

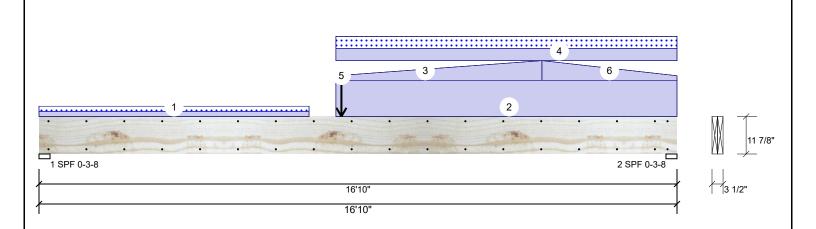
Project: Address: 5/8/2024

Input by: Curtis Quick Job Name: Plan 17 Beams Page 1 of 14

Project #:

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

Level: Level



Member Info	rmation		Reactions UNPATTERNED Ib (Uplift)								
Туре:	Girder	Application:	Floor	Brg	Direction	Live		Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	0	1	764	190	0	0
Moisture Condition	on: Dry	Building Code:	IRC 2018	2	Vertical	0		1549	291	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. I	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 3.500"	Vert	18%	764 / 190	955	L	D+S
				2 -	SPF 3.500"	Vert	35%	1549 / 291	1840	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5342 ft-lb	9'6 7/8"	17919 ft-lb	0.298 (30%)	D	Uniform
Unbraced	6333 ft-lb	9'6 13/16"	6340 ft-lb	0.999 (100%)	D+S	L
Shear	1311 lb	15'6 5/8"	7980 lb	0.164 (16%)	D	Uniform
LL Defl inch	0.050 (L/3912)	8'8 15/16"	0.409 (L/480)	0.123 (12%)	S	L
TL Defl inch	0.314 (L/626)	8'9 15/16"	0.546 (L/360)	0.575 (58%)	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 a maximum of 15'8 7/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 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	Part. Uniform	0-0-0 to 7-1-8		Тор	17 PLF	0 PLF	17 PLF	0 PLF	0 PLF	M1
2	Part. Uniform	7-10-0 to 16-10-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Tapered Start	7-10-0		Тор	15 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Gable
	End	13-3-4			65 PLF	0 PLF	0 PLF	0 PLF	0 PLF	

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
- L. UV. 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

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isDesign

Continued from page 1

Client: Wellco Contractors

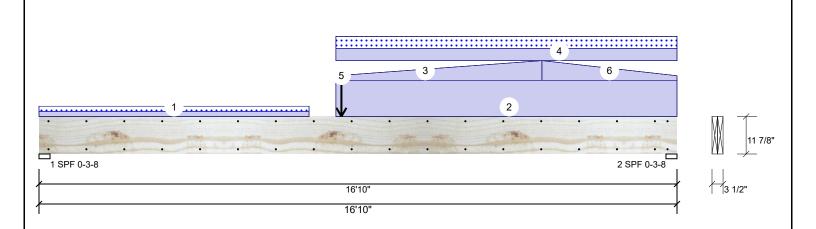
Project: Address: Date: 5/8/2024

Input by: Curtis Quick Job Name: Plan 17 Beams Page 2 of 14

Project #:

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

Level: Level



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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
	4	Part. Uniform	7-10-0 to 16-10-0		Тор	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	Overhang
	5	Point	7-11-12		Тор	237 lb	0 lb	0 lb	0 lb	0 lb	BM6
		Bearing Length	0-3-8								
	6	Tapered Start	13-3-4		Тор	65 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Gable
		End	16-10-0			15 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
		Self Weight				9 PLF					

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

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

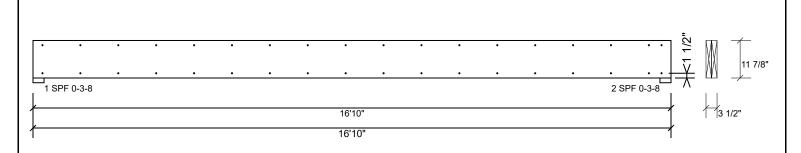


Client: Wellco Contractors 5/8/2024 Project: Input by: Curtis Quick isDesign Address: Job Name: Plan 17 Beams Project #:

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

Level: Level

Page 3 of 14



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
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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 6/28/2026

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

Manufacturer Info

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



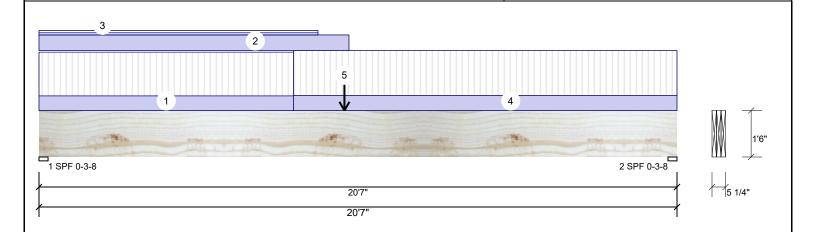
Project: Address: Date: 5/8/2024

Input by: Curtis Quick Job Name: Plan 17 Beams Page 4 of 14

Project #:

1.750" X 18.000" Kerto-S LVL 3-Ply - PASSED BM₁

Level: Level



Member Information Reactions UNPATTERNED Ib (Uplift) Application: Brg Direction Live Snow Wind Const Type: Floor Dead Plies: 3 Design Method: ASD 3481 2555 0 Vertical 120 0 1 Moisture Condition: Dry **Building Code:** IRC 2018 2 Vertical 3526 1841 33 0 0 Deflection LL: 480 Load Sharing: Yes Deflection TL: 240 Deck: Not Checked Importance: Normal - II Temperature: Temp <= 100°F **Bearings** Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" D+L Vert 2555 / 3481 6036 L 2 - SPF 3.500" Vert 69% 1841 / 3526 5367 L D+I

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28788 ft-lb	9'10 1/4"	67051 ft-lb	0.429 (43%)	D+L	L
Unbraced	28788 ft-lb	9'10 1/4"	28935 ft-lb	0.995 (99%)	D+L	L
Shear	4983 lb	1'9 1/2"	20160 lb	0.247 (25%)	D+L	L
LL Defl inch	0.269 (L/900)	10'3 5/8"	0.504 (L/480)	0.534 (53%)	L	L
TL Defl inch	0.443 (L/546)	10'1 3/4"	1.007 (L/240)	0.439 (44%)	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 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 6'10 5/8" 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	Part. Uniform	0-0-0 to 8-2-8		Тор	112 PLF	335 PLF	0 PLF	0 PLF	0 PLF	F01
2	Part. Uniform	0-0-0 to 10-0-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Part. Uniform	0-0-0 to 9-0-0		Тор	17 PLF	0 PLF	17 PLF	0 PLF	0 PLF	M1
4	Part. Uniform	8-2-8 to 20-7-0		Тор	115 PLF	344 PLF	0 PLF	0 PLF	0 PLF	F02
5	Point	9-10-4		Тор	268 lb	0 lb	0 lb	0 lb	0 lb	BM5
	Bearing Length	0-3-8								
	Self Weight				21 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
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026



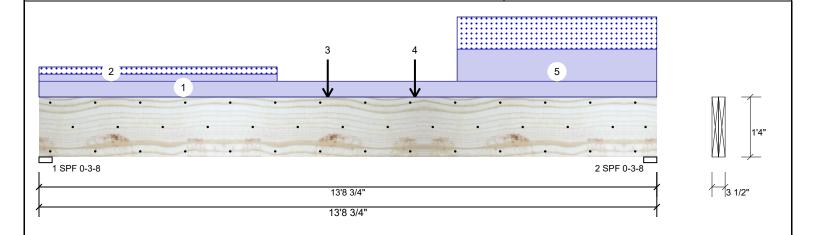
Project: Address: Date: 5/8/2024

Input by: Curtis Quick Job Name: Plan 17 Beams Page 5 of 14

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL BM2**

Level: Level



Member Infor	mation	Reactions UNPATTERNED lb (Uplift)									
Type:	Girder	Application:	Floor	Brg	Direction	Live	: D	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	0	,	1929	1020	0	0
Moisture Condition	: Dry	Building Code:	IRC 2018	2	Vertical	0) :	2549	1640	0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	360	Deck:	Not Checked								
Importance:	Normal - II										
Temperature:	Temp <= 100°F										
				Bear	rings						
				Bea	aring Length	Dir.	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 3.500"	Vert	57%	1929 / 1020	2949	L	D+S
				2 -	SPF 3.500"	Vert	80%	2549 / 1640	4188	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13402 ft-lb	6'5"	39750 ft-lb	0.337 (34%)	D+S	L
Unbraced	13402 ft-lb	6'5"	13432 ft-lb	0.998 (100%)	D+S	L
Shear	3197 lb	12'1 1/4"	13739 lb	0.233 (23%)	D+S	L
LL Defl inch	0.076 (L/2091)	6'11 9/16"	0.332 (L/480)	0.230 (23%)	S	L
TL Defl inch	0.197 (L/808)	6'11 5/16"	0.443 (L/360)	0.446 (45%)	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 8'10 9/16" o.c.
- 7 Bottom must be laterally braced at end bearings.

o Lateral Sie	enderness 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	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
2	Part. Uniform	0-0-0 to 5-3-8		Тор	54 PLF	0 PLF	54 PLF	0 PLF	0 PLF	J04	
3	Point	6-5-0		Тор	839 lb	0 lb	839 lb	0 lb	0 lb	B4GDR	
	Bearing Length	0-3-8									

Continued on page 2...

Notes
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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
- L. UVL 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
- Danaged 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

Client: Wellco Contractors Date: 5/8/2024 Page 6 of 14 Project: Input by: Curtis Quick isDesign Address: Job Name: Plan 17 Beams Project #: 1.750" X 16.000" 2-Ply - PASSED Level: Level **Kerto-S LVL BM2** 5 1 1 SPF 0-3-8 2 SPF 0-3-8 13'8 3/4" 13'8 3/4" .Continued from page 1 Trib Width Dead 0.9 ID Load Type Location Side Live 1 Snow 1.15 Wind 1.6 Const. 1.25 Comments Point 8-4-4 Тор 452 lb 0 lb 452 lb 0 lb ВЗ 4 Bearing Length 0-3-8 Part. Uniform 244 PLF 0 PLF 244 PLF 0 PLF 0 PLF B2 5 9-3-8 to 13-8-12 Тор Self Weight 12 PLF 6. For flat roofs provide proper drainage to prevent ponding Manufacturer Info 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. Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 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 6/28/2026



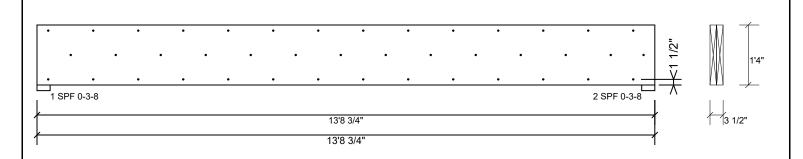
(800) 622-5850 www.metsawood.com/us

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Client: Wellco Contractors Date: 5/8/2024 Page 7 of 14 Project: Input by: Curtis Quick isDesign Address: Job Name: Plan 17 Beams Project #:

1.750" X 16.000" 2-Ply - PASSED **BM2 Kerto-S LVL**

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".

. aston an phos asing s	
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
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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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

Manufacturer Info

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



Project: Address: Date: 5/8/2024

2

Vertical

1 - SPF 3.500"

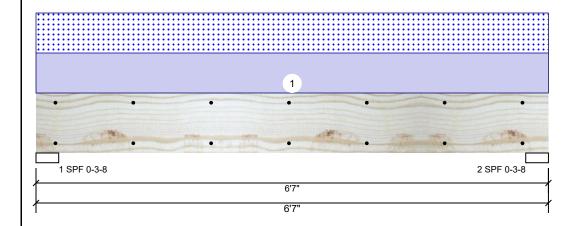
2 - SPF 3.500"

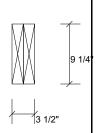
Input by: Curtis Quick Job Name: Plan 17 Beams

Project #:

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

Level: Level





Const

0

D+S

D+S

0

0

Page 8 of 14

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:** IRC 2018 Load Sharing: No Deck: Not Checked Reactions UNPATTERNED Ib (Uplift) Direction Live Wind Brg Dead Snow 0 0 Vertical 1449 1425 1

1449

1425

2874 L

2874 L

0

Vert

Vert

55%

Bearings Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb.

1449 / 1425

1449 / 1425

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4095 ft-lb	3'3 1/2"	14423 ft-lb	0.284 (28%)	D+S	L
Unbraced	4095 ft-lb	3'3 1/2"	10451 ft-lb	0.392 (39%)	D+S	L
Shear	1952 lb	1' 3/4"	7943 lb	0.246 (25%)	D+S	L
LL Defl inch	0.037 (L/1991)	3'3 1/2"	0.153 (L/480)	0.241 (24%)	S	L
TL Defl inch	0.074 (L/987)	3'3 1/2"	0.204 (L/360)	0.365 (36%)	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	433 PLF	0 PLF	433 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 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

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

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Client: Wellco Contractors

Project: Address:

Date: 5/8/2024 Input by: Curtis Quick

Job Name: Plan 17 Beams

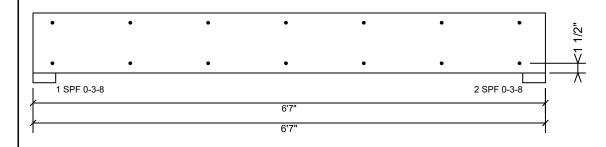
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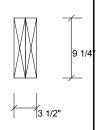
Kerto-S LVL BM₃

1.750" X 9.250"

2-Ply - PASSED

Level: Level





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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.
CM	1
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
- 6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

www.metsawood.com/us



Client: Project:

Address:

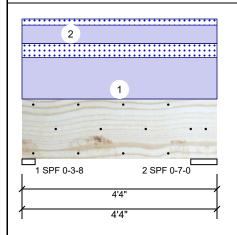
Wellco Contractors

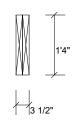
Date: 5/8/2024 Input by: Curtis Quick Job Name: Plan 17 Beams

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM4

Level: Level





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Member Information

Type: Plies: 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	0	817	265	0	0
2	Vertical	0	935	303	0	0

Bearings

Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	21%	817 / 265	1082	L	D+S
2 - SPF	7.000"	Vert	12%	935 / 303	1238	L	D+S

Analysis Results

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	869 ft-lb	2' 1/4"	39750 ft-lb	0.022 (2%)	D+S	L
Unbraced	869 ft-lb	2' 1/4"	29979 ft-lb	0.029 (3%)	D+S	L
Shear	229 lb	2'5"	13739 lb	0.017 (2%)	D+S	L
LL Defl inch	0.001 (L/66978)	2' 5/16"	0.090 (L/480)	0.007 (1%)	S	L
TL Defl inch	0.003 (L/16387)	2' 5/16"	0.120 (L/360)	0.022 (2%)	D+S	L

Application:

Design Method:

Building Code:

Load Sharing:

Deck:

Floor

ASD

No

IRC 2018

Not Checked

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
- 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	272 PLF	0 PLF	91 PLF	0 PLF	0 PLF	F05
2	Uniform			Тор	120 PLF	0 PLF	40 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
- 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

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



Client:

Wellco Contractors

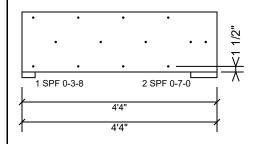
Project: Address: Date: 5/8/2024

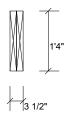
Input by: Curtis Quick Job Name: Plan 17 Beams

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL BM4**

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".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
CM	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



Project: Address:

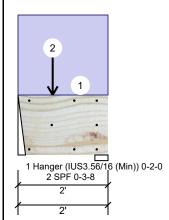
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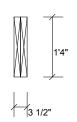
Job Name: Plan 17 Beams

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM₅

Level: Level





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Member Infor	mation			Read	ctions UNF	PATTER	NED II	(Uplift)			
Type:	Girder	Application:	Floor	Brg	Direction	Liv	е	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical		0	196	72	0	0
Moisture Condition	n: Dry	Building Code:	IRC 2018	2	Vertical		0	189	48	0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	360	Deck:	Not Checked								
Importance:	Normal - II										
Temperature:	Temp <= 100°F										
				Bear	rings						
				Bea	aring Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	2.000"	Vert	5%	196 / 72	268	L	D+S
				Hai	nger						
Analysis Resul	lts			2 -	SPF 3.500"	Vert	5%	189 / 48	237	L	D+S

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	143 ft-lb	9 1/4"	39750 ft-lb	0.004 (0%)	D+S	L
Unbraced	143 ft-lb	9 1/4"	39187 ft-lb	0.004 (0%)	D+S	L
Shear	52 lb	1'6"	10752 lb	0.005 (0%)	D	Uniform
LL Defl inch	0.000 (L/187413)	9 1/4"	0.042 (L/480)	0.003 (0%)	S	L
TL Defl inch	0.000 (L/63485)	9 1/4"	0.056 (L/360)	0.006 (1%)	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 Fill all hanger nailing holes.
- 5 Left Header: SPF, Thickness: 3 1/2"
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at end bearings.
- 9 Bottom must be laterally braced at end bearings.
- 10 Lateral slenderness ratio based on single ply width.

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
- L. UVL 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

- Danaged 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

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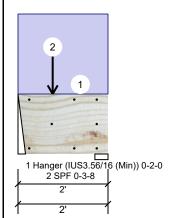
Date: 5/8/2024

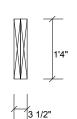
Input by: Curtis Quick Job Name: Plan 17 Beams

Project #:

Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED BM5

Level: Level





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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			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
2	Point	0-9-4		Тор	120 lb	0 lb	120 lb	0 lb	0 lb	C1
	Bearing Length	0-3-8								
	Self Weight				12 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

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6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026



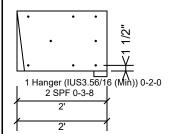
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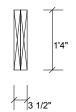
Curtis Quick Job Name: Plan 17 Beams

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM₅

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".

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
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Handling & Installation

- Handling & Installation

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 5. Provide lateral support at bearing points to avoid lateral displacement and rotation
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