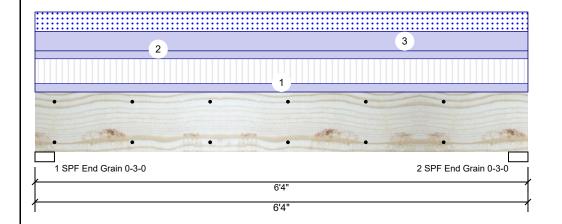


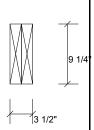
Project: Address: Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Level: 1ST. FLOOR





D+0.75(L+S)

Page 1 of 13

Member Information

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

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

Load Sharing: No Deck: Not Checked

2 - SPF 3.000"

End Grain

Reactions UNPATTERNED Ib (Uplift)

Vert

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

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

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.

Bearings	S						
Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	36%	1641 / 1508	3149	L	D+0.75(L+S

36% 1641 / 1508

3149 L

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

	approvals						
3.	Damaged	Beams	must	not	be	use	d

- Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid lateral displacement and rotation
 - This design is valid until 6/28/2026

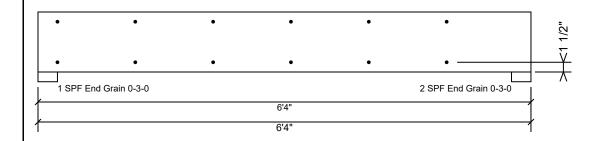
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1	isDesign

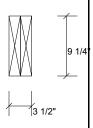
Project: Address: Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

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.
См	1
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 6/28/2026

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

Manufacturer Info



Client:

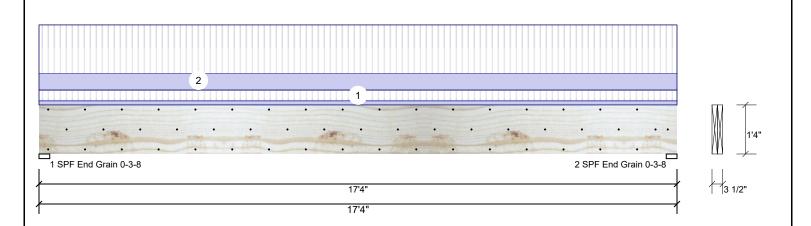
Project: Address: Signature Home Builders

Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Level: 1ST. FLOOR



Bearings

Member Information									
Type:	Girder								
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 Deck: Not Checked

Rea	ctions UNP	ALTERNED				
Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	3813	1408	0	0	0
2	Vertical	3813	1408	0	0	0

Page 3 of 13

Analysis Results Analysis Actual Location Allowed Comb. Case Capacity Moment 8'8" 34565 ft-lb 21497 ft-lb 0.622 (62%) D+L L Unbraced 21497 ft-lb 8'8" 21533 ft-lb 0.998 L (100%)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 ı TL Defl inch 0.507 (L/400) 8'8 1/16" 0.563 (L/360) 0.899 (90%) D+L

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" Vert 1408 / 3813 5221 L D+I End Grain 2 - SPF 3.500" 1408 / 3813 D+L Vert 51% 5221 L 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 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.
- 8 Lateral slenderness ratio based on single ply width

0 Lateral	Sichaciness 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						

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
- 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

Handling & Installation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026



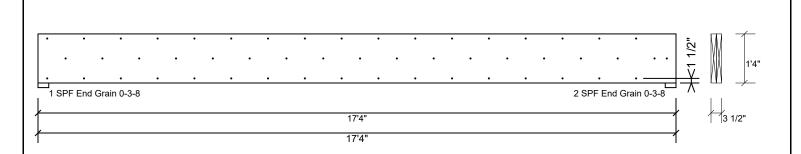
Project: Address:

10/30/2023 Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

Page 4 of 13

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

Capacity	97.7 %	
Load	240.0 PLF	
Yield Limit per Foot	245.6 PLF	
Yield Limit per Fastener	81.9 lb.	
См	1	
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

Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850

www.metsawood.com/us



Project: Address: Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Application:

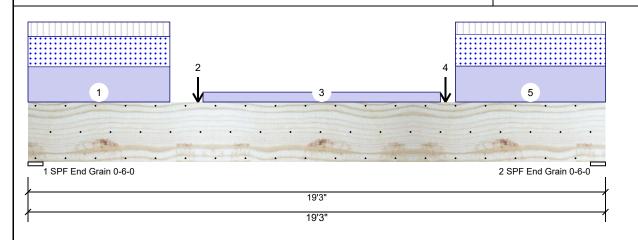
Design Method:

Building Code:

Load Sharing:

Deck:

Level: 1ST. FLOOR



Floor

ASD

Yes

IBC 2012

Not Checked



Page 5 of 13

Member Information

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

Temperature: Temp <= 100°F

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

Grain

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

Analysis Results

•						
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". Nail from both sides.
- 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
Cantinuad an										

Continued on page 2...

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
- 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 6/28/2026

Version 23.40.705 Powered by iStruct™ Dataset: 23091201.1447

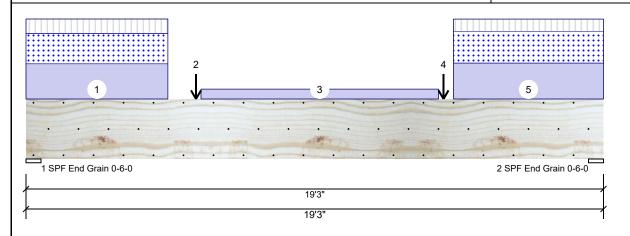


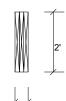
Project: Address: Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Level: 1ST. FLOOR





Page 6 of 13

Continued	from	page	1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
4	Point	13-11-0		Тор	3323 lb	710 lb	3086 lb	0 lb	0 lb	A02A	
	Bearing Length	0-3-8									
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

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

Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

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

This design is valid until 6/28/2026

CSD | DRAW DESIGN BUILD

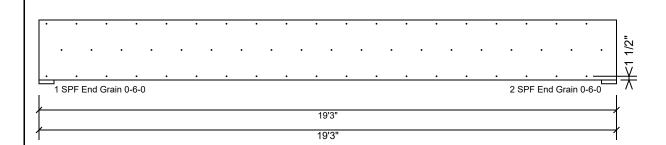
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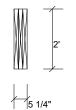
Project: Address: Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

Kerto-S LVL 1.750" X 24.000" 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.
См	1
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
- Infoculing & 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

This design is valid until 6/28/2026



Client:

Project: Address: Signature Home Builders

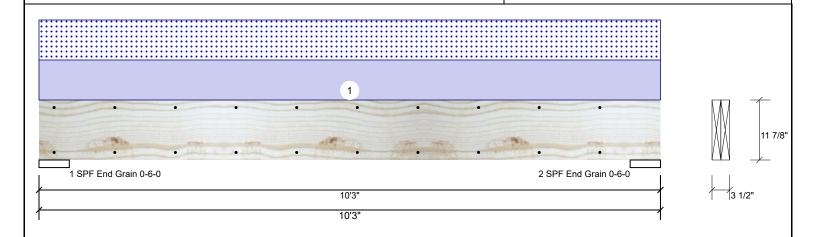
Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Level: 1ST. FLOOR

Page 8 of 13



Member Info	Member Information					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

1-SPF 6.000"

Dir.

Vert

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 end bearings.
- 8 Lateral slenderness ratio based on single ply width.

٦	Grain						
	2 - SPF End Grain	6.000"	Vert	14%	1226 / 1179	2405 L	D+S

Cap. React D/L lb

1226 / 1179

Total Ld. Case

2405 L

Ld. Comb.

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					

Manufacturer Info 6. For flat roofs provide proper drainage to prevent ponding Handling & Installation

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

- 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

This design is valid until 6/28/2026



Project: Address:

10/30/2023

J1023-6083 Level: 1ST. FLOOR

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd

Page 9 of 13

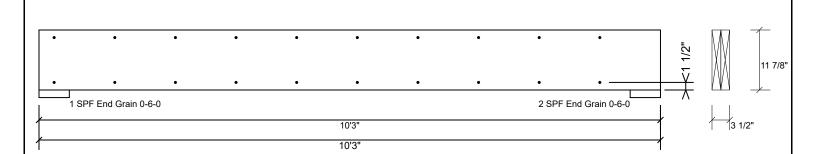
Kerto-S LVL GDH2

1.750" X 11.875"

2-Ply - PASSED

Date:

Project #:



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.
См	1
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

chemicals	

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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

Manufacturer Info



Client: Project:

Signature Home Builders

Address:

Date: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

Application:

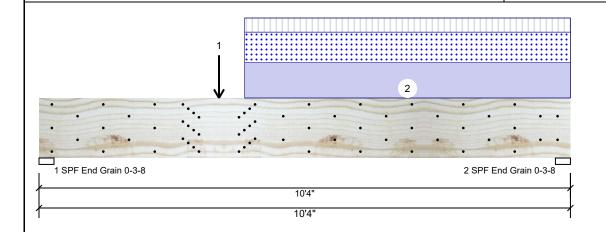
Design Method:

Building Code:

Load Sharing:

Deck:

Level: 1ST. FLOOR

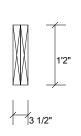


ASD

No

IBC 2012

Not Checked



Page 10 of 13

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance:

Normal - II Temperature: Temp <= 100°F

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 3'6" 31049 ft-lb 0.530 (53%) D+0.75(L+S) L Moment 16457 ft-lb Unbraced 16457 ft-lb 3'6" 16525 ft-lb 0.996 D+0.75(L+S) L (100%)Shear 5984 lb 1'5 1/2" 12021 lb 0.498 (50%) D+0.75(L+S) L 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

Grain

Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+0.75(L+S) 1-SPF 3.500" Vert 2659 / 2392 5052 L End 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 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	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
	Self Weight				11 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
- Damaged Beams must not be used

Handling & Installation

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

This design is valid until 6/28/2026

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

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



Client: Project: Address: Signature Home Builders

Date: 10/30/2023 Input by: Hampton Horrocks

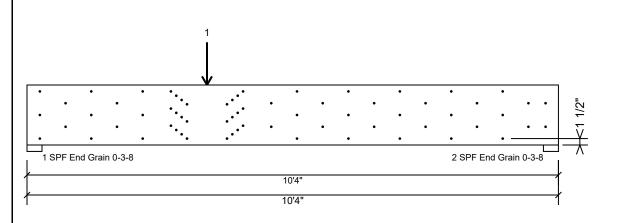
Job Name: Lot A Hobby Rd Project #: J1023-6083

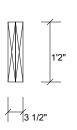
Kerto-S LVL BM₂

1.750" X 14.000"

2-Ply - PASSED

Level: 1ST. FLOOR





Page 11 of 13

Multi-Ply Analysis

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".

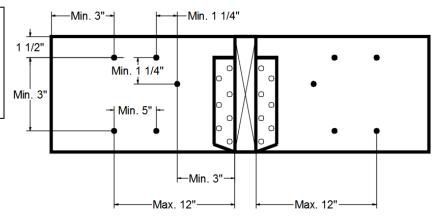
axa oa aaa		
Capacity	85.2 %	
Load	400.9 PLF	
Yield Limit per Foot	470.6 PLF	
Yield Limit per Fastener	94.1 lb.	
CM	1	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination	D+0.75(L+S)	
Duration Factor	1.15	

Concentrated Load

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

the pattern shown.		
Capacity	88.8 %	
Load	2604.0lb.	
Total Yield Limit	2933.3 lb.	
Cg	0.9998	
Cg Cm	1	
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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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

This design is valid until 6/28/2026

Manufacturer Info 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

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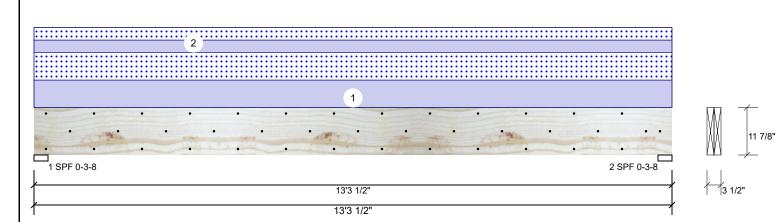
Project: Address:

Date: 10/30/2023 Input by: Hampton Horrocks Page 12 of 13

Job Name: Lot A Hobby Rd Project #: J1023-6083

evel: 2ND. FLOOR

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



Member Information Reactions UNPATTERNED Ib (Uplift) Application: Wind Type: 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

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

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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	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					

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.

Notes

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 6/28/2026



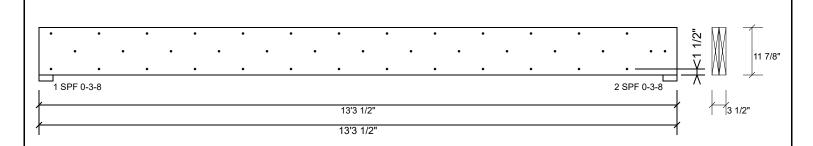
Project: Address: 10/30/2023

Input by: Hampton Horrocks Job Name: Lot A Hobby Rd Project #: J1023-6083

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

evel: 2ND. FLOOR

Page 13 of 13



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	92.4 %	
Load	261.0 PLF	
Yield Limit per Foot	282.4 PLF	
Yield Limit per Fastener	94.1 lb.	
См	1	
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

- Infoculing & 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

Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

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