

SLIDING SNOW CALCULATIONS

Out-to-out Rafter/Truss Span of Lower Roof	6 ft	Load Combo: D + S
Eave to Ridge of Upper Roof (W)	15 ft	
Lower Roof Overhang	1.5 ft	
Lower Roof Truss or Rafter O/C Spacing	2 ft	
Lower Roof Pitch	4 :12	18.43 Deg.

Lower Roof Dead Loads

BCDL	10 psf	SF (Slope Factor) = 1.05
TCDL	7 psf	Adj. TCDL = 7.38 psf

Snow Loads

Flat Roof Snow Load of Upper Roof (p_f)	19.30 psf	
Sloped Roof Snow Load of Lower Roof (p_s)	21.00 psf	
Sliding Surcharge (S)	7.72 psf	57.90 plf
Sliding Surcharge Width	7.50 ft	

Moment Summation at Truss/Rafter Left Bearing:

	Force	Moment-Arm	Moment
BCDL	-120.0 lbs	3.00 ft	-360.0 ft-lbs
TCDL	-88.5 lbs	3.00 ft	-265.6 ft-lbs
TCDL (overhang)	-22.1 lbs	6.75 ft	-149.4 ft-lbs
Balanced Snow Load	-252.0 lbs	3.00 ft	-756.0 ft-lbs
Balanced Snow Load (overhang)	-63.0 lbs	6.75 ft	-425.3 ft-lbs
Sliding Surcharge Snow Load	-92.6 lbs	3.00 ft	-277.9 ft-lbs
Sliding Surcharge (overhang)	-23.2 lbs	6.75 ft	-156.3 ft-lbs
Total (D)	-230.7 lbs	12.75 ft	-775.0 ft-lbs
Total (S)	-430.8 lbs	19.50 ft	-1615.5 ft-lbs
Totals (D + S)	-661.5 lbs	32.25 ft	-2390.5 ft-lbs

Reaction Left (D)	129.2 lbs	64.6 plf
Reaction Left (S)	269.3 lbs	134.6 plf
Reaction Left (D + S)	398.4 lbs	199.2 plf
Reaction Right (D)	101.5 lbs	50.8 plf
Reaction Right (S)	161.6 lbs	80.8 plf
Reaction Right (D + S)	263.1 lbs	131.5 plf

Location: Front and Rear Porch

