3 1/2"	0.153 (L/480)	0.337 (34%)	S	L
TL Defl inch	0.104 (L/708)	3'3 1/2"	0.204 (L/360)	0.508 (51%)	D+S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 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	605 PLF	0 PLF	605 PLF	0 PLF	0 PLF	A1
	Self Weight				7 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
 2 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 11/3/2024

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Manufacturer Info

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isDesign

Client: Wellco Contractors

Project: Address: Date: 7/15/2022 Input by:

Curtis Quick Job Name: Plan 2 Beams

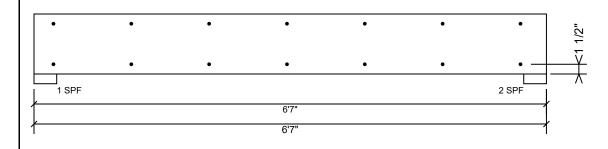
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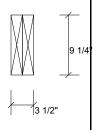
Kerto-S LVL BM1

1.750" X 9.250"

2-Ply - PASSED

Level: Level





Page 4 of 6

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

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

This design is valid until 11/3/2024

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Manufacturer Info

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Client: Wellco Contractors

Application:

Design Method:

Building Code:

Load Sharing:

Deck:

ASD

No

IBC/IRC 2015

Not Checked

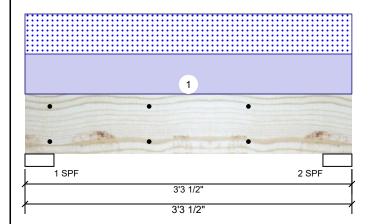
Project: Address: Date: 7/15/2022 Input by: Curtis Quick

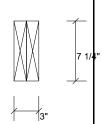
Job Name: Plan 2 Beams

Project #:

2.000" X 8.000" 2-Ply - PASSED S-P-F #2

Level: Level





Page 5 of 6

Member Information

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

Normal - II

Reactions UNPATTERNED Ib (Uplift) Floor

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	397	397	0	0
2	Vertical	0	397	397	0	0

Bearings

Bearing	Length	Dir.	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	18%	397 / 397	793	L	D+S
2 - SPF	3.500"	Vert	18%	397 / 397	793	L	D+S

Analysis Results

Temperature:

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	484 ft-lb	1'7 3/4"	2645 ft-lb	0.183 (18%)	D+S	L
Unbraced	484 ft-lb	1'7 3/4"	2586 ft-lb	0.187 (19%)	D+S	L
Shear	362 lb	2'4 3/4"	2251 lb	0.161 (16%)	D+S	L
LL Defl inch	0.003 (L/12977)	1'7 3/4"	0.071 (L/480)	0.037 (4%)	S	L
TL Defl inch	0.005 (L/6488)	1'7 3/4"	0.094 (L/360)	0.055 (6%)	D+S	L

Design Notes

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

I	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	241 PLF	0 PLF	241 PLF	0 PLF	0 PLF	A5

соттесн

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

Client: Wellco Contractors Date: 7/15/2022 Project: Input by: Curtis Quick isDesign Address: Job Name: Plan 2 Beams Project #: Level: Level 2.000" X 8.000" 2-Ply - PASSED S-P-F #2 BM₂

Multi-Ply Analysis

1 SPF

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

2 SPF

Capacity	0.0 %				
Load	0.0 PLF				
Yield Limit per Foot	157.4 PLF				
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				

3'3 1/2" 3'3 1/2"

Manufacturer Info

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