

MWFRS Wind Load Calculations
ASCE 7-10 Chapter 28 Wind Loads on Buildings; Envelope Procedure
Simple Diaphragm

Project: St Tammany PSB Junior High School Canopy

Table 28.5-1 Enclosed Simple Diaphragm Low-Rise Buildings

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| <ol style="list-style-type: none"> 1. Risk Category Table 1.5-1 2. Basic Wind Speed, by website at council.org 3. Wind load parameters <ol style="list-style-type: none"> a. Surface Roughness, Section 26.7.2: b. Exposure Category, Section 26.7.3: c. Topographic Factor, Section 26.8.2: 4. Wind Pressures Fig 28.6-1 | <p>Cat I
132 mph</p> <p>Roughness B
Exposure B.
$K_{zt} = 1$
Load Case 1 for roof slope 0-5°</p> |
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Interpolating Wind Speeds												
Basic Wind Speed	Roof Angle	Load Case	Horizontal Pressures, P_{s30} (psf)				Vertical Pressures, P_{s30} (psf)				Overhangs	
			A	B	C	D	E	F	G	H	Eoh	Goh
130 mph	5°	1	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3
140 mph	5°	1	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9
132 mph	25°	1	27.7	-14.3	18.4	-8.5	-33.2	-18.9	-23.1	-14.6	-46.5	-36.4

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| 5. Building mean height (h) = <15 ft | λ for Exposure B = 1 |
| 6. Adjusted wind pressure P_s = Equation 28.6-1 | $P_s = \lambda K_{zt} P_{s30} = 1 * 1 * P_{s30}$ |

Adjusted Wind Pressure P_s												
Basic Wind Speed	Roof Angle	Load Case	Horizontal Pressures, P_s (psf)				Vertical Pressures, P_s (psf)				Overhangs	
			A	B	C	D	E	F	G	H	Eoh	Goh
132 mph	25°	1	27.7	-14.3	18.4	-8.5	-33.2	-18.9	-23.1	-14.6	-46.5	-36.4

7. D1.1 One and Two Story Building with $h \leq 30$ ft are exempt from torsional load cases.