PASS

DATE:	12/7/2021	COMPANY:	Schumacher Homes
VITRUVIUS BUILD:	StruCalc	DESIGNED BY:	Dan Fishtorn
CUSTOMER:	Dewitt DU700 021 0864	REVIEWED BY:	Dan Fishtorn
PROJ. ADDRESS:	-- --	PROJECT NAME:	Dewitt DU700 021 0864
LEVEL:	Main Floor	LOADING:	LRFD
MEMBER NAME:	16 Foot Garage Door Header	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 11.875	DRY		

16 Foot Garage Door Header DIAGRAM

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope: 0/12 Actual Length (ft): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
41.56	488.41	10.61	11.83	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	6261	3888	616	6912	1127	2000	1496
$K_F*\phi$	2.16	2.16	2.16	2.16	1.5	1	1.5
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	16	0	16	0	1.00	0.29	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	TIME EFFECT λ
Shear Stress Y (psi)	PASS (88.6%)	56.1	492.5	0	1.2D+1.6L+0.5Lr	0.8
Bending Stress Y (psi)	PASS (81.9%)	906.6	5014.7	8	1.2D+1.6L+0.5Lr	0.8
Deflection (in)	PASS (61.0%)	0.208 (=L/923)	0.533 (=L/360)	8	D+L	
Bearing Stress (psi)	PASS (92.8%)	80.7	1127.3	0	1.2D+1.6L+0.5Lr	0.8

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	527	576	0	0	0	0	0	0	0	0	0
B	527	576	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	72	72	0	16	Live	Y
Uniform (lbf/ft)	54	54	0	16	Dead	Y
Self Weight (lbf/ft)	11.83	11.83	0	16	Dead	Y

PASS

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VITRUVIUS BUILD:	StruCalc	DESIGNED BY:	Dan Fishtorn
CUSTOMER:	Dewitt DU700 021 0864	REVIEWED BY:	Dan Fishtorn
PROJ. ADDRESS:	--	PROJECT NAME:	Dewitt DU700 021 0864
	--		
LEVEL:	Main Floor	LOADING:	LRFD
MEMBER NAME:	9 Foot Garage Door Header	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 11.875	DRY		

9 Foot Garage Door Header DIAGRAM

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 0/12 Actual Length (ft): 9

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
41.56	488.41	10.61	11.83	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	6261	3888	616	6912	1127	2000	1496
K_F*ϕ	2.16	2.16	2.16	2.16	1.5	1	1.5
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9	0	9	0	1.00	0.50	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	TIME EFFECT λ
Shear Stress Y (psi)	PASS (76.8%)	114.1	492.5	9	1.2D+1.6L+0.5Lr	0.8
Bending Stress Y (psi)	PASS (79.3%)	1037.8	5014.7	4.5	1.2D+1.6L+0.5Lr	0.8
Deflection (in)	PASS (75.1%)	0.075 (=L/1448)	0.300 (=L/360)	4.5	D+L	
Bearing Stress (psi)	PASS (85.4%)	164.2	1127.3	0	1.2D+1.6L+0.5Lr	0.8

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	985	1238	0	0	0	0	0	0	0	0	0
B	985	1238	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	275	275	0	9	Live	Y
Uniform (lbf/ft)	207	207	0	9	Dead	Y
Self Weight (lbf/ft)	11.83	11.83	0	9	Dead	Y

PASS

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VITRUVIUS BUILD:	StruCalc	DESIGNED BY:	Dan Fishtorn
CUSTOMER:	Dewitt DU700 021 0864	REVIEWED BY:	Dan Fishtorn
PROJ. ADDRESS:	--	PROJECT NAME:	Dewitt DU700 021 0864
	--		
LEVEL:	Main Floor	LOADING:	LRFD
MEMBER NAME:	LVL at porch	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 9.25	DRY		

LVL at porch DIAGRAM

BEAM PROPERTIES

Start (ft): 0 End (ft): 15 Member Slope: 0/12 Actual Length (ft): 15

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
32.38	230.84	8.26	9.22	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	6261	3888	616	6912	1127	2000	1496
K_F*ϕ	2.16	2.16	2.16	2.16	1.5	1	1.5
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.03 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	15	0	15	0	1.00	0.39	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	TIME EFFECT λ
Shear Stress Y (psi)	PASS (91.8%)	40.5	492.5	15	1.2D+1.6L+0.5Lr	0.8
Bending Stress Y (psi)	PASS (84.7%)	788.9	5155.8	7.5	1.2D+1.6L+0.5Lr	0.8
Deflection (in)	PASS (58.9%)	0.205 (=L/877)	0.500 (=L/360)	7.5	D+L	
Bearing Stress (psi)	PASS (96.0%)	45.5	1127.3	0	1.2D+1.6L+0.5Lr	0.8

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	309	315	0	0	0	0	0	0	0	0	0
B	309	315	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	42	42	0	15	Live	Y
Uniform (lbf/ft)	32	32	0	15	Dead	Y
Self Weight (lbf/ft)	9.22	9.22	0	15	Dead	Y