PROFESSIONAL BUILDERS SUPPLY
3941 US Highway 421 North Wilmington NC 28401
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JC
910-386-4300

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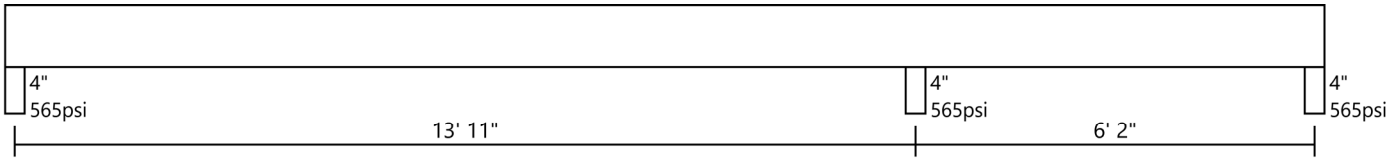
Project: **Milton Built Homes (Plan # 2662-15) - Roof Beams**
MemberID: **Copy of Beam - Roof - Valley 2**
Usage: **BEAM (Roof)**
Max Deflection: **LL = L/240 TL = L/180**
Slope: **12/12**



LOADS

Project Design Loads : Roof: Live=20.0 psf, Dead=15.0 psf

#	Shape	Applied To:	Live+Dead Ld(T) @Start	@End	Live Ld(L) @Start	@End	LDF	Span#	Location* Starts	Ends	Additional Info
1	Trapezoidal (plf)		350.0	0.0	200.0	0.0	115%	0	0'	20' 1"	roof load
2	Trapezoidal (plf)		280.0	210.0	160.0	120.0	115%	0	0'	20' 1"	roof load
	Uniform (plf)		10.96					0	0'	20' 1"	Self Weight

If "Applied To" is blank, all plies are assumed to be loaded equally.
*Dimensions measured from left end when span# is 0, otherwise, from left end of the specified span.

LOAD PATTERNS (* = span loaded)

	1	2
1	*	*

SUPPORTS (lbs)

	1	2	3	
Max Reaction	3746	7175	-348	
Max 115%	1776	3374	-330	
Min Reaction	1971	3801	-678	
Min 115%	1776	3374	-330	
DL Reaction	1971	3801	-348	
Uplift	0	0	678	
Min Bearing	1.89"	3.63"	1.50"	[Based on bearing stress below]
Brg Stress (psi)	565	565	565	

DESIGN

	Actual	Span	Location	Group	Allow	LDF	Ratio
V(lbs)	3057	1	13' 9"	31	9080	115%	0.34
M(ft-lbs)	10140	1	13' 11"	31	24140	115%	0.42
LtRn(lbs)	3746	0	0'	31	7910		0.47
RtRn(lbs)	-348	0	20' 1"	10	7910		0.04
IntRn(lbs)	7175	0	13' 11"	31	7910		0.91
LLDefl(")	0.27	1	6' 11 1/2"	31	0.98		L/863
TLDefl(")	0.58	1	6' 11 1/2"	31	1.31		L/408
LLDefl(")	-0.03	2	3' 1"	31	0.44		L/-3515
TLDefl(")	-0.06	2	3' 1"	31	0.58		L/-1669

USE: **onCENTER LVL 2.0E 1 3/4" x 11 7/8" 2 Plies**
onCENTER® LVL by BlueLinx **Grade, Depth, Plies selected by user**

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.
2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support.
3. Allowable negative moment is calculated based on bottom edge laterally supported @16" o.c.
4. Analysis valid for dry-use only (less than 16% moisture content).
5. Loads have been input by the user and have not been verified by BlueLinx Engineered Lumber Technical Services.
6. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).
7. When required by the building code, a registered design professional or building official should verify the input loads and product application.
8. Provide approved uplift resistance at supports with negative reactions.
9. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.
10. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)
11. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).