



Roof/Dropped Beams\GDH(i21) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

July 21, 2022 12:09:27

Build 8322

Job name:

File name: 2200247A.mmdl

Address:

Description: Roof/Dropped Beams\GDH(i21)

City, State, Zip:

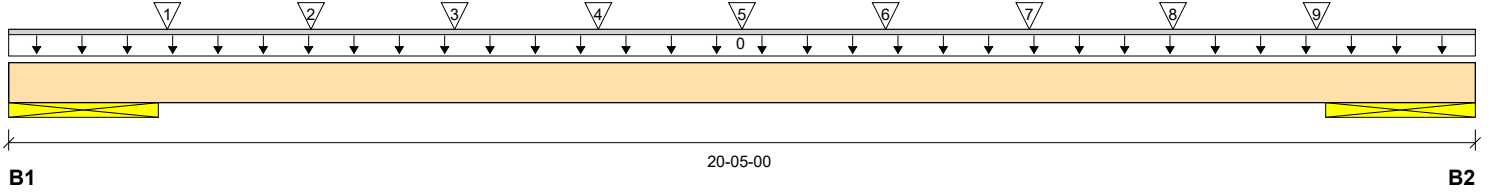
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 20-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 25"		459 / 0		111 / 586	415 / 0
B2, 25"		459 / 0		111 / 586	416 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	20-05-00	Top		9				00-00-00
1	B1E(c1)	Conc. Pt. (lbs)	L	02-02-08	02-02-08	Top		98			106	n/a
2	B1E(c1)	Conc. Pt. (lbs)	L	04-02-08	04-02-08	Top		73			91	n/a
3	B1E(c1)	Conc. Pt. (lbs)	L	06-02-08	06-02-08	Top		80			90	n/a
4	B1E(c1)	Conc. Pt. (lbs)	L	08-02-08	08-02-08	Top		78			87	n/a
5	B1E(c1)	Conc. Pt. (lbs)	L	10-02-08	10-02-08	Top		69			83	n/a
6	B1E(c1)	Conc. Pt. (lbs)	L	12-02-08	12-02-08	Top		78			87	n/a
7	B1E(c1)	Conc. Pt. (lbs)	L	14-02-08	14-02-08	Top		80			90	n/a
8	B1E(c1)	Conc. Pt. (lbs)	L	16-02-08	16-02-08	Top		73			91	n/a
9	B1E(c1)	Conc. Pt. (lbs)	L	18-02-08	18-02-08	Top		98			106	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3028 ft-lbs	56.6%	125%	1	10-02-08
Neg. Moment	-287 ft-lbs	4.2%	160%	106	10-02-08
End Shear	644 lbs	8.4%	125%	1	02-10-04
Total Load Deflection	L/626 (0.314")	38.4%	n/a	1	10-02-08
Live Load Deflection	L/1304 (0.151")	27.6%	n/a	110	10-02-08
Max Defl.	0.314"	31.4%	n/a	1	10-02-08
Span / Depth	21.2				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 25" x 3-1/2"	875 lbs	2.4%	1.3%	Spruce-Pine-Fir
B1	Uplift	76 lbs			
B2	Wall/Plate 25" x 3-1/2"	875 lbs	2.4%	1.3%	Spruce-Pine-Fir
B2	Uplift	76 lbs			

Cautions

Uplift of -76 lbs found at bearing B2.



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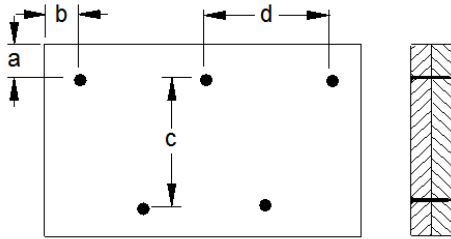
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Notes

- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- BC CALC® analysis is based on IBC 2015.
- Wind loads determined from building geometry were used in selected product's verification.
- Design based on Dry Service Condition.
- Calculations assume unbraced length of Top: 20-05-00, Bottom: 20-05-00.

Connection Diagram: Full Length of Member



- a minimum = 2" c = 5-1/4"
- b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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