

**Assumptions:** Top and bottom must be laterally supported at 4-ft max. intervals. Full-depth blocking req'd at supports and cantilever end. Bending in strong axis only. No wane in Glulam laminations. Dynamic loading not considered. Compliant with 2006 IBC, 2003 IBC, and 1997 UBC.

**Disclaimer:** All users of this software shall comply with State Engineering Law, which specifies who may perform engineering, and defines the practice of engineering.

Job Name: floor joist example  
 Beam I.D.: typ fir joist  
 Other Info.: 11/4/2009

Main Span, L = 16.00 ft

Main Span Max. Allowed Live Defl: L / 360 = 0.53 in  
 Main Span Max. Allowed Total Defl: L / 240 = 0.80 in

Cantilever (Overhang) Exists? No

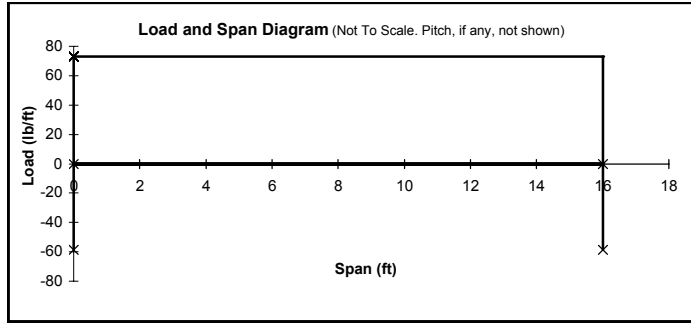
Pitch if Sloped: 0.0 : 12

Load Duration Live: 1.00

Loads From Continuous Member? No

Add Self Wt.? Yes No

Loads Other Than Uniform Loads? No



For Wood and GluLams Only: Press Treated? Not press treated Wet Cond? Dry Temp Cond. 100 deg F & less

Uniform Loads Over Full Length of Member				Uniform Live	Reduced Live	Uniform Dead
	Live, psf	Dead, psf	Tributary Width, ft	Load, plf	Load, plf	Load, plf
Floor Loads	40 psf	15 psf	1.33 ft	53.2 lb/ft	53.2 lb/ft	20.0 lb/ft
Total Adjusted Uniform Loads				$W_L = 53.2$ lb/ft	$W_D = 20.0$ lb/ft	
Combined Total Uniform Load				$W_U = 73.2$ lb/ft		

4x And Smaller (Lumber)		5x And Larger (Timbers)																			
Lumber Material	Douglas Fir-Larch	Timber Material	Douglas Fir - Larch																		
Lumber Grade	No. 2	Timber Grade	WCLIB - No. 2																		
<b>Acceptable Solutions</b> Repetitive Member Use? Yes <table border="1"> <tr><td>2 x 12</td><td>(4) 2 x 8</td></tr> <tr><td>(2) 2 x 8</td><td>3 x 10</td></tr> <tr><td>(3) 2 x 8</td><td>4 x 8</td></tr> </table>		2 x 12	(4) 2 x 8	(2) 2 x 8	3 x 10	(3) 2 x 8	4 x 8	<b>Acceptable Solutions</b> <table border="1"> <tr><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> </table> Sif Wt=0		-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-																			
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-	-	-																			
-	-	-																			
List properties for what size lumber? 4 x 14	Fb=1035 Fv=180 Fcp=625 E=1600000 Sif Wt=0	List properties for what size? 6 x 10	Fb=875 Fv=170 Fcp=625 E=1300000																		

<b>Final Member</b> Sawn Wood <b>Material Library</b> Choose From All Sizes Of Beam Type <b>Final Size:</b> (2) 2 x 8 Min. Bearing Lengths : = 1.50 in. (Left) : = 1.50 in. (Right) Vert Diff (approx): 0.00 ft True Len (approx): Actual Member Size: 3.00" x 7.25" 16.00 ft	<b>Final Member: (2) 2 x 8, Douglas Fir-Larch, No. 2</b> <b>Use Conditions Selected:</b> Rept'v Mem.	<b>Final Member Results</b> Bending Overdesign: 16.2% Shear Overdesign: 382.4% Deflection Overdesign: 3.6% Bearing / Buckling Overdsn: N/A <b>Final member okay by: 3.6% Deflection</b> Controlling criteria is:
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Reactions			Final Member Additional Information		
	R <sub>1</sub> - Left	R <sub>2</sub> - Right		Location	Live Case
<b>Maximums</b>			Max. Positive Moment:	2,341 ft-lb	8.00 ft Main Span
Live Load:	426 lb	426 lb	Max. Negative Moment:	0 ft-lb	0.00 ft Main Span
Dead Load:	160 lb	160 lb	Max Design Shear:	541 lb	0.00 ft Main Span
Total Load:	585 lb	585 lb	Main Span Max. Downward Deflection (Live / Total):	0.515" / 0.708"	8.00' / 8.00' Main / Main
Live Case Causing Max	N/A	N/A	Main Span Max. Upward Deflection (Live / Total):	0.000" / 0.000"	0.00' / 0.00' Main / Main
<b>Minimums</b>			Cant. Down. Defl. (Live / Tot):	N/A	N/A N/A
Live Load:	0 lb	0 lb	Cant. Up. Defl. (Live / Tot):	N/A	N/A N/A
0.6 or 1.0 Dead :	96 lb	96 lb	Req'd EI, Not Incl. Self Wt.:	1.471E+08	Actual EI: 1.52E+08
Net Reaction	96 lb	96 lb	Approx. Self Weight:	N/A	Approx. Tot. Wt.: N/A
Live Case Causing Min	N/A	N/A	Min. Calc'd Bearing Lengths:	= 0.31 in (Left) = 0.31 in (Right)	