

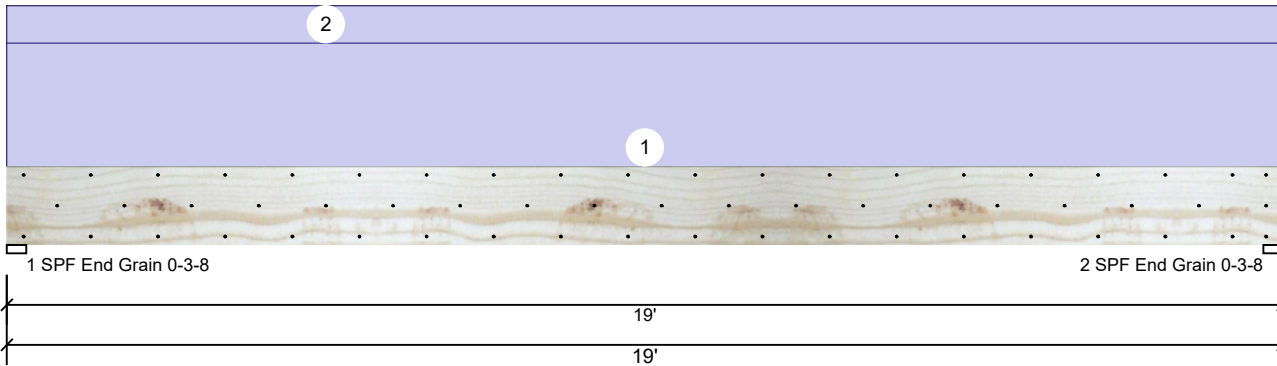


Client: WEAVER  
 Project:  
 Address:

Date: 2/19/2024  
 Input by: LENNY NORRIS  
 Job Name: SINCLAIR  
 Project #:

**GDH 18' FL Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 2018
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2573	0	0	0
2	Vertical	0	2573	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	25%	2573 / 0	2573	Uniform	D
2 - SPF End Grain	3.500"	Vert	25%	2573 / 0	2573	Uniform	D

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11641 ft-lb	9'6"	24299 ft-lb	0.479 (48%)	D	Uniform
Unbraced	11641 ft-lb	9'6"	11659 ft-lb	0.999 (100%)	D	Uniform
Shear	2191 lb	17'6 1/2"	9408 lb	0.233 (23%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.477 (L/466)	9'6 1/16"	0.618 (L/360)	0.772 (77%)	D	Uniform

**Design Notes**

- 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.
- Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- Refer to last page of calculations for fasteners required for specified loads.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at a maximum of 8'11 5/16" o.c.
- Bottom must be laterally braced at end 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	200 PLF	0 PLF	0 PLF	0 PLF	0 PLF	GABLE END
2	Uniform			Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	DEAD WALL
	Self Weight				11 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**

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

**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 ponding

This design is valid until 6/28/2026

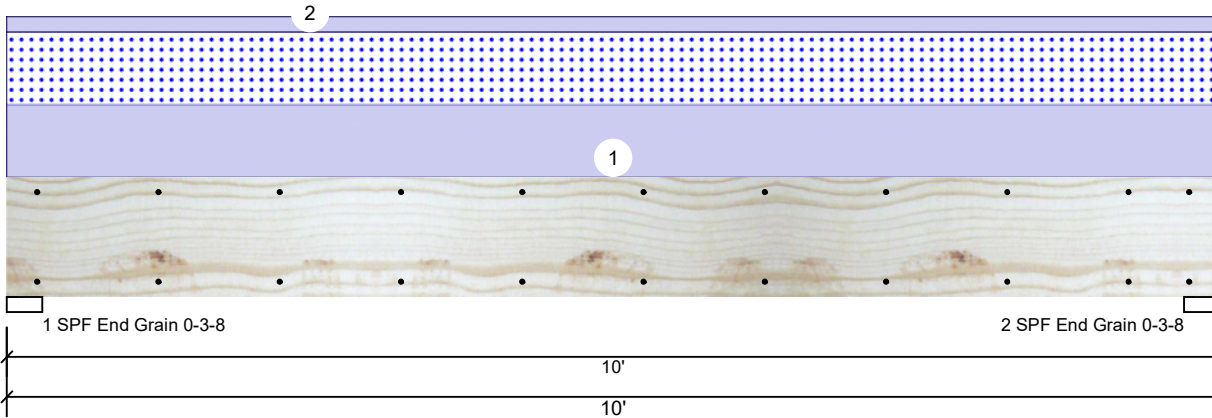
**Manufacturer Info**

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



**GDH 9' FL 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:	IRC 2018
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1746	1400	0	0
2	Vertical	0	1746	1400	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	31%	1746 / 1400	3146	L	D+S
2 - SPF End Grain	3.500"	Vert	31%	1746 / 1400	3146	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7161 ft-lb	5'	22897 ft-lb	0.313 (31%)	D+S	L
Unbraced	7161 ft-lb	5'	9721 ft-lb	0.737 (74%)	D+S	L
Shear	2349 lb	1'3 3/8"	10197 lb	0.230 (23%)	D+S	L
LL Defl inch	0.062 (L/1838)	5'	0.239 (L/480)	0.261 (26%)	S	L
TL Defl inch	0.140 (L/818)	5'	0.318 (L/360)	0.440 (44%)	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			Top	280 PLF	0 PLF	280 PLF	0 PLF	0 PLF	C1 TRUSS
2	Uniform			Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	DEAD WALL
	Self Weight				9 PLF					

**Notes**

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