

Project: Address: Date: 8/23/2024 Input by: Curtis Quick Job Name: Fillion Beams

Project #:

Kerto-S LVL 1.750" X 24.000" 2-Ply - PASSED GDH (Brick)

Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

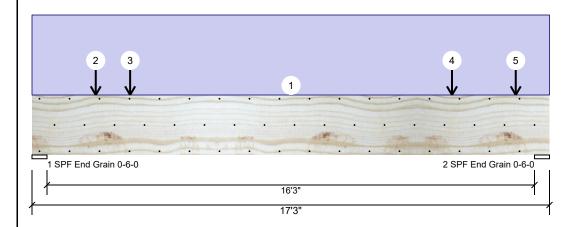
ASD

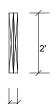
No

**IBC/IRC 2015** 

Not Checked

Level: Level





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### Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 600 Importance: Normal - II

Temperature: Temp <= 100°F

### Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	7145	6294	0	0
2	Vertical	0	7549	6698	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36660 ft-lb	8' 5/8"	84163 ft-lb	0.436 (44%)	D+S	L
Unbraced	36660 ft-lb	8' 5/8"	36690 ft-lb	0.999 (100%)	D+S	L
Shear	12875 lb	2'6"	20608 lb	0.625 (62%)	D+S	L
LL Defl inch	0.138 (L/1422)	8'7 1/8"	0.410 (L/480)	0.337 (34%)	S	L
TL Defl inch	0.301 (L/653)	8'7 1/4"	0.328 (L/600)	0.918 (92%)	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 4'10" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

Bearing:	Bearings													
Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.							
1 - SPF End Grain	6.000"	Vert	76%	7145 / 6294	13438	L	D+S							
2 - SPF	6.000"	Vert	81%	7549 / 6698	14248	L	D+S							

		3	1 /									
I	ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
	1	Uniform			Тор	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick	
	2	Point	2-1-8		Тор	944 lb	0 lb	944 lb	0 lb	0 lb	A4	
		Bearing Length	0-3-8									
	3	Point	3-3-4		Тор	5378 lb	0 lb	5378 lb	0 lb	0 lb	A5	

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.

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

End Grain

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

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

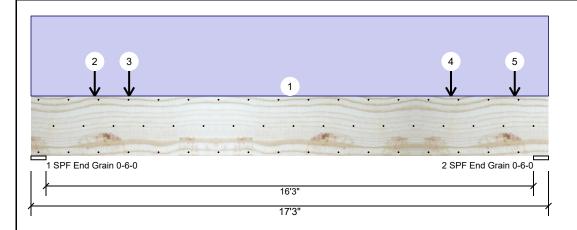
Input by: Curtis Quick Job Name: Fillion Beams

8/23/2024

Project #:

GDH (Brick) Kerto-S LVL 1.750" X 24.000" 2-Ply - PASSED

Level: Level





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Co	ontinued from p	page 1									
IE	)	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
		Bearing Length	0-3-11								
4		Point	14-0-0		Тор	5542 lb	0 lb	5542 lb	0 lb	0 lb	A3
		Bearing Length	0-3-12								
5		Point	16-1-8		Тор	1128 lb	0 lb	1128 lb	0 lb	0 lb	A2
		Bearing Length	0-3-8								
		Self Weight				19 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 6/28/2026

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

Manufacturer Info

isDesign

Client: **GMC** Construction

Project: Address:

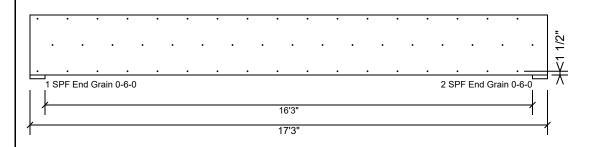
8/23/2024 Input by: Curtis Quick

Job Name: Fillion Beams

Project #:

Kerto-S LVL 2-Ply - PASSED 1.750" X 24.000" GDH (Brick)

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".

rasteri ali piles asirig 5 rovis	101 100 DOX 110113 (.120X3 ) at
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
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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



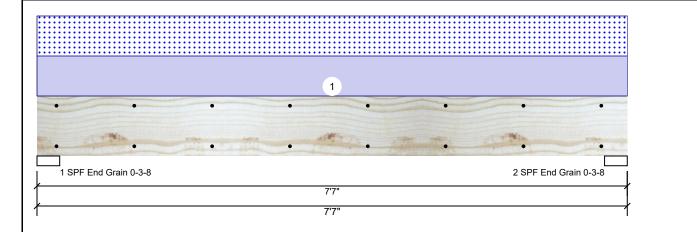
Project: Address: 8/23/2024

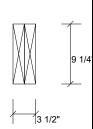
Input by: Curtis Quick Job Name: Fillion Beams

Project #:

1.750" X 9.250" 2-Ply - PASSED **Kerto-S LVL** BM1

Level: Level





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Member Information								
Type:	Girder							
Plies:	2							
Moisture Condition:	Dry							
Deflection LL:	480							
Deflection TL:	360							
Importance:	Normal - II							
Temperature:	Temp <= 100°F							

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

Rea	ctions UNP/	ATTERNED	)			
Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1438	1411	0	0
2	Vertical	0	1438	1411	0	0

# **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4767 ft-lb	3'9 1/2"	14423 ft-lb	0.330 (33%)	D+S	L
Unbraced	4767 ft-lb	3'9 1/2"	9518 ft-lb	0.501 (50%)	D+S	L
Shear	2056 lb	1' 3/4"	7943 lb	0.259 (26%)	D+S	L
LL Defl inch	0.055 (L/1551)	3'9 9/16"	0.178 (L/480)	0.309 (31%)	S	L
TL Defl inch	0.111 (L/768)	3'9 9/16"	0.238 (L/360)	0.469 (47%)	D+S	L

## Bearings

Bearing	Length	Dir.	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	28%	1438 / 1411	2848	L	D+S
2 - SPF End Grain	3.500"	Vert	28%	1438 / 1411	2848	L	D+S

### **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	372 PLF	0 PLF	372 PLF	0 PLF	0 PLF	A6
	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
- 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

- 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

Client: **GMC** Construction Date: 8/23/2024 Page 5 of 12 Project: Input by: Curtis Quick isDesign Address: Job Name: Fillion Beams Project #: 1.750" X 9.250" Level: Level **Kerto-S LVL** 2-Ply - PASSED BM1 1 SPF End Grain 0-3-8 2 SPF End Grain 0-3-8 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 PLF 163.7 PLF Yield Limit per Foot Yield Limit per Fastener 81.9 lb. См Yield Mode IV Edge Distance 1 1/2" Min. End Distance 3" Load Combination **Duration Factor** 1.00 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 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 (800) 622-5850

This design is valid until 6/28/2026

www.metsawood.com/us

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

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



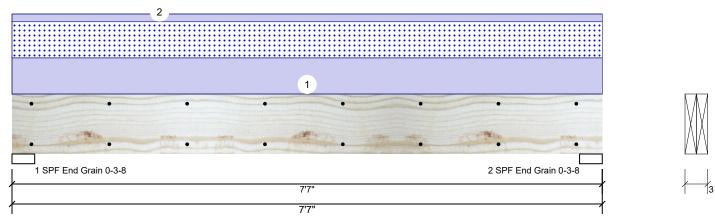
Project: Address: Date: 8/23/2024

Input by: Curtis Quick Job Name: Fillion Beams

Project #:

**Kerto-S LVL** 1.750" X 9.250" BM1 (Brick) 2-Ply - PASSED Level: Level

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### Member Information Reactions UNPATTERNED Ib (Uplift) Application: Direction Live Wind Type: Floor Brg Dead Snow Const Plies: 2 Design Method: ASD 0 1741 0 Vertical 1411 0 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 Vertical 0 1741 1411 0 0 Deflection LL: 480 Load Sharing: No Deflection TL: 600 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+S Vert 1741 / 1411 3152 L End Grain **Analysis Results** 2 - SPF 3.500" 1741 / 1411 3152 L D+S Vert 31% End

Grain

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5275 ft-lb	3'9 1/2"	14423 ft-lb	0.366 (37%)	D+S	L
Unbraced	5275 ft-lb	3'9 1/2"	9518 ft-lb	0.554 (55%)	D+S	L
Shear	2274 lb	1' 3/4"	7943 lb	0.286 (29%)	D+S	L
LL Defl inch	0.055 (L/1551)	3'9 9/16"	0.178 (L/480)	0.309 (31%)	S	L
TL Defl inch	0.123 (L/694)	3'9 9/16"	0.142 (L/600)	0.864 (86%)	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	372 PLF	0 PLF	372 PLF	0 PLF	0 PLF	A6
2	Uniform			Тор	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick
	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 6/28/2026

Manufacturer Info Metsä Wood

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

isDesign	Client: GMC Construction Project: Address:		e: Fillion Beams	Page 7 of 12
BM1 (Brick) Kerto-S LV	′L 1.750" X 9.250	Project #  2-Ply - PASSED	: Level: Level	
, ,				
• •	• •	• •	•	9 1/4
1 SPF End Grain 0-3-8	7'7"		2 SPF End Grain 0-3-8	3 1/2"
	7'7"			, ,,
Multi-Ply Analysis				
Fasten all plies using 2 rows of 10d Capacity 0.0 % Load 0.0 PLF Yield Limit per Foot 163.7 PL Yield Limit per Fastener 81.9 lb. CM 1 Yield Mode IV Edge Distance 11/2" Min. End Distance 3" Load Combination Duration Factor 1.00		o.C Maximum end distance n	ot to exceed 6.	
Notes cher Calculated Structured Designs is responsible only of the Handl		For flat roofs provide proper drainage to prevent ponding	Manufacturer Info Metsä Wood	
structural adequacy of this component based on the 1. LVL design criteria and loadings shown. It is the 2. Refe responsibility of the customer and/or the contractor to ensure the component suitability of the intended faste	beams must not be cut or drilled er to manufacturer's product information arding installation requirements, multi-ply ening details, beam strength values, and code		301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850	
application, and to verify the dimensions and loads.  Lumber  1. Dry service conditions, unless noted otherwise  5. Prov	rovals naged Beams must not be used ign assumes top edge is laterally restrained vide lateral support at bearing points to avoid ral displacement and rotation	This design is valid until 6/28/2026	www.metsawood.com/us	



Project: Address:

8/23/2024 Input by:

Curtis Quick Job Name: Fillion Beams

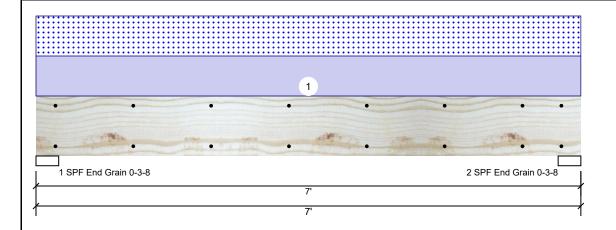
Project #:

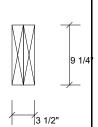
**Kerto-S LVL** BM<sub>2</sub>

1.750" X 9.250"

2-Ply - PASSED

Level: Level





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### Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application: Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No

Deck: Not Checked

### Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1387	1362	0	0
2	Vertical	0	1387	1362	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4200 ft-lb	3'6"	14423 ft-lb	0.291 (29%)	D+S	L
Unbraced	4200 ft-lb	3'6"	10052 ft-lb	0.418 (42%)	D+S	L
Shear	1919 lb	1' 3/4"	7943 lb	0.242 (24%)	D+S	L
LL Defl inch	0.042 (L/1864)	3'6"	0.164 (L/480)	0.258 (26%)	S	L
TL Defl inch	0.085 (L/923)	3'6"	0.218 (L/360)	0.390 (39%)	D+S	L

## Bearings

Bearing Lengt	h Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.500° End Grain	' Vert	27%	1387 / 1362	2748	L	D+S
2 - SPF 3.500 End Grain	' Vert	27%	1387 / 1362	2748	L	D+S

### **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	389 PLF	0 PLF	389 PLF	0 PLF	0 PLF	A5
	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

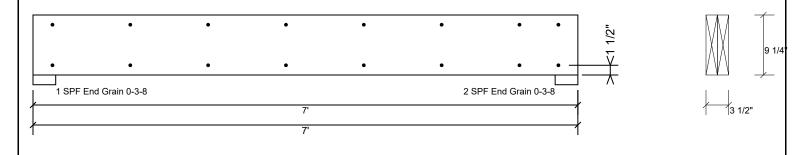
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

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

Version 23.40.705 Powered by iStruct™ Dataset: 24041701.1529

Client: **GMC** Construction Date: 8/23/2024 Page 9 of 12 Project: Input by: Curtis Quick isDesign Address: Job Name: Fillion Beams Project #: 1.750" X 9.250" 2-Ply - PASSED Level: Level **Kerto-S LVL BM2** 



## Multi-Ply Analysis

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

1 3	, ,
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
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

(800) 622-5850

Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 www.metsawood.com/us



Project: Address:

8/23/2024 Input by: Curtis Quick

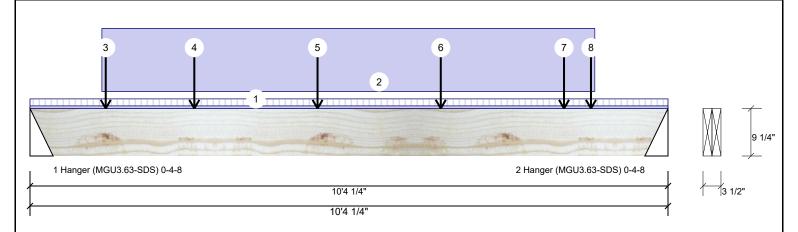
Job Name: Fillion Beams

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Project #:

1.750" X 9.250" 2-Ply - PASSED Kerto-S LVL BM<sub>3</sub>

Level: Level



Member Info	rmation			Reactions UNPATTERNED Ib (Uplift)							
Type:	Girder	Application:	Floor	Brg	Direction	Live		Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	138		1749	1179	0	0
Moisture Condition	on: Dry	Building Code:	IBC/IRC 2015	2	Vertical	138		1923	1355	0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	240	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 -	4.500"	Vert	22%	1749 / 1179	2929	L	D+S
				Har	nger						
Analysis Resu	lts			2 -	4.500"	Vert	25%	1923 / 1355	3278	L	D+S
Analysis A	ctual Locatio	n Allowed Canac	ity Comb Cas	Har	nger						

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7273 ft-lb	4'8"	14423 ft-lb	0.504 (50%)	D+S	L
Unbraced	7273 ft-lb	4'8"	7582 ft-lb	0.959 (96%)	D+S	L
Shear	3263 lb	9'2 1/2"	7943 lb	0.411 (41%)	D+S	L
LL Defl inch	0.116 (L/1003)	5'2 1/8"	0.243 (L/480)	0.478 (48%)	S	L
TL Defl inch	0.296 (L/394)	5'2 1/8"	0.486 (L/240)	0.609 (61%)	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 Fill all hanger nailing holes.
- 3 Left Header: SPF, Thickness: 3 1/2"
- 4 Right Header: SPF, Thickness: 3 1/2"
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Multiple plies must be fastened together as per manufacturer's details.
- 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 o	n 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	Tie-In Far	0-0-0 to 10-4-4	0-8-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor	
1	Tie-In Near	0-0-0 to 10-4-4	0-0-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor	
2	Part. Uniform	1-2-0 to 9-2-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
3	Point	1-2-12		Тор	419 lb	0 lb	419 lb	0 lb	0 lb	H2GE	

Continued on page 2...

Notes	chemicals
Calculated Structured Decigns is responsible only of the	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
- 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
- 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

  Manufacturer Info

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



Project: Address: 8/23/2024

Input by: Curtis Quick Job Name: Fillion Beams Page 11 of 12

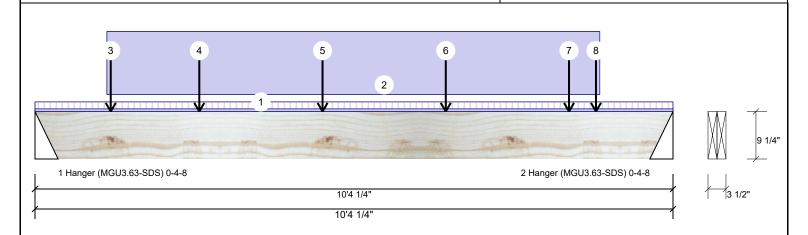
Project #:

Level: Level

**Kerto-S LVL** BM<sub>3</sub>

1.750" X 9.250"

2-Ply - PASSED



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
	Bearing Length	0-3-8								
4	Point	2-8-0		Тор	419 lb	0 lb	419 lb	0 lb	0 lb	H2
	Bearing Length	0-3-8								
5	Point	4-8-0		Тор	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
6	Point	6-8-0		Тор	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
7	Point	8-8-0		Тор	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
8	Point	9-1-4		Тор	424 lb	0 lb	424 lb	0 lb	0 lb	H1GE
	Bearing Length	0-3-8								
	Self Weight				7 PLF					

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. 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

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

Manufacturer Info

This design is valid until 6/28/2026



Member In	Reactions UNPATTERNED Ib (Uplift)													
Type:	Girder		Applica	tion: F	loor		Brg	Direction	Live	;	Dead	Snow	Wind	Const
Plies:	2		Design	Method: A	SD		1	Vertical	(	)	364	364	0	C
Moisture Cond	dition: Dry		Building	g Code: IE	3C/IRC 2015		2	Vertical	(	)	390	390	0	0
Deflection LL:	480		Load S	haring: N	lo									
Deflection TL:	240		Deck:	N	lot Checked									
Importance:	Normal - II													
Temperature:	Temp <= 1	00°F												
							Beari	ings						
							Bear	ring Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
							1 - Hang	2.000" ger	Vert	29%	364 / 364	728	L	D+S
Analysis Re	sults						2 - S	SPF 3.500"	Vert	17%	390 / 390	780	L	D+S
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case								
Moment	563 ft-lb	1'9"	3946 ft-lb	0.143 (14%	) D+S	L								
Unbraced	563 ft-lb	1'9"	3809 ft-lb	0.148 (15%	) D+S	L								
Shear	338 lb	11 1/4"	2872 lb	0.118 (12%	) D+S	L								

1'9" 0.082 (L/480) 0.024 (2%) S

1'9" 0.165 (L/240) 0.024 (2%) D+S

Design I	Notes										
may al	e support to prevent lateral m so be required at the interior			oearings.							
	hanger nailing holes.										
3 Left He	eader: SPF, Thickness: 3 1/2"										
4 Girders	s are designed to be supporte	ed on the bottom ed	dge only.								
5 Multiple	e plies must be fastened toge	ether as per manufa	acturer's details	S.							
6 Top loa	ads must be supported equal	y by all plies.									
7 Top mu	ust be laterally braced at end	bearings.									
8 Bottom	n must be laterally braced at e	end bearings.									
9 Lateral	I 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	208 PLF	0 PLF	208 PLF	0 PLF	0 PLF	H2	
							Manufact	urer Info			
					until 6/28/2026						
	70E Doward by iCtructIM Datas				This dosign is valid to	31101 0/20/2020					

LL Defl inch 0.002

(L/19915) TL Defl inch 0.004 (L/9958)