

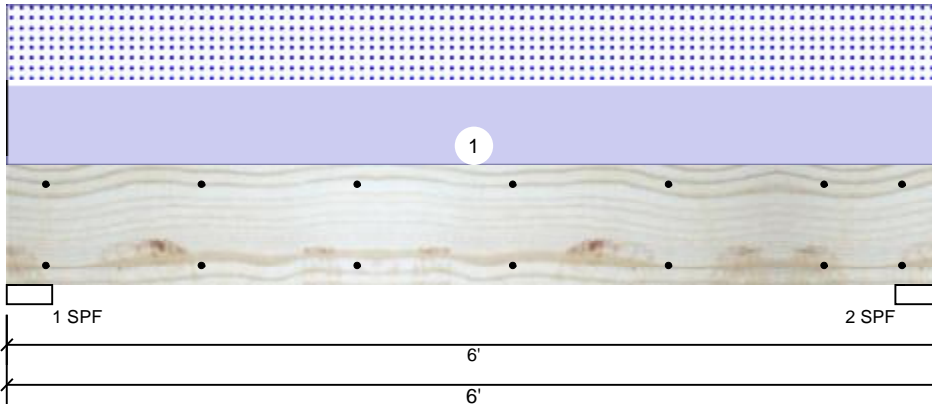


Client: Weaver Development
 Project:
 Address:

Date: 7/31/2020
 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	1930	1908	0	0
2	0	1930	1908	0	0

Bearings

Bearing	Length	Cap. React	D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	74%	1930 / 1908	3838	L	D+S
2 - SPF	3.500"	74%	1930 / 1908	3838	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4911 ft-lb	3'	14423 ft-lb	0.340 (34%)	D+S	L
Unbraced	4911 ft-lb	3'	11027 ft-lb	0.445 (45%)	D+S	L
Shear	2558 lb	5'	7943 lb	0.322 (32%)	D+S	L
LL Defl inch	0.038 (L/1754)	3'	0.139 (L/480)	0.270 (27%)	S	L
TL Defl inch	0.076 (L/872)	3'	0.185 (L/360)	0.410 (41%)	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	636 PLF	0 PLF	636 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

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

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
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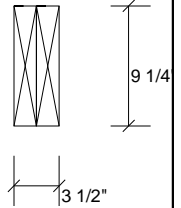
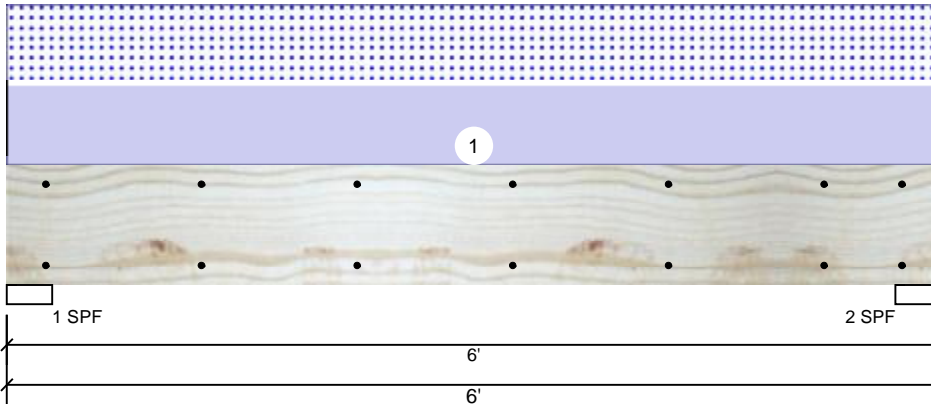


Client: Weaver Development
 Project:
 Address:

Date: 7/31/2020
 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:	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	1438	1416	0	0
2	0	1438	1416	0	0

Bearings

Bearing	Length	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	55%	1438 / 1416	2854	L	D+S
2 - SPF	3.500"	55%	1438 / 1416	2854	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3651 ft-lb	3'	14423 ft-lb	0.253 (25%)	D+S	L
Unbraced	3651 ft-lb	3'	11027 ft-lb	0.331 (33%)	D+S	L
Shear	1902 lb	1'	7943 lb	0.240 (24%)	D+S	L
LL Defl inch	0.028 (L/2363)	3'	0.139 (L/480)	0.200 (20%)	S	L
TL Defl inch	0.057 (L/1173)	3'	0.185 (L/360)	0.310 (31%)	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	472 PLF	0 PLF	472 PLF	0 PLF	0 PLF	A1
	Self Weight				7 PLF					

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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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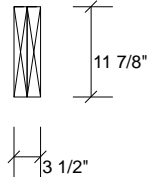
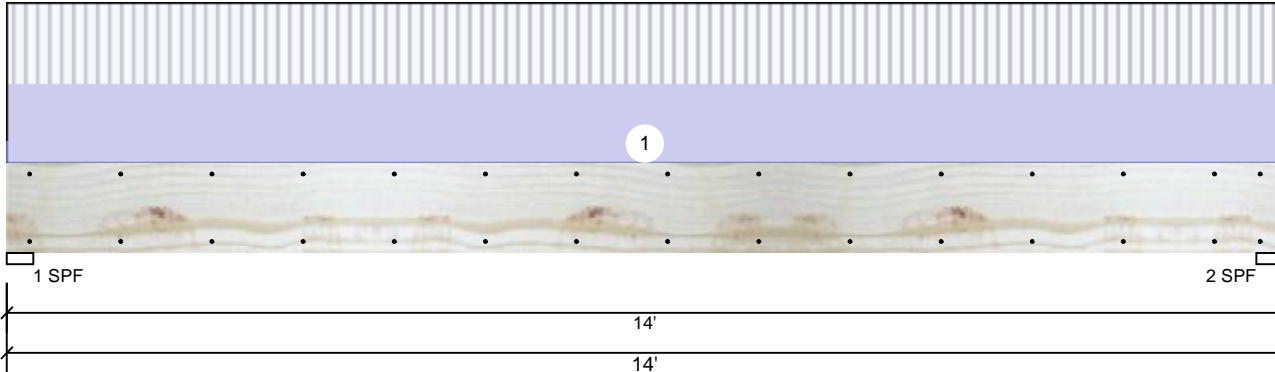


Client: Weaver Development
 Project:
 Address:

Date: 7/31/2020
 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
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	1610	1675	0	0	0
2	1610	1675	0	0	0

Bearings

Bearing	Length	Cap.	React D/L	Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	63%	1675 / 1610	3285	L	D+L	
2 - SPF	3.500"	63%	1675 / 1610	3285	L	D+L	

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10756 ft-lb	7'	19911 ft-lb	0.540 (54%)	D+L	L
Unbraced	10756 ft-lb	7'	10772 ft-lb	0.998 (100%)	D+L	L
Shear	2713 lb	1'2 5/8"	8867 lb	0.306 (31%)	D+L	L
LL Defl inch	0.193 (L/843)	7' 1/16"	0.339 (L/480)	0.570 (57%)	L	L
TL Defl inch	0.393 (L/413)	7' 1/16"	0.451 (L/360)	0.870 (87%)	D+L	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	230 PLF	230 PLF	0 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

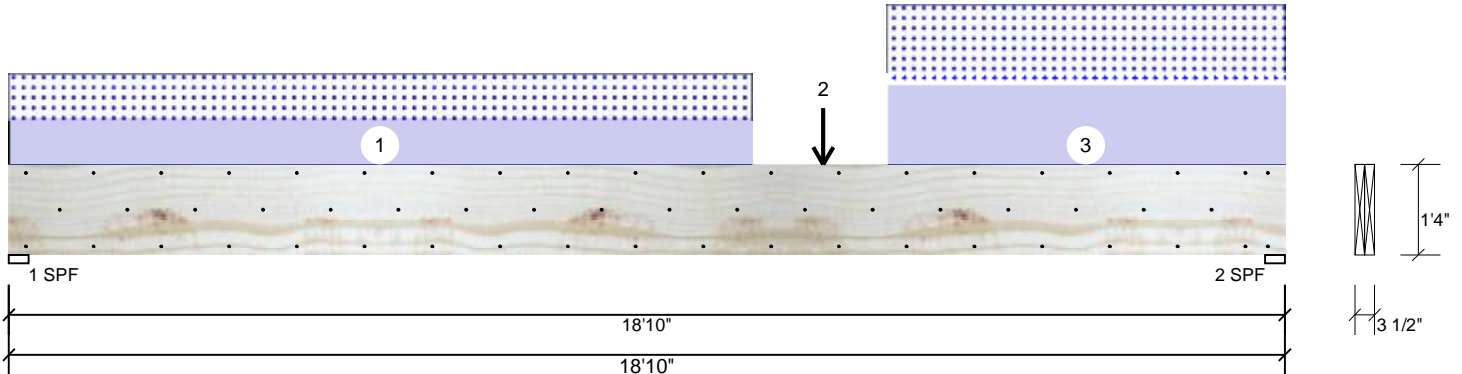
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GDH Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

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	1185	1067	0	0
2	0	1540	1422	0	0

Bearings

Bearing	Length	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	43%	1185 / 1067	2252	L	D+S
2 - SPF	3.500"	57%	1540 / 1422	2962	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11122 ft-lb	10'3 11/16"	39750 ft-lb	0.280 (28%)	D+S	L
Unbraced	11122 ft-lb	10'3 11/16"	11122 ft-lb	1.000 (100%)	D+S	L
Shear	2375 lb	17'3 3/8"	13739 lb	0.173 (17%)	D+S	L
LL Defl inch	0.147 (L/1502)	9'7 13/16"	0.460 (L/480)	0.320 (32%)	S	L
TL Defl inch	0.309 (L/716)	9'7 5/8"	0.613 (L/360)	0.500 (50%)	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 11'1 7/8" 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	Part. Uniform	0-0-0 to 10-11-8		Top	103 PLF	0 PLF	103 PLF	0 PLF	0 PLF	A4A
2	Point	12-0-4		Top	286 lb	0 lb	286 lb	0 lb	0 lb	A4
3	Part. Uniform	12-11-8 to 18-10-0		Top	183 PLF	0 PLF	183 PLF	0 PLF	0 PLF	A3
	Self Weight				12 PLF					

Notes

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Lumber

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Handling & Installation

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