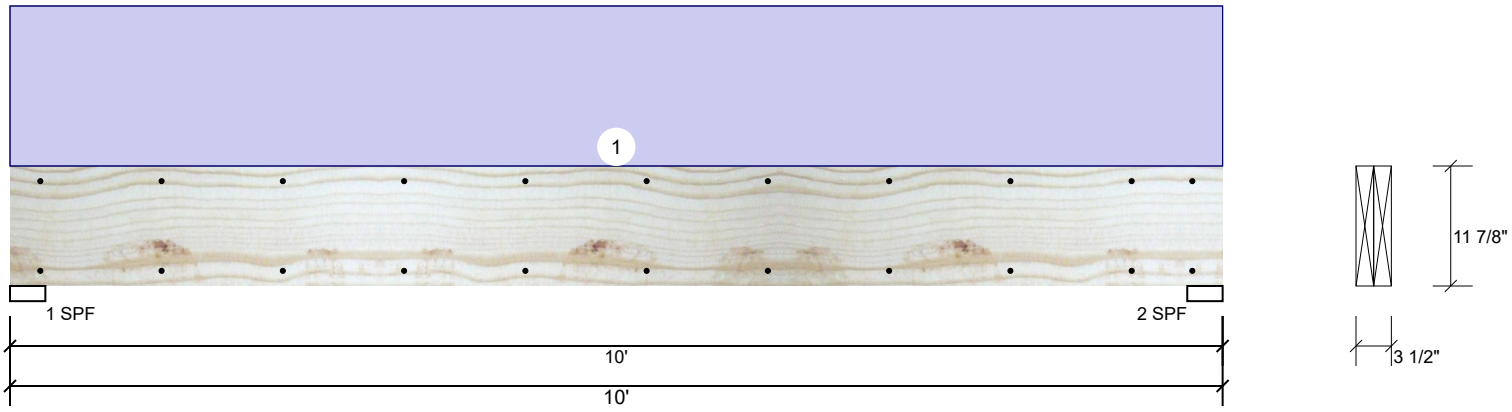
Client:	Daniel Edwards	Date:	2/1/2021
Project:		Input by:	Curtis Quick
Address:		Job Name:	Edwards Garage
		Project #:	

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	1296	0	0	0
2	0	1296	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	25%	1296 / 0	1296	Uniform	D
2 - SPF	3.500"	25%	1296 / 0	1296	Uniform	D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2950 ft-lb	5'	17919 ft-lb	0.165 (16%)	D	Uniform
Unbraced	2950 ft-lb	5'	9537 ft-lb	0.309 (31%)	D	Uniform
Shear	980 lb	1'2 5/8"	7980 lb	0.123 (12%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.058 (L/1985)	5'	0.318 (L/360)	0.180 (18%)	D	Uniform

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	250 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				9 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

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

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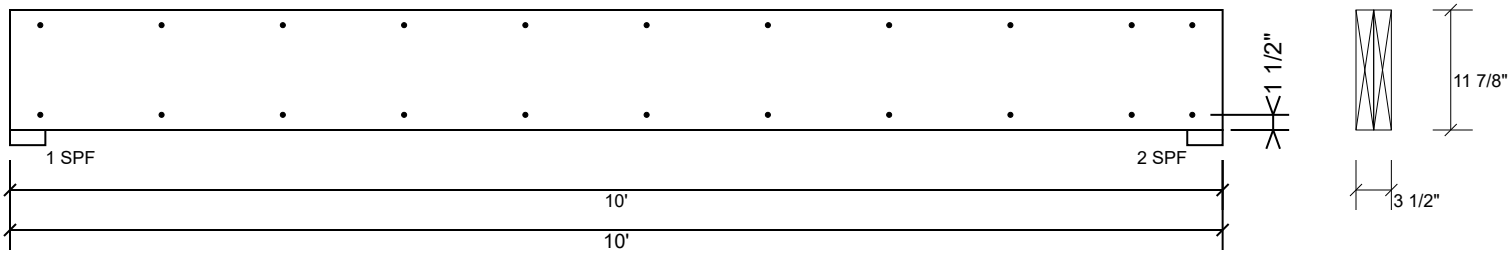

Multi-Ply Analysis

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.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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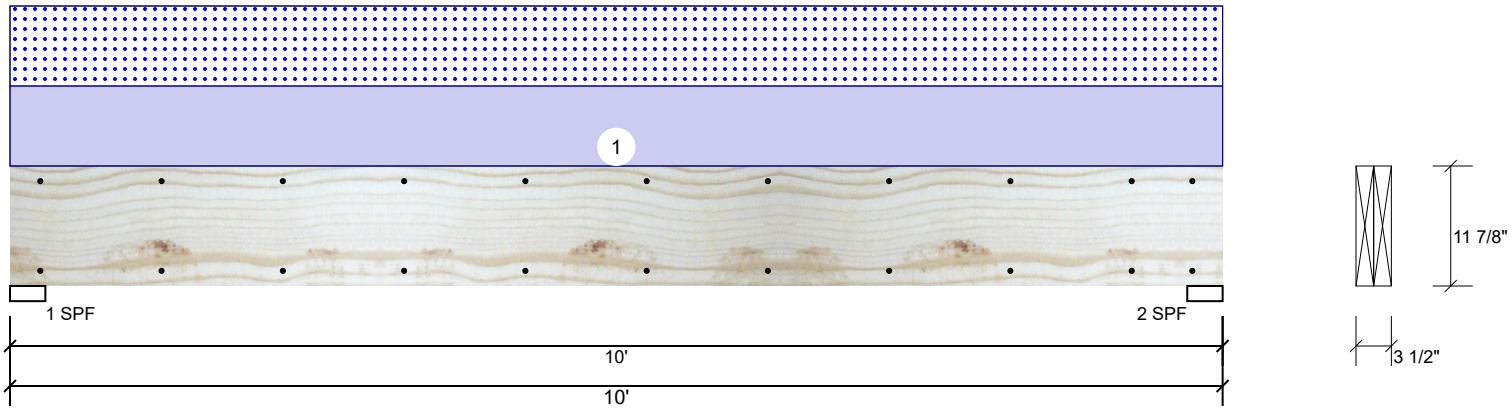
GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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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	2566	2520	0	0
2	0	2566	2520	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	98%	2566 / 2520	5086	L	D+S
2 - SPF	3.500"	98%	2566 / 2520	5086	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11577 ft-lb	5'	22897 ft-lb	0.506 (51%)	D+S	L
Unbraced	11577 ft-lb	5'	11608 ft-lb	0.997 (100%)	D+S	L
Shear	3846 lb	1'2 5/8"	10197 lb	0.377 (38%)	D+S	L
LL Defl inch	0.112 (L/1021)	5'	0.239 (L/480)	0.470 (47%)	S	L
TL Defl inch	0.226 (L/506)	5'	0.318 (L/360)	0.710 (71%)	D+S	L

Design Notes

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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 7'6 3/4" 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	504 PLF	0 PLF	504 PLF	0 PLF	0 PLF	A1
	Self Weight				9 PLF					

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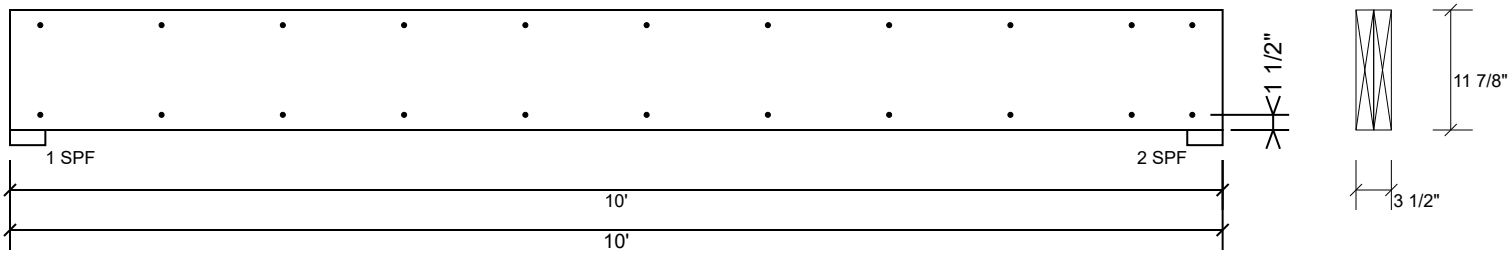

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