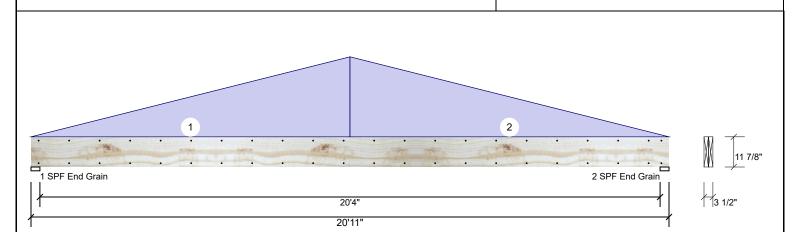


Client: Wood Construction Company

Project: Address: 665 Webb Road

Date: 9/12/2022 Input by: Jonathan Landry Cottageville Job Name: Parker Residence Dunn, NC 28334 Project #: J0322-1386

Kerto-S LVL 2-Ply - PASSED 1.750" X 11.875" BM₂



Member Information Application: Type: Floor Plies: Design Method: ASD Moisture Condition: Dry **Building Code: IBC/IRC 2015** Load Sharing: Deflection LL: 480 No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Ceiling: Gypsum 1/2" Temp <= 100°F Temperature:

Reactions	UNPATTERNED Ib (Upl	ift)

evel: Level

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	724	0	0	0
2	Vertical	0	724	0	0	0

Page 1 of 4

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4715 ft-lb	10'5 1/2"	17919 ft-lb	0.263 (26%)	D	Uniform
Unbraced	4715 ft-lb	10'5 1/2"	4869 ft-lb	0.968 (97%)	D	Uniform
Shear	712 lb	1'3 3/8"	7980 lb	0.089 (9%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.364 (L/674)	10'5 9/16"	0.682 (L/360)	0.534 (53%)	D	Uniform

Bearings

Bearing	Length	Dir.	Cap. Read	t D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	7%	724 / 0	724	Uniform	D
2 - SPF End Grain	3.500"	Vert	7%	724 / 0	724	Uniform	D

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 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	Tapered Start	0-0-0		Тор	0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
	End	10-5-8			120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
2	Tapered Start	10-5-8		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
	End	20-11-0			0 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

 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

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



This design is valid until 11/3/2024

isDesign

Client: Wood Construction Company

Project: Cottageville Address: 665 Webb Road Dunn, NC 28334 Date: 9/12/2022 Input by:

Jonathan Landry Job Name: Parker Residence Project #: J0322-1386

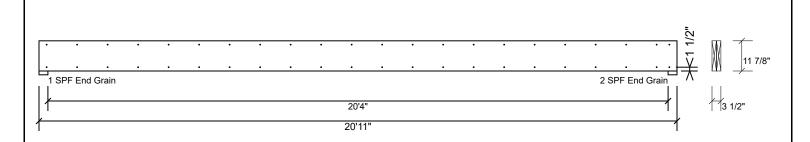
Page 2 of 4

Kerto-S LVL BM₂

1.750" X 11.875"

2-Ply - PASSED

evel: 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".

rasterran pries asing E re	ws or roa box rians (boxs) at
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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This design is valid until 11/3/2024





Client: Wood Construction Company

Project: Cottageville Address:

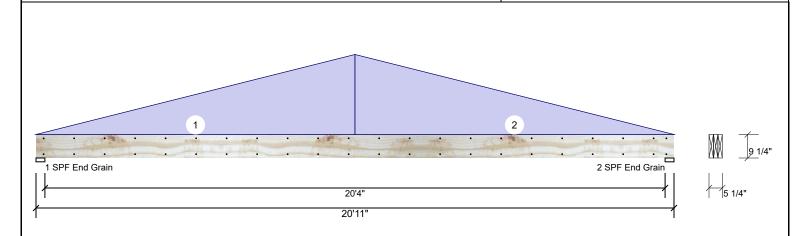
Date: 9/12/2022 Input by: Jonathan Landry 665 Webb Road Job Name: Parker Residence Dunn, NC 28334 Project #: J0322-1386

Kerto-S LVL BM₂

1.750" X 9.250"

3-Ply - PASSED

Level: Level



Member Inform	nation		
Туре:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	740	0	0	0
2	Vertical	0	740	0	0	0
l						

Page 3 of 4

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4796 ft-lb	10'5 1/2"	17609 ft-lb	0.272 (27%)	D	Uniform
Unbraced	4796 ft-lb	10'5 1/2"	5660 ft-lb	0.847 (85%)	D	Uniform
Shear	731 lb	1' 3/4"	9324 lb	0.078 (8%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.515 (L/476)	10'5 9/16"	0.682 (L/360)	0.756 (76%)	D	Uniform

Bearings

Bearing Length	Dir.	Cap. Read	t D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.500" End Grain	Vert	5%	740 / 0	740	Uniform	D
2 - SPF 3.500" End Grain	Vert	5%	740 / 0	740	Uniform	D

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.

Self Weight

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	Tapered Start	0-0-0		Тор	0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
	End	10-5-8			120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
2	Tapered Start	10-5-8		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
	End	20-11-0			0 PLF	0 PLF	0 PLF	0 PLF	0 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

- 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

11 PLF

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Manufacturer Info

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Client: Wood Construction Company

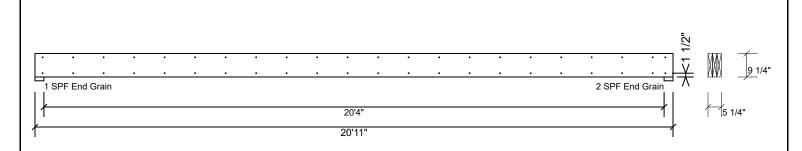
Project: Cottageville Address: 665 Webb Road Dunn, NC 28334 Date: 9/12/2022 Input by: Jonathan Landry Job Name: Parker Residence Project #: J0322-1386

Kerto-S LVL BM₂

1.750" X 9.250"

3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. 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

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

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This design is valid until 11/3/2024 CSD DESIGN