

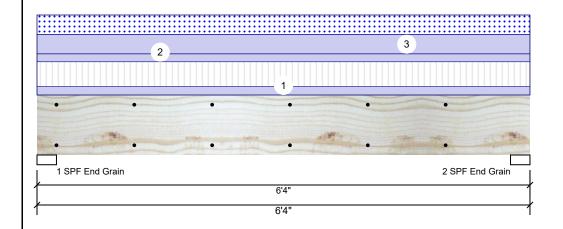
Project: Address: Date:

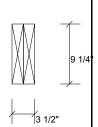
2/9/2023 Input by: Hampton Horrocks Job Name: Lot 107 South Creek

Project #: J0223-0628

2-Ply - PASSED Kerto-S LVL 1.750" X 9.250" BM₃

Level: 1ST. FLOOR





Page 1 of 13

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 240 Importance: Normal - II Temp <= 100°F Temperature:

Application: Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No

Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1131	1641	880	0	0
2	Vertical	1131	1641	880	0	0

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3884 ft-lb	3'2"	12542 ft-lb	0.310 (31%)	D+L	L
Unbraced	4413 ft-lb	3'2"	10614 ft-lb	0.416 (42%)	D+0.75(L+S)	L
Shear	1884 lb	5'3 3/4"	6907 lb	0.273 (27%)	D+L	L
LL Defl inch	0.037 (L/1944)	3'2"	0.149 (L/480)	0.247 (25%)	0.75(L+S)	L
TL Defl inch	0.077 (L/931)	3'2"	0.298 (L/240)	0.258 (26%)	D+0.75(L+S)	L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3884 ft-lb	3'2"	12542 ft-lb	0.310 (31%)	D+L	L
Unbraced	4413 ft-lb	3'2"	10614 ft-lb	0.416 (42%)	D+0.75(L+S)	L
Shear	1884 lb	5'3 3/4"	6907 lb	0.273 (27%)	D+L	L
LL Defl inch	0.037 (L/1944)	3'2"	0.149 (L/480)	0.247 (25%)	0.75(L+S)	L
TL Defl inch	0.077 (L/931)	3'2"	0.298 (L/240)	0.258 (26%)	D+0.75(L+S)	L

Bearings

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+0.75(L+S) 1 - SPF 3.000" Vert 1641 / 1508 3149 L End Grain 1641 / 1508 3149 L D+0.75(L+S) 2 - SPF 3.000" Vert

End Grain

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.

	3	1 7									
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	119 PLF	357 PLF	0 PLF	0 PLF	0 PLF	F02	
2	Uniform			Тор	114 PLF	0 PLF	0 PLF	0 PLF	0 PLF	wall	
3	Uniform			Тор	278 PLF	0 PLF	278 PLF	0 PLF	0 PLF	C01	
	Self Weight				7 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

This design is valid until 11/3/2024

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

Manufacturer Info





Client: Signature Home Builders

Project: Address:

Date: 2/9/2023

Input by: Hampton Horrocks Job Name: Lot 107 South Creek

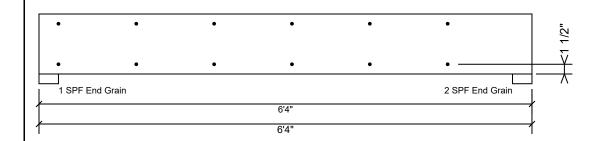
Project #: J0223-0628

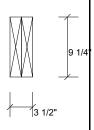
Kerto-S LVL BM₃

1.750" X 9.250"

2-Ply - PASSED

Level: 1ST. FLOOR





Page 2 of 13

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
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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





Project: Address: Date:

2/9/2023 Input by: Hampton Horrocks Job Name: Lot 107 South Creek Page 3 of 13

Wind

Total Ld. Case

5221 I

5221 L

0

0

Const

Ld. Comb.

D+I

D+L

0

0

1.750" X 16.000" Kerto-S LVL 2-Ply - PASSED BM₁

J0223-0628 Level: 1ST. FLOOR

Project #:

Bearing Length

1 - SPF 3.500"

2 - SPF 3.500"

End Grain

End Grain Dir.

Vert

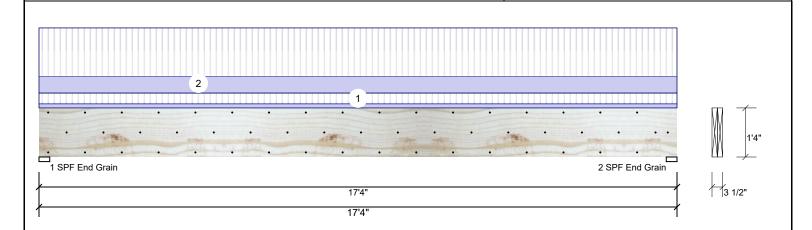
Vert

Cap. React D/L lb

51%

1408 / 3813

1408 / 3813



Member Information Reactions UNPATTERNED Ib (Uplift) Application: Type: Floor Brg Direction Live Dead Snow Plies: 2 Design Method: ASD 3813 1408 Vertical n 1 Moisture Condition: Dry **Building Code:** IBC 2012 2 Vertical 3813 1408 0 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temp <= 100°F Temperature: **Bearings**

Analysis Results

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	21497 ft-lb	8'8"	34565 ft-lb	0.622 (62%)	D+L	L
Unbraced	21497 ft-lb	8'8"	21533 ft-lb	0.998 (100%)	D+L	L
Shear	4899 lb	1'7 1/2"	11947 lb	0.410 (41%)	D+L	L
LL Defl inch	0.370 (L/548)	8'8 1/16"	0.422 (L/480)	0.876 (88%)	L	L
TL Defl inch	0.507 (L/400)	8'8 1/16"	0.563 (L/360)	0.899 (90%)	D+L	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 3 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 5'3 3/8" o.c.
- 7 Bottom must be laterally braced at end bearings

. Dottom made a	oo latorany bracca at ona bi										
8 Lateral slende	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	30 PLF	80 PLF	0 PLF	0 PLF	0 PLF	Floor	
2	Uniform			Near Face	120 PLF	360 PLF	0 PLF	0 PLF	0 PLF	F02	
	Self Weight				12 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 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

This design is valid until 11/3/2024

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Manufacturer Info





Client: Signature Home Builders

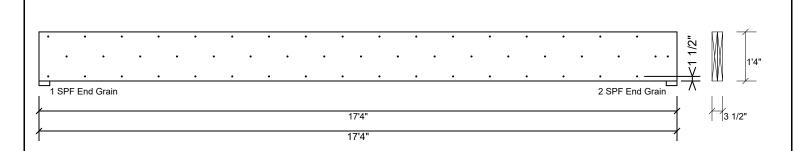
Project: Address: Date: 2/9/2023

Input by: Hampton Horrocks Job Name: Lot 107 South Creek Page 4 of 13

Project #: J0223-0628

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM₁

Level: 1ST. FLOOR



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".

1 3	
Capacity	97.7 %
Load	240.0 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

This design is valid until 11/3/2024

301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Metsä Wood

Manufacturer Info







Project: Address:

2/9/2023 Input by:

Date:

Hampton Horrocks Job Name: Lot 107 South Creek

Project #: J0223-0628

3-Ply - PASSED **Kerto-S LVL** 1.750" X 24.000" GDH1

Application:

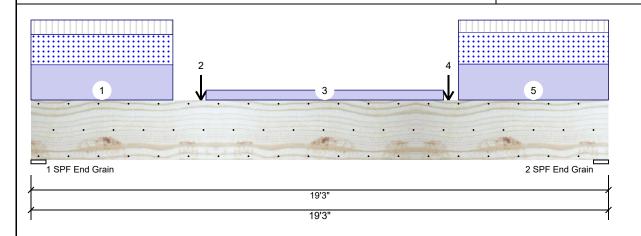
Design Method:

Building Code:

Load Sharing:

Deck:

Level: 1ST. FLOOR



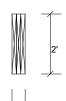
Floor

ASD

Yes

IBC 2012

Not Checked



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Member Information

Type: Plies: 3 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II

Temp <= 100°F Temperature:

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1475	5906	4708	0	0
2	Vertical	1419	6117	4922	0	0

Bearings

End Grain

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 6.000" D+S Vert 5906 / 4708 10614 L End Grain 2-SPF 6.000" 6117 / 4922 11039 L D+S Vert

Analysis Results

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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	44505 ft-lb	9'2 1/2"	131295 ft-lb	0.339 (34%)	D+S	L
Unbraced	44505 ft-lb	9'2 1/2"	44534 ft-lb	0.999 (100%)	D+S	L
Shear	9105 lb	16'9"	30912 lb	0.295 (29%)	D+S	L
LL Defl inch	0.123 (L/1793)	9'7 9/16"	0.460 (L/480)	0.268 (27%)	S	L
TL Defl inch	0.282 (L/782)	9'7 9/16"	0.613 (L/360)	0.460 (46%)	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 3 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 6' 7/16" 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	Part. Uniform	0-0-0 to 4-8-12		Тор	399 PLF	164 PLF	344 PLF	0 PLF	0 PLF	A01	
2	Point	5-8-0		Тор	3352 lb	719 lb	3112 lb	0 lb	0 lb	A02	
	Bearing Length	0-3-8									
3	Part. Uniform	5-10-0 to 13-9-0		Тор	112 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
0 45	0										

Continued on page 2...

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 11/3/2024

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Manufacturer Info





Client: Signature Home Builders

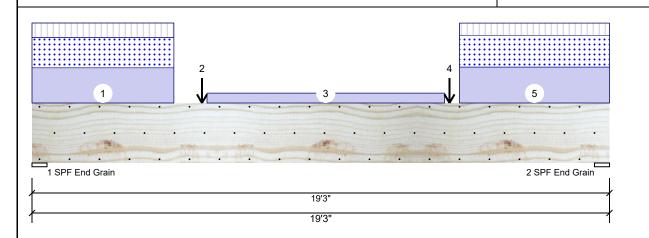
Project: Address: Date: 2/9/2023

Input by: Hampton Horrocks Job Name: Lot 107 South Creek

Project #: J0223-0628

1.750" X 24.000" 3-Ply - PASSED **Kerto-S LVL** GDH₁

Level: 1ST. FLOOR





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..Continued from page 1

I	ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
4	4	Point	13-11-0		Тор	3323 lb	710 lb	3086 lb	0 lb	0 lb	A02A	
		Bearing Length	0-3-8									
5	5	Part. Uniform	14-3-0 to 19-3-0		Тор	407 PLF	138 PLF	361 PLF	0 PLF	0 PLF	A01A	
		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

- Handling & Installation

 1. IVI 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







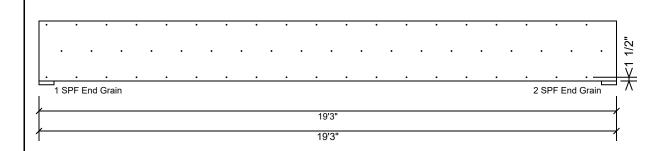
Project: Address: Date: 2/9/2023

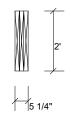
Project #:

Input by: Hampton Horrocks Job Name: Lot 107 South Creek J0223-0628

1.750" X 24.000" **Kerto-S LVL** 3-Ply - PASSED GDH₁

Level: 1ST. FLOOR





Page 7 of 13

Multi-Ply Analysis

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

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
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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

(800) 622-5850 www.metsawood.com/us

Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851







Project: Address: Date:

2/9/2023 Input by: Hampton Horrocks Job Name: Lot 107 South Creek Page 8 of 13

Ld. Comb.

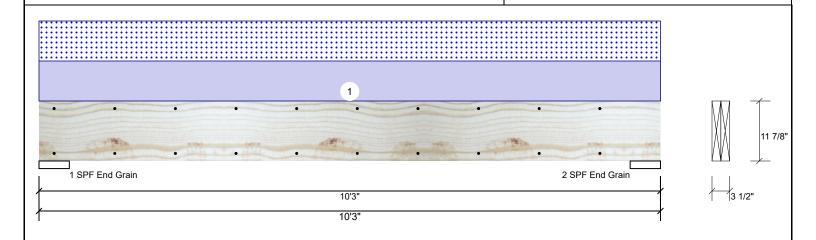
D+S

D+S

Project #: J0223-0628

1.750" X 11.875" **Kerto-S LVL** 2-Ply - PASSED GDH2

Level: 1ST. FLOOR



Member Info	rmation	Rea	Reactions UNPATTERNED lb (Uplift)							
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	0	1226	1179	0	0
Moisture Conditi	on: Dry	Building Code:	IBC 2012	2	Vertical	0	1226	1179	0	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal - II									
Temperature:	Temp <= 100°F									

Bearings Bearing Length

End Grain

End Grain

1-SPF 6.000"

2-SPF 6.000"

Dir.

Vert

Vert

Cap. React D/L lb

14%

1226 / 1179

1226 / 1179

Total Ld. Case

2405 L

2405 L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5155 ft-lb	5'1 1/2"	22897 ft-lb	0.225 (23%)	D+S	L
Unbraced	5155 ft-lb	5'1 1/2"	9857 ft-lb	0.523 (52%)	D+S	L
Shear	1715 lb	1'5 7/8"	10197 lb	0.168 (17%)	D+S	L
LL Defl inch	0.048 (L/2347)	5'1 1/2"	0.312 (L/360)	0.153 (15%)	S	L
TL Defl inch	0.098 (L/1151)	5'1 1/2"	0.469 (L/240)	0.209 (21%)	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 e	end bearings.									
8 Lateral	slenderness ratio based on s	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	230 PLF	0 PLF	230 PLF	0 PLF	0 PLF	G01
	Self Weight		9 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

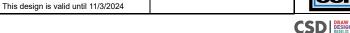
 2 Damaged Beams must not be used

- 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

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

Manufacturer Info





Client: Signature Home Builders

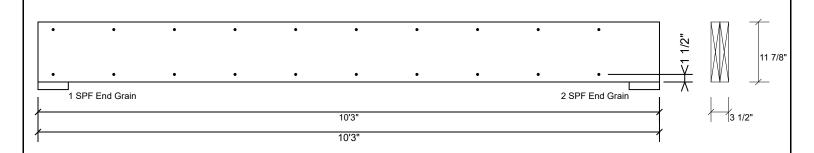
Project: Address: Date: 2/9/2023

Input by: Hampton Horrocks Job Name: Lot 107 South Creek Page 9 of 13

Project #: J0223-0628

1.750" X 11.875" **Kerto-S LVL** 2-Ply - PASSED GDH₂

Level: 1ST. FLOOR



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".

rasterrain pries asing E	TOWS OF TOO BOX Halls (TEONS) 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
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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

301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Manufacturer Info

Metsä Wood

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



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



Project: Address:

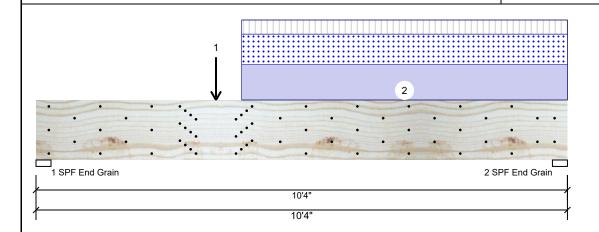
2/9/2023 Date:

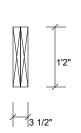
> Hampton Horrocks Input by: Job Name: Lot 107 South Creek

Project #: J0223-0628

2-Ply - PASSED Kerto-S LVL 1.750" X 14.000" BM₂

Level: 1ST. FLOOR





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Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II Temperature:

Temp <= 100°F

Application: Floor Design Method: ASD **Building Code:** IBC 2012

> Load Sharing: No

Not Checked Deck:

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	880	2659	2309	0	0
2	Vertical	1016	2789	2394	0	0

Analysis Results

Analysis Actual Location Allowed Comb. Case Capacity Moment 16457 ft-lb 3'6" 31049 ft-lb 0.530 (53%) D+0.75(L+S) L Unbraced 16457 ft-lb 3'6" 16525 ft-lb 0.996 D+0.75(L+S) L (100%)5984 lb 1'5 1/2" 12021 lb 0.498 (50%) D+0.75(L+S) L Shear LL Defl inch 0.099 (L/1197) 4'10 13/16" 0.247 (L/480) 0.401 (40%) 0.75(L+S) L TL Defl inch 0.208 (L/570) 4'10 3/4" 0.329 (L/360) 0.631 (63%) D+0.75(L+S) L

Bearings

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" Vert 2659 / 2392 5052 L D+0.75(L+S) End

Grain

Grain

D+0.75(L+S) 2 - SPF 3.500" Vert 52% 2789 / 2557 5346 L End

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 5 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 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top must be laterally braced at a maximum of 6'1 5/8" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral clanderness ratio based on single bly width

Self Weight

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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Point	3-6-0		Near Face	2733 lb	851 lb	2449 lb	0 lb	0 lb	A02A
2	Part. Uniform	4-0-0 to 10-4-0		Near Face	411 PLF	165 PLF	356 PLF	0 PLF	0 PLF	A01A

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

This design is valid until 11/3/2024

11 PLF

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

Manufacturer Info





Client:

Project: Address: Signature Home Builders

Date: 2/9/2023

Input by: Hampton Horrocks Job Name: Lot 107 South Creek

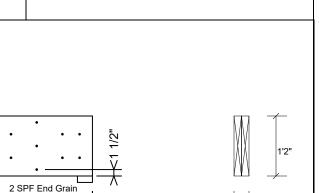
Level: 1ST. FLOOR

Project #: J0223-0628

Kerto-S LVL BM₂

1.750" X 14.000"

2-Ply - PASSED



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Multi-Ply Analysis

1 SPF End Grain

Fasten all plies using 5 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".

10'4" 10'4'

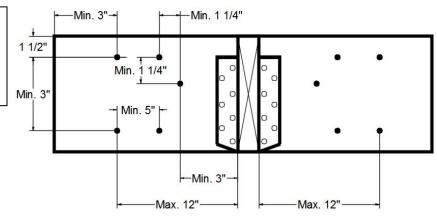
Capacity	85.2 %	
Load	400.9 PLF	
Yield Limit per Foot	470.6 PLF	
Yield Limit per Fastener	94.1 lb.	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination	D+0.75(L+S)	
Duration Factor	1.15	

Concentrated Load

Fasten at concentrated side load at 3-6-0 with a minimum of (24) – 12d Common nails (.148x3.25") in the pattern shown

the pattern shown.		
Capacity	88.8 %	
Load	2604.0lb.	
Total Yield Limit	2933.3 lb.	
Cg	0.9998	
Yield Limit per Fastener	122.3 lb.	
Yield Mode	IV	
Load Combination	D+0.75(L+S)	
Duration Factor	1.15	

Min/Max fastener distances for Concentrated Side Loads



Notes

Notes

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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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Project: Address:

2/9/2023 Date:

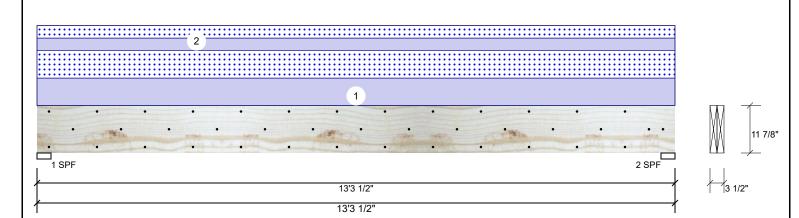
Input by: Hampton Horrocks Job Name: Lot 107 South Creek

evel: 2ND. FLOOR

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Project #: J0223-0628

1.750" X 11.875" 2-Ply - PASSED Kerto-S LVL BM4



Member Information Reactions UNPATTERNED Ib (Uplift) Wind Type: Application: Floor Brg Direction Live Dead Snow Const Plies: 2 Design Method: ASD 0 2593 2532 0 Vertical 0 1 Moisture Condition: Dry **Building Code:** IBC 2012 2 Vertical 0 2593 2532 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal - II Temp <= 100°F Temperature: Bearings Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+S 1-SPF 3.500" Vert 2593 / 2532 5126 L 2 - SPF 3.500" Vert 98% 2593 / 2532 5126 L D+S

Analysis Results

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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15877 ft-lb	6'7 3/4"	22897 ft-lb	0.693 (69%)	D+S	L
Unbraced	15877 ft-lb	6'7 3/4"	15911 ft-lb	0.998 (100%)	D+S	L
Shear	4901 lb	12' 1/8"	10197 lb	0.481 (48%)	D+S	L
LL Defl inch	0.260 (L/593)	6'7 3/4"	0.428 (L/360)	0.607 (61%)	S	L
TL Defl inch	0.526 (L/293)	6'7 3/4"	0.642 (L/240)	0.820 (82%)	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 3 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 must be laterally braced at a maximum of 5'1 3/8" o.c.
- 6 Bottom 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	Uniform			Far Face	261 PLF	0 PLF	261 PLF	0 PLF	0 PLF	C02
2	Tie-In	0-0-0 to 13-3-8	6-0-0	Near Face	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	ROOF FRAMING
	Self Weight				9 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
- 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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Project: Address: 2/9/2023

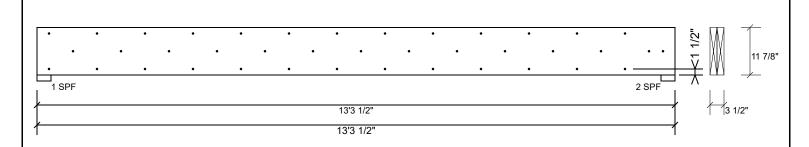
Input by: Hampton Horrocks Job Name: Lot 107 South Creek Project #: J0223-0628

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Kerto-S LVL BM4

1.750" X 11.875" 2-Ply - PASSED

evel: 2ND. FLOOR



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".

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Capacity	92.4 %
Load	261.0 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
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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
- - - This design is valid until 11/3/2024

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