

Project: Address: Date: 6/10/2024

Input by: Curtis Quick Job Name: The Lauren III Beams Page 1 of 6

Project #:

1.750" X 16.000" 3-Ply - PASSED Kerto-S LVL **GDH**

Application:

Design Method:

Building Code:

Load Sharing:

Deck:

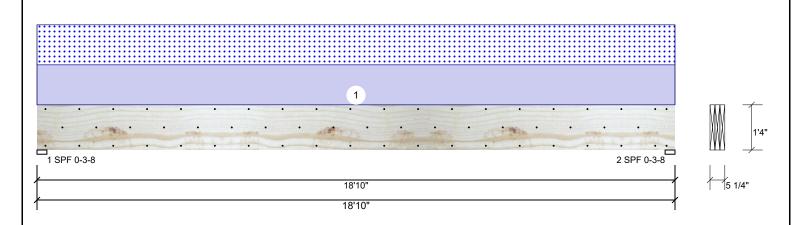
ASD

Yes

IBC 2012

Not Checked

Level: Level



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)

E	3rg	Direction	Live	Dead	Snow	Wind	Const
ı	1	Vertical	0	1692	1516	0	0
	2	Vertical	0	1692	1516	0	0

Bearings

Bearing Length	Dir.	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF 3.500"	Vert	41%	1692 / 1516	3208	L	D+S	
2 - SPF 3.500"	Vert	41%	1692 / 1516	3208	L	D+S	

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14410 ft-lb	9'5"	62010 ft-lb	0.232 (23%)	D+S	L
Unbraced	14410 ft-lb	9'5"	14425 ft-lb	0.999 (100%)	D+S	L
Shear	2679 lb	1'7 1/2"	20608 lb	0.130 (13%)	D+S	L
LL Defl inch	0.125 (L/1765)	9'5 1/16"	0.460 (L/480)	0.272 (27%)	S	L
TL Defl inch	0.265 (L/834)	9'5 1/16"	0.613 (L/360)	0.432 (43%)	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 13'4 3/8" 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	Ī
1	Uniform			Тор	161 PLF	0 PLF	161 PLF	0 PLF	0 PLF	A6A	
	Self Weight				19 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
- 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 Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Version 23.40.705	Powered	bv iStruct™	Dataset:	24041701	.1529



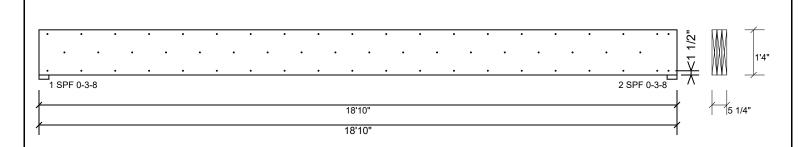
Project: Address: 6/10/2024

Input by: Curtis Quick Job Name: The Lauren III Beams Page 2 of 6

Project #:

1.750" X 16.000" 3-Ply - PASSED **GDH Kerto-S LVL**

Level: Level



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

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

www.metsawood.com/us



Project: Address:

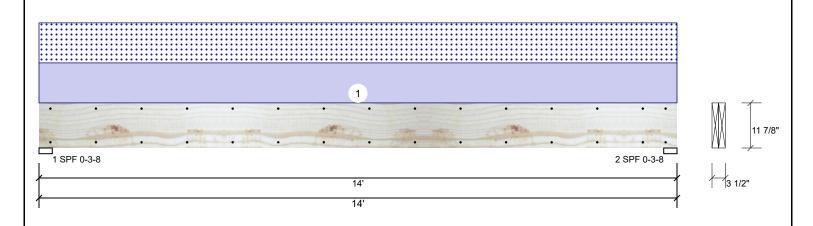
6/10/2024 Input by:

Curtis Quick Job Name: The Lauren III Beams Page 3 of 6

Project #:

1.750" X 11.875" 2-Ply - PASSED **Kerto-S LVL** GDH-1

Level: Level



Member Info	rmation			Rea	ctions UNP	ATTERI	NED Ib	(Uplift)			
Type:	Girder	Application:	Floor	Brg	Direction	Live	e [Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	()	1696	1631	0	0
Moisture Condition	on: Dry	Building Code:	IBC 2012	2	Vertical	()	1696	1631	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. R	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 3.500"	Vert	64%	1696 / 1631	3327	L	D+S
					SPF 3.500"	Vert	64%	1696 / 1631	3327	L	D+S

Analysis Results

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10893 ft-lb	7'	22897 ft-lb	0.476 (48%)	D+S	L
Unbraced	10893 ft-lb	7'	10904 ft-lb	0.999 (100%)	D+S	L
Shear	2727 lb	12'8 5/8"	10197 lb	0.267 (27%)	D+S	L
LL Defl inch	0.195 (L/832)	7' 1/16"	0.339 (L/480)	0.577 (58%)	S	L
TL Defl inch	0.398 (L/408)	7' 1/16"	0.451 (L/360)	0.882 (88%)	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 8'2 11/16" 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	Uniform			Тор	233 PLF	0 PLF	233 PLF	0 PLF	0 PLF	G2
	Self Weight				9 PLF					

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

Handling & Installation

- LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

 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
- 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

isDesign

Client:

Project: Address: Weaver Homes

6/10/2024

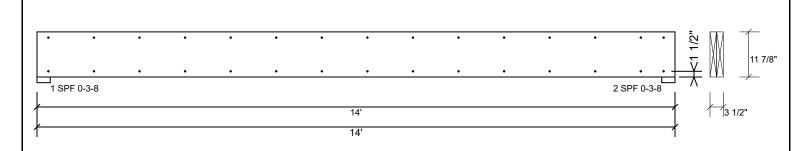
Input by: Curtis Quick Job Name: The Lauren III Beams Page 4 of 6

Project #:

GDH-1 **Kerto-S LVL** 1.750" X 11.875"

2-Ply - PASSED

Level: Level



Multi-Ply Analysis

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

·		
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
- 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



Project: Address:

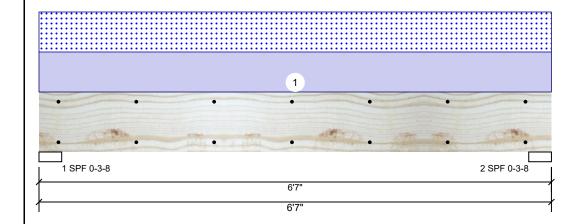
Date: 6/10/2024

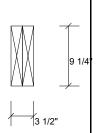
Input by: Curtis Quick Job Name: The Lauren III Beams

Project #:

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

Level: Level





Page 5 of 6

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 2012 Load Sharing: No Deck: Not Checked **Reactions UNPATTERNED Ib (Uplift)** Brg Direction Live Snow Wind Const Dead 0 1551 1527 0 Vertical 0 1 2 Vertical 0 1551 1527 0 0

Bearings

Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	59%	1551 / 1527	3078	L	D+S
2 - SPF	3.500"	Vert	59%	1551 / 1527	3078	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4386 ft-lb	3'3 1/2"	14423 ft-lb	0.304 (30%)	D+S	L
Unbraced	4386 ft-lb	3'3 1/2"	10451 ft-lb	0.420 (42%)	D+S	L
Shear	2090 lb	1' 3/4"	7943 lb	0.263 (26%)	D+S	L
LL Defl inch	0.040 (L/1858)	3'3 1/2"	0.153 (L/480)	0.258 (26%)	S	L
TL Defl inch	0.080 (L/922)	3'3 1/2"	0.204 (L/360)	0.391 (39%)	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	464 PLF	0 PLF	464 PLF	0 PLF	0 PLF	A3	
	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 monding

 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

isDesign

Client: Weaver Homes

Project: Address:

Date: 6/10/2024 Input by: Curtis Quick

Job Name: The Lauren III Beams

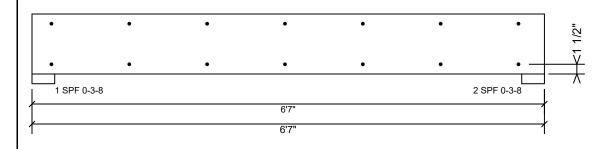
Project #:

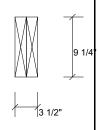
Kerto-S LVL **BM1**

1.750" X 9.250"

2-Ply - PASSED

Level: Level





Page 6 of 6

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
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

Manufacturer Info

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

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