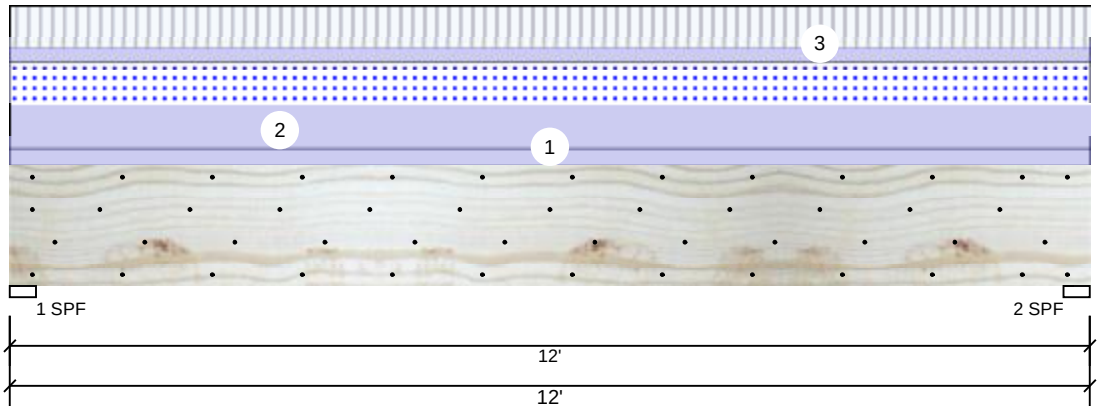
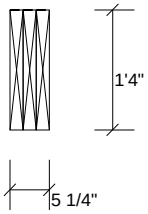
Client:	Weaver Homes	Date:	8/3/2020
Project:	Magnolia Elev. C	Input by:	Christine Shivy
Address:	Magnolia Elev. C	Job Name:	Magnolia Elev. C
		Project #:	

BM1 Kerto-S LVL 1.750" X 16.000" 3-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1932	3454	1950	0	0
2	1932	3454	1950	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	82%	3454 / 2912	6366	L	D+0.75(L+S)
2 - SPF	3.500"	82%	3454 / 2912	6366	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	17729 ft-lb	6'	62010 ft-lb	0.286 (29%)	D+0.75(L+S)	L
Unbraced	17729 ft-lb	6'	17732 ft-lb	1.000 (100%)	D+0.75(L+S)	L
Shear	4565 lb	1'6 5/8"	17920 lb	0.255 (25%)	D+L	L
LL Defl inch	0.066 (L/2116)	6'	0.289 (L/480)	0.230 (23%)	0.75(L+S)	L
TL Defl inch	0.143 (L/968)	6'	0.385 (L/360)	0.370 (37%)	D+0.75(L+S)	L

Design Notes

1. Fasten all plies using 4 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 10'4 1/8" 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	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Exterior Wall
2	Uniform			Top	325 PLF	0 PLF	325 PLF	0 PLF	0 PLF	A2
3	Uniform			Far Face	107 PLF	322 PLF	0 PLF	0 PLF	0 PLF	F1
	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.

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 1/8/2023

Manufacturer Info

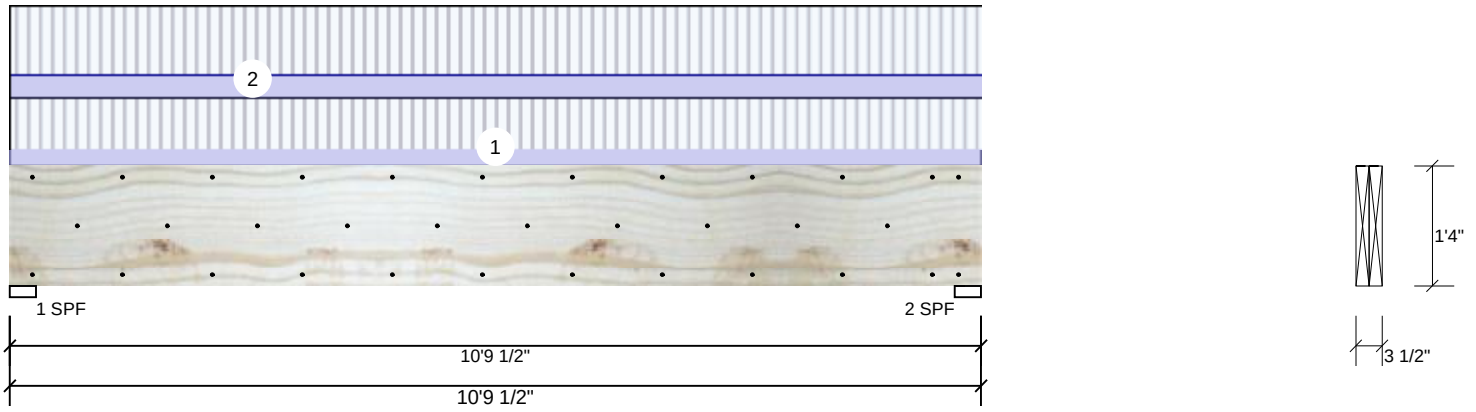
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	Weaver Homes	Date:	8/3/2020
Project:	Magnolia Elev. C	Input by:	Christine Shivy
Address:	Magnolia Elev. C	Job Name:	Magnolia Elev. C
		Project #:	

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

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	3389	1200	0	0	0
2	3389	1200	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	88%	1200 / 3389	4589	L	D+L
2 - SPF	3.500"	88%	1200 / 3389	4589	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11397 ft-lb	5'4 3/4"	34565 ft-lb	0.330 (33%)	D+L	L
Unbraced	11397 ft-lb	5'4 3/4"	11746 ft-lb	0.970 (97%)	D+L	L
Shear	4386 lb	1'6 5/8"	11947 lb	0.367 (37%)	D+L	L
LL Defl inch	0.085 (L/1457)	5'4 3/4"	0.259 (L/480)	0.330 (33%)	L	L
TL Defl inch	0.115 (L/1076)	5'4 3/4"	0.345 (L/360)	0.330 (33%)	D+L	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 braced at bearings.
5 Bottom braced at bearings.
6 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			Far Face	89 PLF	267 PLF	0 PLF	0 PLF	0 PLF	F4
2	Uniform			Near Face	121 PLF	361 PLF	0 PLF	0 PLF	0 PLF	F2
	Self Weight				12 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 1/8/2023

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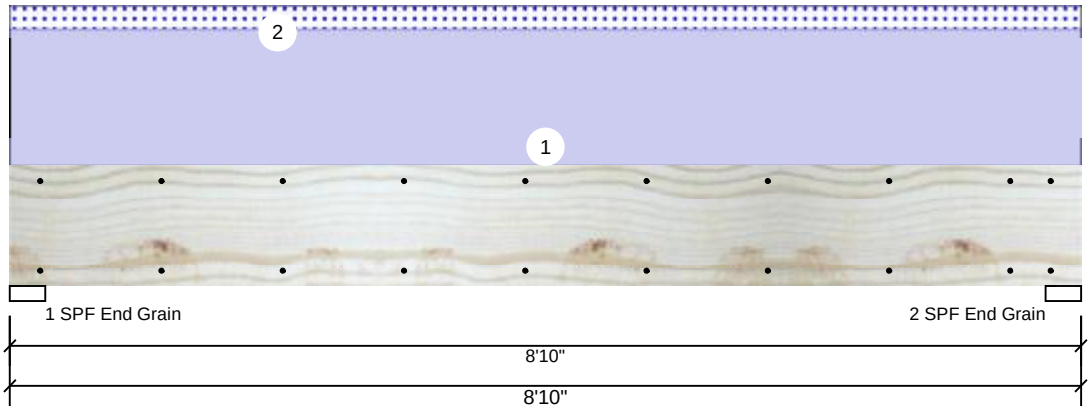
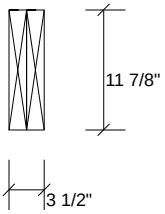
Client:	Weaver Homes	Date:	8/3/2020
Project:	Magnolia Elev. C	Input by:	Christine Shivy
Address:	Magnolia Elev. C	Job Name:	Magnolia Elev. C
		Project #:	

GDH 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/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1101	177	0	0
2	0	1101	177	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	12%	1101 / 177	1277	L	D+S
2 - SPF End Grain	3.500"	12%	1101 / 177	1277	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2185 ft-lb	4'5"	17919 ft-lb	0.122 (12%)	D	Uniform
Unbraced	2536 ft-lb	4'5"	10756 ft-lb	0.236 (24%)	D+S	L
Shear	797 lb	7'7 3/8"	7980 lb	0.100 (10%)	D	Uniform
LL Defl inch	0.006 (L/18257)	4'5 1/16"	0.209 (L/480)	0.030 (3%)	S	L
TL Defl inch	0.040 (L/2525)	4'5 1/16"	0.279 (L/360)	0.140 (14%)	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	200 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Exterior Loads
2	Uniform			Top	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	2'-0" Gable End
	Self Weight				9 PLF					

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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