



WoodWorks®
SOFTWARE FOR WOOD DESIGN

COMPANY
Mark Disosway, PE 53915
Sep. 29, 2006 15:26:19

PROJECT

Garage16'3x12.wvb

Design Check Calculation Sheet
Sizer 2004

LOADS: (lbs, psf, or plf)

Load	Type	Distribution	Magnitude Start End	Location [ft] Start End	Pattern Load?
Load1	Dead	Full Area	15.00 (14.00)*		No
Load2	Constr.	Full Area	16.00 (14.00)*		No
Load3	Dead	Full Area	10.00 (7.50)*		No
Load4	Live	Full Area	40.00 (7.50)*		No
Load5	Dead	Full UDL	100.0		No

*Tributary Width (ft)

MAXIMUM REACTIONS (lbs) and BEARING LENGTHS (in) :



Dead	3272		3272
Live	3144		3144
Total	6416		6416
Bearing:			
LC number	3		3
Length	1.2		1.2

2 PLYS FROM
COLUMN A

LVL n-ply, 2.0E, 2850Fb, 1-3/4x11-7/8", 4-Plys

Self Weight of 23.96 plf automatically included in loads;

Lateral support: top= full, bottom= at supports; Load combinations: ICC-IBC;

SECTION vs. DESIGN CODE NDS-2001: (lbs, lbs-ft, or in)

Criterion	Analysis Value	Design Value	Analysis/Design
Shear	$f_v = 90$	$F_v' = 285$	$f_v/F_v' = 0.31$
Bending(+)	$f_b = 1655$	$F_b' = 2967$	$f_b/F_b' = 0.56$
Live Defl'n	$0.30 = L/647$	$0.53 = L/360$	0.56
Total Defl'n	$0.76 = L/252$	$0.80 = L/240$	0.95

ADDITIONAL DATA:

FACTORS:	F	CD	CM	Ct	CL	CV	Cfu	Cr	Cfrt	Ci	Cn	LC#
Fb'+	2850	1.00	-	1.00	1.000	1.00	-	1.04	1.00	-	-	2
Fv'	285	1.00	-	1.00	-	-	-	-	1.00	-	1.00	2
Fcp'	750	-	-	1.00	-	-	-	-	1.00	-	-	-
E'	2.0 million	-	-	1.00	-	-	-	-	1.00	-	-	3

Bending(+): LC# 2 = D+L, M = 22687 lbs-ft

Shear : LC# 2 = D+L, V = 5672, V design = 4970 lbs

Deflection: LC# 3 = D+.75(L+C) EI= 488.41e06 lb-in²/ply

Total Deflection = 1.50(Dead Load Deflection) + Live Load Deflection.

(D=dead L=live S=snow W=wind I=impact C=construction CLd=concentrated)

(All LC's are listed in the Analysis output)

DESIGN NOTES:

- Please verify that the default deflection limits are appropriate for your application.
- SCL-BEAMS (Structural Composite Lumber): the attached SCL selection is for preliminary design only. For final member design contact your local SCL manufacturer.
- Size factors vary from one manufacturer to another for SCL materials. They can be changed in the database editor.
- BUILT-UP SCL-BEAMS: contact manufacturer for connection details when loads are not applied equally to all plys.



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Mark Disosway, PE 53915
Sep. 29, 2006 15:27:59

PROJECT

Garage16'2x16.wwwb

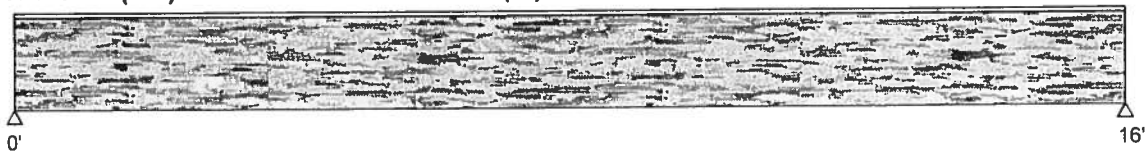
Design Check Calculation Sheet
Sizer 2004

LOADS: (lbs, psf, or plf)

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Load1	Dead	Full Area	15.00 (14.00) *		No
Load2	Constr.	Full Area	16.00 (14.00) *		No
Load3	Dead	Full Area	10.00 (7.50) *		No
Load4	Live	Full Area	40.00 (7.50) *		No
Load5	Dead	Full UDL	100.0		No

*Tributary Width (ft)

MAXIMUM REACTIONS (lbs) and BEARING LENGTHS (in) :



Dead	3209		3209
Live	3144		3144
Total	6353		6353
Bearing:			
LC number	3		3
Length	2.4		2.4

1 PLY FROM
COLUMN B

LVL n-ply, 2.0E, 2850Fb, 1-3/4x16", 2-Plys

Self Weight of 16.14 plf automatically included in loads;

Lateral support: top= full, bottom= at supports; Load combinations: ICC-IBC;

SECTION vs. DESIGN CODE NDS-2001: (lbs, lbs-ft, or in)

Criterion	Analysis Value	Design Value	Analysis/Design
Shear	$f_v = 125$	$F_v' = 285$	$f_v/F_v' = 0.44$
Bending(+)	$f_b = 1803$	$F_b' = 2742$	$f_b/F_b' = 0.66$
Live Defl'n	$0.24 = L/791$	$0.53 = L/360$	0.45
Total Defl'n	$0.61 = L/312$	$0.80 = L/240$	0.77

ADDITIONAL DATA:

FACTORS:	F	CD	CM	Ct	CL	CV	Cfu	Cr	Cfrt	Ci	Cn	LC#
Fb'+	2850	1.00	-	1.00	1.000	0.96	-	1.00	1.00	-	-	2
Fv'	285	1.00	-	1.00	-	-	-	-	1.00	-	1.00	2
Fcp'	750	-	-	1.00	-	-	-	-	1.00	-	-	-
E'	2.0 million	-	-	1.00	-	-	-	-	1.00	-	-	3

Bending(+): LC# 2 = D+L, M = 22436 lbs-ft

Shear : LC# 2 = D+L, V = 5609, V design = 4674 lbs

Deflection: LC# 3 = D+.75(L+C) EI=1194.65e06 lb-in²/ply

Total Deflection = 1.50 (Dead Load Deflection) + Live Load Deflection.

(D=dead L=live S=snow W=wind I=impact C=construction CLd=concentrated)

(All LC's are listed in the Analysis output)

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