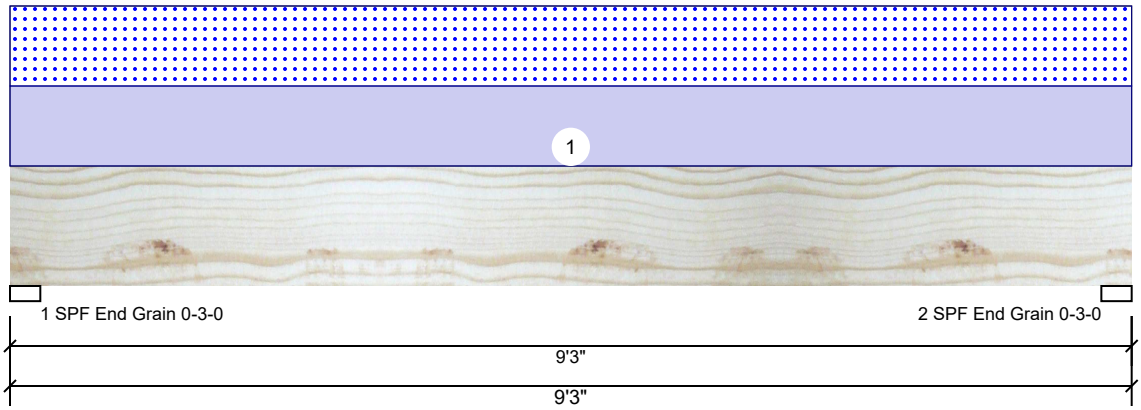
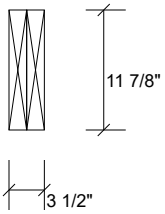
Client:	Signature Homes	Date:	2/29/2024
Project:		Input by:	Johnnie Baggett
Address:	68 Micro Tower Road, Lillington NC	Job Name:	Lot 4 Micro Tower
		Project #:	J0224-1255

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 - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1254	1212	0	0
2	Vertical	0	1254	1212	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	28%	1254 / 1212	2466	L	D+S
2 - SPF End Grain	3.000"	Vert	28%	1254 / 1212	2466	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5250 ft-lb	4'7 1/2"	22897 ft-lb	0.229 (23%)	D+S	L
Unbraced	5250 ft-lb	4'7 1/2"	10288 ft-lb	0.510 (51%)	D+S	L
Shear	1814 lb	1'2 7/8"	10197 lb	0.178 (18%)	D+S	L
LL Defl inch	0.045 (L/2388)	4'7 1/2"	0.222 (L/480)	0.201 (20%)	S	L
TL Defl inch	0.091 (L/1174)	4'7 1/2"	0.296 (L/360)	0.307 (31%)	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 Girders are designed to be supported on the bottom edge only.
3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end 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	262 PLF	0 PLF	262 PLF	0 PLF	0 PLF	D2
	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 6/28/2026

Manufacturer Info

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