Project: TIMOTHY AND AMELIA INMAN

Location: GARAGE DOOR BEAMS
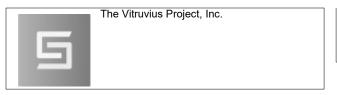Roof Beam
Roof Beam [2021 International Building Code(2018 NDS)
(2) 1.75 IN x 14.0 IN x 9.67 FT
1.9E-2600F - APA EWS LVL Stress Classes
Section Adequate By: 1513.5%
Controlling Factor: Shear

The Vitruvius Project, Inc.

StruCalc Version 11.1.8.0   7/22/2025 1:57:20 PM

CAUTIONS
* Laminations are to be fully connected to provide uniform transfer of loads to all members

DEFLECTIONS   Center
Live Load	0.01	IN L/MAX
Dead Load	0.01	in
Total Load	0.02	IN L/6536

Live Load Deflection Criteria: L/360   Total Load Deflection Criteria: L/240

REACTIONS   A   B
Live Load	371	lb	371	lb
Dead Load	292	lb	292	lb
Total Load	663	lb	663	lb
Bearing Length	0.27	in	0.27	in

BEAM DATA
Span Length	9.7	ft
Unbraced Length-Top	2	ft
Unbraced Length-Bottom	0	ft
Roof Pitch	8	:12
Roof Duration Factor	1.15	
Notch Depth	0.00	

MATERIAL PROPERTIES
1.9E-2600F - APA EWS LVL Stress Classes

	Base Values		Adjusted	
Bending Stress:	F_b =	2600 psi	F_b' =	2909 psi
	$Cd=1.15$ $Cl=0.99$ $CF=0.98$			
Shear Stress:	F_v =	285 psi	F_v' =	328 psi
	$Cd=1.15$			
Modulus of Elasticity:	E =	1900 ksi	E' =	1900 ksi
Comp. $\perp$ to Grain:	$Fc-\perp$ =	700 psi	$Fc-\perp'$ =	700 psi

Controlling Moment: 1604 ft-lb
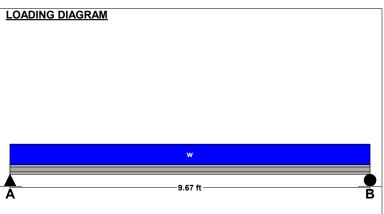 4.835 ft from left support
  Created by combining all dead and live loads.
Controlling Shear: 664 lb
  At support.
  Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	6.62 in3	114.33 in3
Area (Shear):	3.04 in2	49 in2
Moment of Inertia (deflection):	29.39 in4	800.33 in4
Moment:	1604 ft-lb	27715 ft-lb
Shear:	664 lb	10707 lb

LOADING DIAGRAM

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A   9.67 ft   B

ROOF LOADING
Side One:
Roof Live Load:	LL =	20	psf
Roof Dead Load:	DL =	10	psf
Tributary Width:	TW =	2.5	ft

Side Two:
Roof Live Load:	LL =	20	psf
Roof Dead Load:	DL =	10	psf
Tributary Width:	TW =	1.3	ft

Wall Load: WALL =   0   plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS
Adjusted Beam Length:	Ladj =	9.67	ft
Beam Self Weight:	BSW =	14	plf
Beam Uniform Live Load:	wL =	77	plf
Beam Uniform Dead Load:	wD_adj =	60	plf
Total Uniform Load:	wT =	137	plf