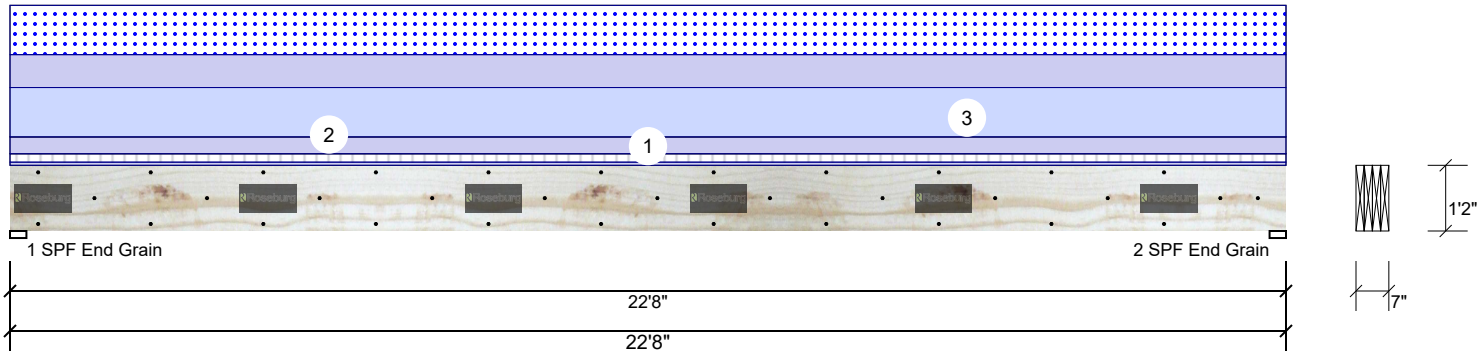
Client:		Date:	11/20/2020
Project:		Input by:	David Martin
Address:		Job Name:	Beam Calc for 20-6461
		Project #:	

BM1 2.0E Rigidlam LVL 1.750" X 14.000" 4-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	4	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1360	3478	2652	0	2652
2	1360	3478	2652	0	2652

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	35%	3478 / 3009	6487	L	D+0.75(L+S)
2 - SPF End Grain	3.500"	35%	3478 / 3009	6487	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	35287 ft-lb	11'4"	69302 ft-lb	0.509 (51%)	D+0.75(L+S)	L
Unbraced	35287 ft-lb	11'4"	35356 ft-lb	0.998 (100%)	D+0.75(L+S)	L
Shear	5845 lb	21'3 1/4"	21789 lb	0.268 (27%)	D+0.75(L+S)	L
LL Defl inch	0.454 (L/587)	11'4 1/16"	0.555 (L/480)	0.820 (82%)	0.75(L+C)	Uniform
TL Defl inch	0.979 (L/272)	11'4 1/16"	1.110 (L/240)	0.880 (88%)	D+0.75(L+C)	Uniform

Design Notes

1 Fasten all plies using 3 rows of SDW22634 at 24" o.c. Maximum end distance not to exceed 12".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Simpson fasteners applied from a single side of the member use tip values where published.
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 a maximum of 5'9" o.c.
7 Bottom braced at 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		3-0-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	FLOOR TRIB
2	Uniform			Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL ABOVE
3	Uniform			Top	156 PLF	0 PLF	234 PLF	0 PLF	234 PLF	ROOF ABOVE
	Self Weight				26 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

Roseburg Forest Products
4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L289, PR-L270, ICC-ES: ESR-1210

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Level: Level

Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22634 at 24" o.c.. Maximum end distance not to exceed 12"

Capacity	32.4 %
Load	123.8 PLF
Yield Limit per Foot	382.5 PLF
Yield Limit per Fastener	255.0 lb.
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	D+L
Duration Factor	1.00

Notes

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