

Wind Load Report

1. Site & Building Data

Roof Type: Gable Wind Speed (ult): 115 mph C **Exposure Category: Enclosure Class:** Enclosed Building Width (W): 40 ft. Building Length (L): 35 ft. Eave Height (he): 10 ft. Foundation Height (h_f): 0 ft. Roof Pitch: 4 /12 Eave Overhang (OHe): 1 ft. Gable Overhang (OH_g): 1 ft.

2. Parameters & Coefficients

Topographic Factor (K_{zt}): 1.0 .85 Directionality Factor (K_d): 18.43 deg. Roof Angle (θ): Mean Roof Height (h): 13.33 ft. Ridge Height (h_r): 16.67 ft. Pos. Internal Pressure (+GCpi): +0.18Neg. Internal Pressure (-GCpi): -0.18Velocity Pressure Exp. Coeff. (Kh): 0.85 @ z=h

Velocity Pressure (qh): 24.43 psf End Zone Width (a): 3.00 ft. Zone 2/2E Dist.: 20.00 ft.

3. Design Assumptions and Notes

Code Standard: **ASCE 7-10** Geometry: Regular-Shaped Bldg. Height Class: Low-Rise Building

Notes:

4. Design Loads

Top Chord Dead Load: 7 psf Bottom Chord Dead Load: 10 psf Truss/Rafter Spacing: 24 in. o/c

4. Design Wind Pressures: MWFRS Envelope Procedure

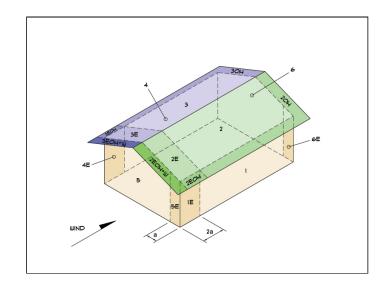
ph. (800) 000-0000 www.website.com

Load Case A: Transverse Direction					
Surface	GCpf	Design Pressure (psf)			
Surface	ССРІ	(w/+GCpi)	(w/ -GCpi)		
1	0.52	8.22	17.01		
2	-0.69	-21.25	-12.46		
3	-0.47	-15.84	-7.05		
4	-0.42	-14.54	-5.75		
1E	0.78	14.66	23.46		
2E	-1.07	-30.54	-21.74		
3E	-0.67	-20.85	-12.05		
4E	-0.62	-19.50	-10.70		
2OH	-0.69	-16	.86		
2EOH	-1.07	-26	.14		
3ОН	-0.47	-11	.45		
3ЕОН	-0.67	-16.45			
2OH+W	-0.69/-0.7	-33.96			
2EOH+W	-1.07/-0.7	-43	.24		

- a) (+) and (-) signs signify wind pressures acting toward & away from surfaces. b) External Pressure Coefficients linearly interpolated from Fig. 28.4-1 ASCE 7-10. c) Design building for all wind directions, 4 load patterns per load case.
- d) Total horizontal shear shall not be less than that by neglecting roof wind forces.
- e) Min. wind load for enclosed or partially enclosed bldg.: 16 psf wall, 8 psf roof. f) Design pressures are for strength design, multiply by 0.6 for ASD.

Subject	Customer	Location	1884 NW 55
Wind Loads	LANK ENGINEERING	1000 F ATLANTIC DIVID DOMBANO DE ACIL EL	TERRACE,
	ANDRE BIGATAO	1000 E ATLANTIC BLVD, POMPANO BEACH, FL This report may not be	Rev.MIAMI,
		copied, reproduced or distributed without the structure operant of written concent of written concent of	FL,33142
Date Engineer Name	ENGINEERING CO	OMPANY INC.	Page _
7/12/2024	Street Address City, CA 999 ph. (800) 000-0000 www.v	99 vebsite.com	1

Load Case B: Longitudinal Direction						
Surface	CC-f	Design Pressure (psf)				
Surface	GCpf	(w/+GCpi)	(w/ -GCpi)			
1	-0.45	-15.39	-6.60			
2	-0.69	-21.25	-12.46			
3	-0.37	-13.44	-4.64			
4	-0.45	-15.39	-6.60			
5	0.40	5.37	14.17			
6	-0.29	-11.48	-2.69			
1E	-0.48	-16.12	-7.33			
2E	-1.07	-30.54	-21.74			
3E	-0.53	-17.34	-8.55			
4E	-0.48	-16.12	-7.33			
5E	0.61	10.50	19.30			
6E	-0.43	-14.90	-6.11			
2OH	-0.69	-16	.86			
2EOH	-1.07	-26	.14			
3ОН	-0.37	-9.	04			
3EOH	-0.53	-12	.95			
2EOH+W	-1.07/-0.7	-43.24				
3EOH+W	-0.53/-0.7	-30	.05			

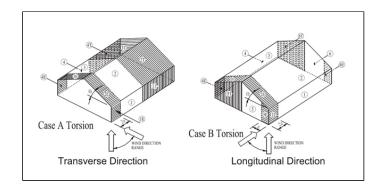


- a) (+) and (-) signs signify wind pressures acting toward & away from surfaces.
 b) External Pressure Coefficients linearly interpolated from Fig. 28.4-1 ASCE 7-10.
 c) Design building for all wind directions, 4 load patterns per load case.
 d) Total horizontal shear shall not be less than that by neglecting roof wind forces.
 e) Min. wind load for enclosed or partially enclosed bldg.: 16 psf wall, 8 psf roof.
 f) Design pressures are for strength design, multiply by 0.6 for ASD.

Torsional Load Cases							
Surface	Load Case	GCpf	Design Pressure (
Surface	Load Case	ССРІ	(w/+GCpi)	(w/ -GCpi)			
1T	A	-	2.05	4.25			
2T	A	-	-5.31	-3.11			
3T	A	-	-3.96	-1.76			
4T	A	-	-3.64	-1.44			
5T	В	-	1.34	3.54			
6T	В	-	-2.87	-0.67			

- a) (+) and (-) signs signify wind pressures acting toward & away from surfaces. b) Pressures designated with a "T" are 25% of full design wind pressures. c) Torsional loading shall apply to all 8 load patterns using the figures shown. d) Design pressures are for strength design, multiply by 0.6 for ASD. e) Torsional Design Exceptions. One story bldg. with $h \leq 30 \, \text{ft},$

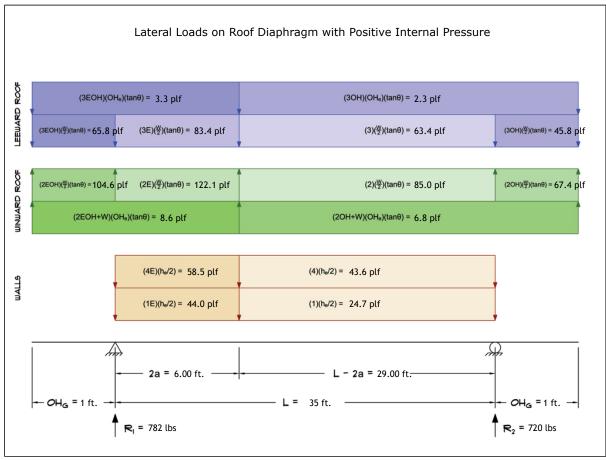
- Two stories or less framed with light frame construction, Two stories or less with flexible diaphragms.



Subject	Customer	Location	1884 NW 55			
Wind Loads	LANK ENGINEERING	1000 E ATLANTIC BLVD, POMPANO BEACH, FL	TERRACE,			
	ANDRE BIGATAO	This report may not be	Rev.MIAMI,			
		copied, reproduced or distributed without the STRUCTURAL ENGINEERS written concept of	FL,33142			
Date Engineer Name	ENGINEERING C	ENGINEERING COMPANY INC. Engineering Company Inc. Pag				
= /4 a /a a 4	Street Address City, CA 999	099 Copyright ⊗ 2024	_			
7/12/2024	ph. (800) 000-0000 www.v	vebsite.com	2			

5. Wind Load Calculations

1.) <u>Lateral Loads - Transverse Direction</u>:



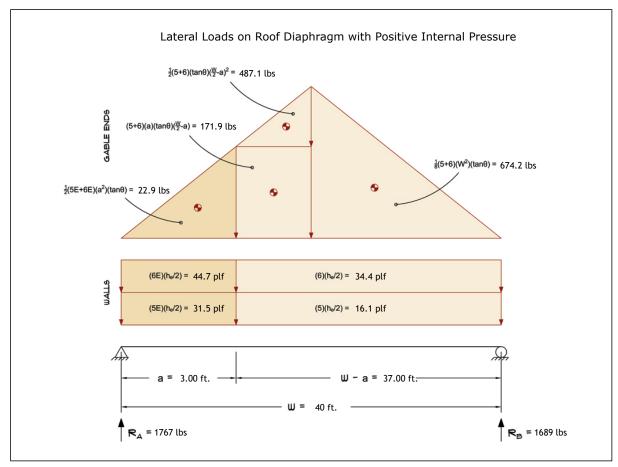
- a) (-) signs signify wind lateral forces acting opposite to the direction of the arrows shown.
- b) Strength design values multiplied by 0.6 to obtain ASD values.

	Wind Base Shear (ASD)					
	Load Case A: Transverse Direction					
Load Case	Load Case Walls (lbs) Roof (lbs) Roof Overhangs (lbs) Total Lateral Load (lbs) R ₁ (lbs) R ₂					
Positive Internal Pressure	2595	-860	-233	1502	782	720
Negative Internal Pressure	2595	-860	-233	1502	782	720
Roof Pressure = 0	2595	0	0	2595	1383	1213
Min. Pressures (8 psf, 16 psf)	1680	1120	123	2923	1462	1462

- a) Bottom half of wall neglected in tributary area calculations.
- b) Strength design values multiplied by 0.6 to obtain ASD values.

Subject	Customer	Location	1884 NW 55	
Wind Loads	LANK ENGINEERING	1000 E ATLANTIC BLVD, POMPANO BEACH, FL	TERRACE,	
Engr. WING LOAGS	ANDRE BIGATAO	This report may not be consider reproduced or	Rev.MIAMI,	
		copied, reproduced or distributed without the STRUCTURAL ENGINEERS written concept of	FL,33142	
Date Engineer Name	ENGINEERING CO	OMPANY INC.	Page _	
7/12/2024	Street Address City, CA 99999 ph. (800) 000-0000 www.website.com			

2.) <u>Lateral Loads - Longitudinal Direction</u>:



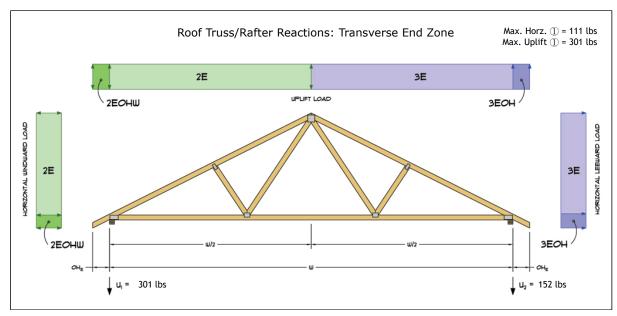
- a) (-) signs signify wind lateral forces acting opposite to the direction of the arrows shown.
 b) Strength design values multiplied by 0.6 to obtain ASD values.
 c) Where the length of building (L) exceeds 4X the mean roof height (h), wind drag forces should additionally be considered.

Wind Base Shear (ASD)						
	Load Case B: Longitudinal Direction					
Load Case Walls (lbs) Gable Ends (lbs) Roof (lbs) Total Lateral Load (lbs) R _A (lbs)						R _B (lbs)
Positive Internal Pressure	2100	1356	0	3456	1767	1689
Negative Internal Pressure	2100	1356	0	3456	1767	1689
Roof Pressure = 0	2100	1356	0	3456	1767	1689
Min. Pressures (8 psf, 16 psf)	1920	1280	0	3200	1600	1600

- a) Bottom half of wall neglected in tributary area calculations.
 b) Strength design values multiplied by 0.6 to obtain ASD values.

Subject	Customer	Location	1884 NW 55
Wind Loads	LANK ENGINEERING	1000 E ATLANTIC BLVD, POMPANO BEACH, FL	TERRACE,
Engr.	ANDRE BIGATAO	This report may not be	Rev.MIAMI,
		copied, reproduced or distributed without the strength of the	FL,33142
Date Engineer Name	ENGINEERING CO	OMPANY INC.	Page _
7/12/2024	Street Address City, CA 999 ph. (800) 000-0000 www.v	999	4

3.) Roof Truss Reactions:



- a) Strength design values multiplied by 0.6 to obtain ASD values.
- b) Windward loads may be positive or negative depending on pitch of roof.

Roof Truss/Rafter Reactions (ASD)						
w/ Positive Internal Pressure						
Load Case Horizontal Load (lbs) Gross Uplift (lbs) Net Uplift (lbs) U1 (lbs)						
Transverse Int. Zone	52	945	93	93	0	
Transverse End Zone	88	1305	453	301	152	
Longitudinal Int. Zone	66	864	12	58	-46	
Longitudinal End Zone	111	1196	344	259	85	

- a) Gross Uplift calculations do not include any counteracting roof dead loads.
- a) cross copint carcurations on nor include any counteracting roof dead loads.

 b) Net Uplift calculations include counteracting roof dead loads multiplied by 0.6 per load case (7) ASCE 7-10.
 c) Strength design values multiplied by 0.6 to obtain ASD values for wind loads.
 d) Loads based on truss spacing calculated at 24" o/c.
 e) Negative values for horizontal load indicate load acting in windward direction (tranverse load cases).

 6) Negative values for milit indicate and designant of the content of the property of the content of the conten

- f) Negative values for uplift indicate net downward force (zero uplift).

*Disclaimer: The calculations produced herein are for initial design and estimating purposes only. The calculations and drawings presented do not constitute a fully engineered design. All of the potential load cases required to fully design an actual structure may not be provided by this calculator. For the design of an actual structure, a registered and licensed professional should be consulted as per IRC 2012 Sec. R802.10.2 and designed according to the minimum requirements of ASCE 7-10. The wind load calculations provided by this online tool are for educational and illustrative purposes only. Medeek Design assumes no liability or loss for any designs presented and does not guarantee fitness for use.

-	Subject	Customer	Location	178784 NW 55
	Wind Loads	LANK ENGINEERING	1000 E ATLANTIC BLVD, POMPANO BEACH, FL	TERRACE,
	WING LOAGS Engr.	ANDRE BIGATAO	1000 E ATLANTIC BLVD, POMPANO BEACH, FL This report may not be	Rev.MIAMI,
			copied, reproduced or distributed without the	FL,33142
	Engineer Name	ENGINEERING CO	OMPANY INC.	Page _
	7/12/2024	Street Address City, CA 999 ph. (800) 000-0000 www.v	99	5