

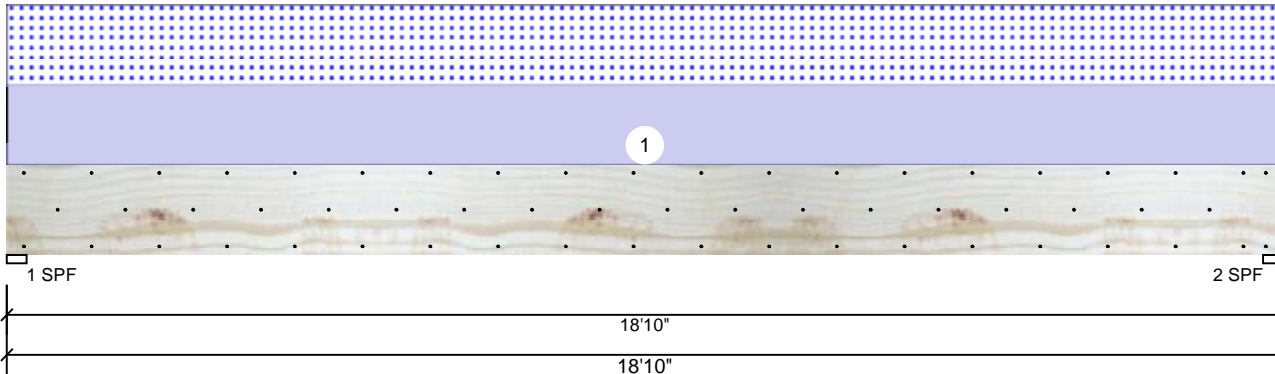


Client: Weaver Development
 Project:
 Address:

Date: 2/8/2021
 Input by: Curtis Quick
 Job Name: The Lauren III Beams
 Project #:

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

Level: Level



Member Information

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

Application:	Floor
Design Method:	ASD
Building Code:	IBC 2012
Load Sharing:	No
Deck:	Not Checked

Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1840	1723	0	0
2	0	1840	1723	0	0

Bearings

Bearing	Length	Cap. React D/L Ib	Total Ld. Case	Ld. Comb.
1 - SPF	3.500"	68% 1840 / 1723	3564 L	D+S
2 - SPF	3.500"	68% 1840 / 1723	3564 L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16009 ft-lb	9'5"	39750 ft-lb	0.403 (40%)	D+S	L
Unbraced	16009 ft-lb	9'5"	16016 ft-lb	1.000 (100%)	D+S	L
Shear	2976 lb	17'3 3/8"	13739 lb	0.217 (22%)	D+S	L
LL Defl inch	0.213 (L/1035)	9'5 1/16"	0.460 (L/480)	0.460 (46%)	S	L
TL Defl inch	0.441 (L/501)	9'5 1/16"	0.613 (L/360)	0.720 (72%)	D+S	L

Design Notes

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 7'4 1/2" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	183 PLF	0 PLF	183 PLF	0 PLF	0 PLF	A4A
	Self Weight				12 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.

Lumber

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

chemicals

Handling & Installation

1. LVL 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 2/26/2023

Manufacturer Info

Metsä Wood
 301 Merritt 7 Building, 2nd Floor
 Norwalk, CT 06851
 (800) 622-5850
www.metsawood.com/us
 ICC-ES: ESR-3633

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 1001 S. Reilly Road, Suite #639
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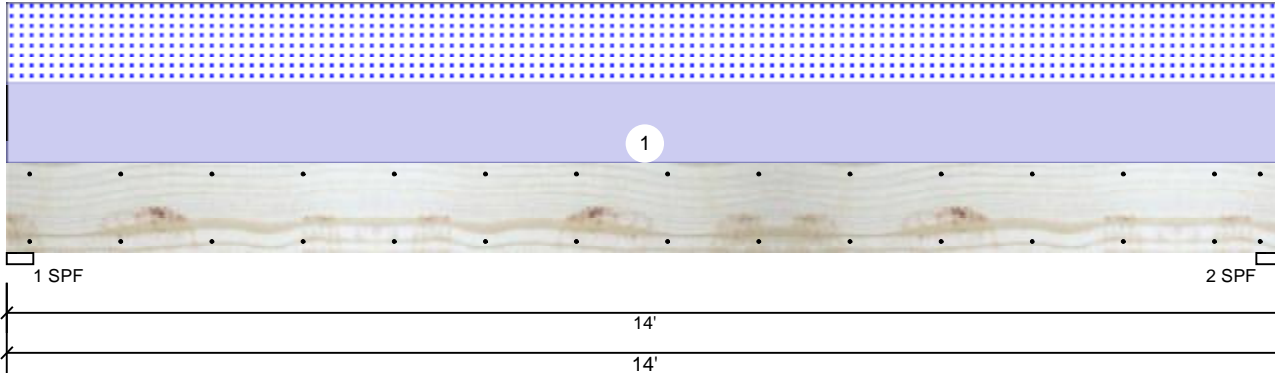


Client: Weaver Development
 Project:
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Date: 2/8/2021
 Input by: Curtis Quick
 Job Name: The Lauren III Beams
 Project #:

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

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1696	1631	0	0
2	0	1696	1631	0	0

Bearings

Bearing	Length	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	64%	1696 / 1631	3327	L	D+S
2 - SPF	3.500"	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'	10911 ft-lb	0.998 (100%)	D+S	L
Shear	2747 lb	1'2 5/8"	10197 lb	0.269 (27%)	D+S	L
LL Defl inch	0.195 (L/832)	7' 1/16"	0.339 (L/480)	0.580 (58%)	S	L
TL Defl inch	0.398 (L/408)	7' 1/16"	0.451 (L/360)	0.880 (88%)	D+S	L

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 8'2 5/8" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	233 PLF	0 PLF	233 PLF	0 PLF	0 PLF	G1
	Self Weight				9 PLF					

Notes

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Lumber

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

chemicals

Handling & Installation

1. LVL 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 2/26/2023

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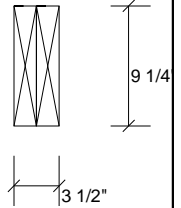
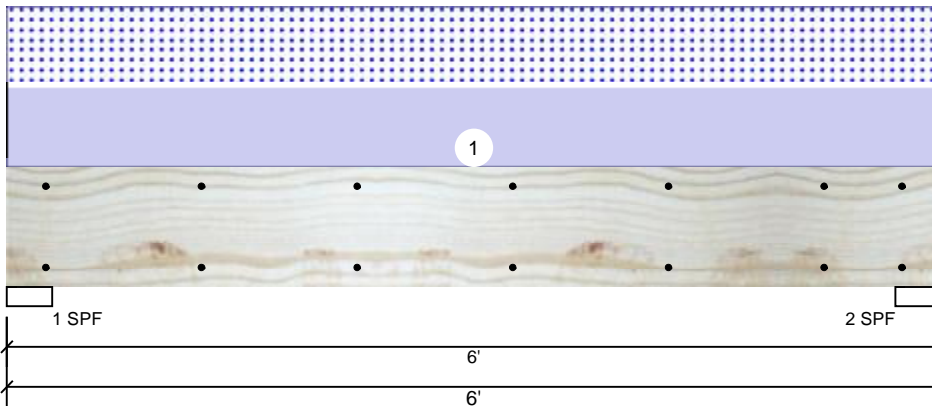


Client: Weaver Development
 Project:
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Date: 2/8/2021
 Input by: Curtis Quick
 Job Name: The Lauren III Beams
 Project #:

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

Level: Level



Member Information

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

Application:	Floor
Design Method:	ASD
Building Code:	IBC 2012
Load Sharing:	No
Deck:	Not Checked

Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1987	1965	0	0
2	0	1987	1965	0	0

Bearings

Bearing	Length	Cap. React	D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	76%	1987 / 1965	3952	L	D+S
2 - SPF	3.500"	76%	1987 / 1965	3952	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5056 ft-lb	3'	14423 ft-lb	0.351 (35%)	D+S	L
Unbraced	5056 ft-lb	3'	11027 ft-lb	0.459 (46%)	D+S	L
Shear	2634 lb	1'	7943 lb	0.332 (33%)	D+S	L
LL Defl inch	0.039 (L/1703)	3'	0.139 (L/480)	0.280 (28%)	S	L
TL Defl inch	0.079 (L/847)	3'	0.185 (L/360)	0.430 (43%)	D+S	L

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	655 PLF	0 PLF	655 PLF	0 PLF	0 PLF	A2
	Self Weight				7 PLF					

Notes
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Lumber
 1. Dry service conditions, unless noted otherwise
 2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation
 1. LVL 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 2/26/2023

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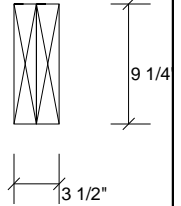
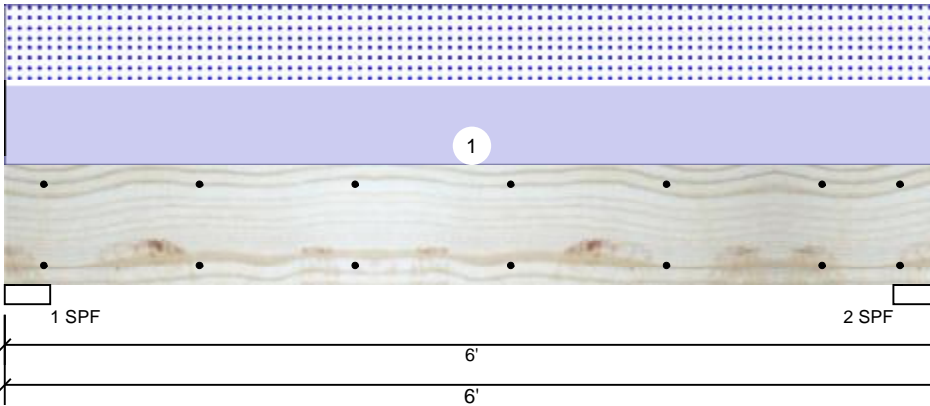


Client: Weaver Development
 Project:
 Address:

Date: 2/8/2021
 Input by: Curtis Quick
 Job Name: The Lauren III Beams
 Project #:

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
Temperature:	Temp <= 100°F

Application:	Floor
Design Method:	ASD
Building Code:	IBC 2012
Load Sharing:	No
Deck:	Not Checked

Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1447	1425	0	0
2	0	1447	1425	0	0

Bearings

Bearing	Length	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	55%	1447 / 1425	2872	L	D+S
2 - SPF	3.500"	55%	1447 / 1425	2872	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3674 ft-lb	3'	14423 ft-lb	0.255 (25%)	D+S	L
Unbraced	3674 ft-lb	3'	11027 ft-lb	0.333 (33%)	D+S	L
Shear	1914 lb	1'	7943 lb	0.241 (24%)	D+S	L
LL Defl inch	0.028 (L/2348)	3'	0.185 (L/360)	0.150 (15%)	S	L
TL Defl inch	0.057 (L/1165)	3'	0.277 (L/240)	0.210 (21%)	D+S	L

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	475 PLF	0 PLF	475 PLF	0 PLF	0 PLF	a1
	Self Weight				7 PLF					

Notes
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Lumber
 1. Dry service conditions, unless noted otherwise
 2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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

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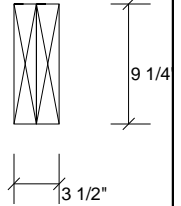
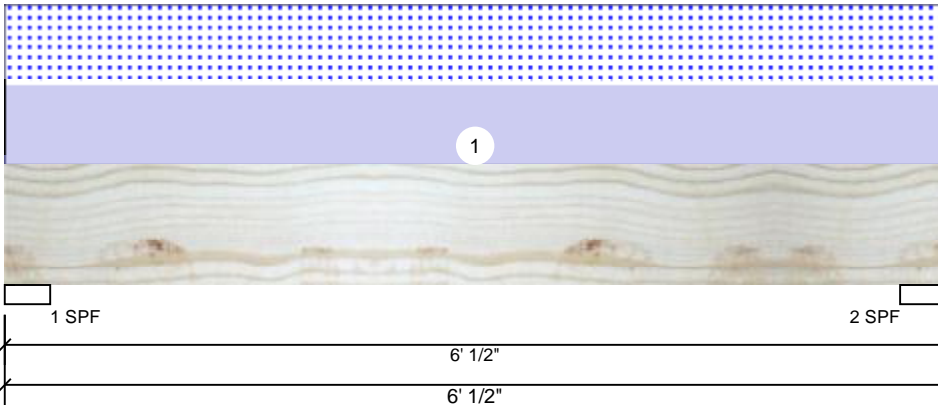


Client: Weaver Development
 Project:
 Address:

Date: 2/8/2021
 Input by: Curtis Quick
 Job Name: The Lauren III Beams
 Project #:

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

Level: Level



Member Information

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

Application:	Floor
Design Method:	ASD
Building Code:	IBC 2012
Load Sharing:	No
Deck:	Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	883	861	0	0
2	0	883	861	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	33%	883 / 861	1744	L	D+S
2 - SPF	3.500"	33%	883 / 861	1744	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2249 ft-lb	3' 1/4"	14423 ft-lb	0.156 (16%)	D+S	L
Unbraced	2249 ft-lb	3' 1/4"	10986 ft-lb	0.205 (20%)	D+S	L
Shear	1166 lb	5' 1/2"	7943 lb	0.147 (15%)	D+S	L
LL Defl inch	0.017 (L/3840)	3' 1/4"	0.140 (L/480)	0.130 (13%)	S	L
TL Defl inch	0.035 (L/1896)	3' 1/4"	0.279 (L/240)	0.130 (13%)	D+S	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top braced at bearings.
- Bottom braced at bearings.
- 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			Top	285 PLF	0 PLF	285 PLF	0 PLF	0 PLF	A4A
	Self Weight				7 PLF					

Notes
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Lumber
 1. Dry service conditions, unless noted otherwise
 2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation
 1. LVL 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

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