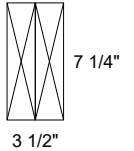
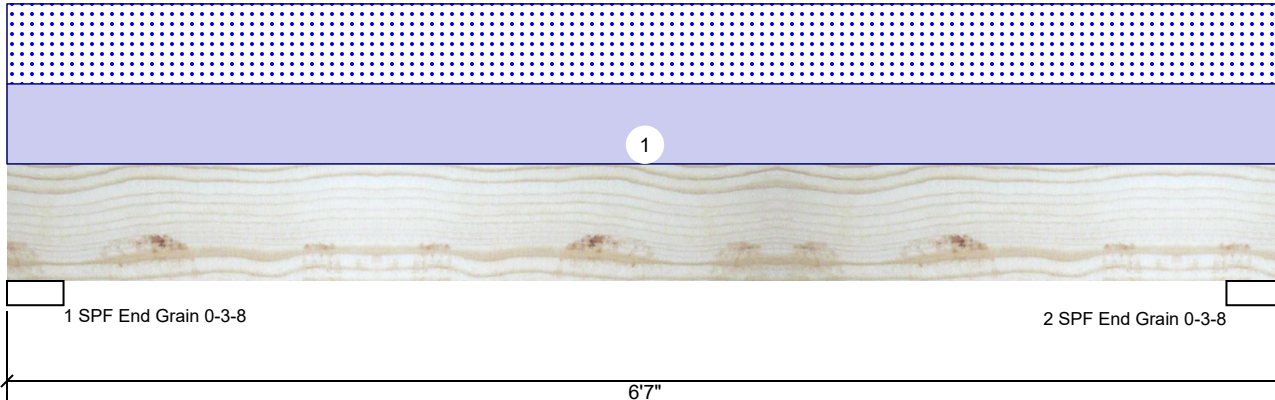


# B1 Murphy 2.0E-3100F LVL 1.750" X 7.250" 2-Ply - PASSED

Level: Level



## Member Information

Type: Girder  
Plies: 2  
Moisture Condition: Dry  
Deflection LL: 360  
Deflection TL: 240  
Importance: Normal - II  
Temperature: Temp <= 100°F  
General Load  
Floor Live: 40 PSF  
Dead: 15 PSF

Application: Floor  
Design Method: ASD  
Building Code: IRC 2021  
Load Sharing: No  
Deck: Not Checked

## Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	673	651	0	0
2	Vertical	0	673	651	0	0

## Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	14%	673 / 651	1324	L	D+S
2 - SPF End Grain	3.500"	Vert	14%	673 / 651	1324	L	D+S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1886 ft-lb	3'3 1/2"	9974 ft-lb	19%	D+S	L
Unbraced	1886 ft-lb	3'3 1/2"	7939 ft-lb	24%	D+S	L
Shear	963 lb	5'8 1/4"	5642 lb	17%	D+S	L
LL Defl inch	0.028 (L/2609)	3'3 1/2"	0.204 (L/360)	14%	S	L
TL Defl inch	0.057 (L/1283)	3'3 1/2"	0.306 (L/240)	19%	D+S	L

## Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings.
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at end bearings.
- 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	198 PLF	0 PLF	198 PLF	0 PLF	0 PLF	
	Self Weight				7 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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 9/3/2027

## Manufacturer Info

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