

APPENDIX 2: DESIGN WIND PRESSURE REQUIREMENTS, ASCE 7-10 PER 6TH EDITION (2017) FBC CHAPTER 16:

TABLE	EXPOSURE	SLOPE RANGE
1A	B	$7^\circ < \text{slope} \leq 27^\circ$ (1.5:12 < pitch \leq 6.1:12)
1B	B	$27^\circ < \text{slope} \leq 45^\circ$ (6.1:12 < pitch \leq 12:12)
2A	C	$7^\circ < \text{slope} \leq 27^\circ$ (1.5:12 < pitch \leq 6.1:12)
2B	C	$27^\circ < \text{slope} \leq 45^\circ$ (6.1:12 < pitch \leq 12:12)
3A	D	$7^\circ < \text{slope} \leq 27^\circ$ (1.5:12 < pitch \leq 6.1:12)
3B	D	$27^\circ < \text{slope} \leq 45^\circ$ (6.1:12 < pitch \leq 12:12)

1. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
2. Roof cladding design wind pressure requirements are for gabled/hipped roofs in accordance with ASCE 7-10, multiplied by 0.6 for allowable loads (P_{asd}).
3. Tables are limited to projects having gable or hip roofs with a mean roof height between 0 and 60 feet, slopes between 7° and 45° (1.5:12 to 12:12 pitch), enclosed buildings (Internal Pressure Coefficient, $GCP_i = \pm 0.18$), no load combinations ($K_d = 1$) and site conditions and location of the structure do not meet all of the conditions specified in Section 26.8.1 of ASCE 7-10 ($K_{zt} = 1.0$). Analysis for buildings falling outside these constraints shall be on a project-by-project basis by a Florida Registered PE.
4. The dimension of Zones 2 and 3 (perimeters and corners) shall be defined as 10% of the least horizontal plan-view dimension or 40% of the mean roof height, whichever is smaller, but not less than either 4% of the least horizontal plan-view dimension or 3 feet, as outlined in Figures 30.4-2B and 30.4-2C of ASCE 7-10.

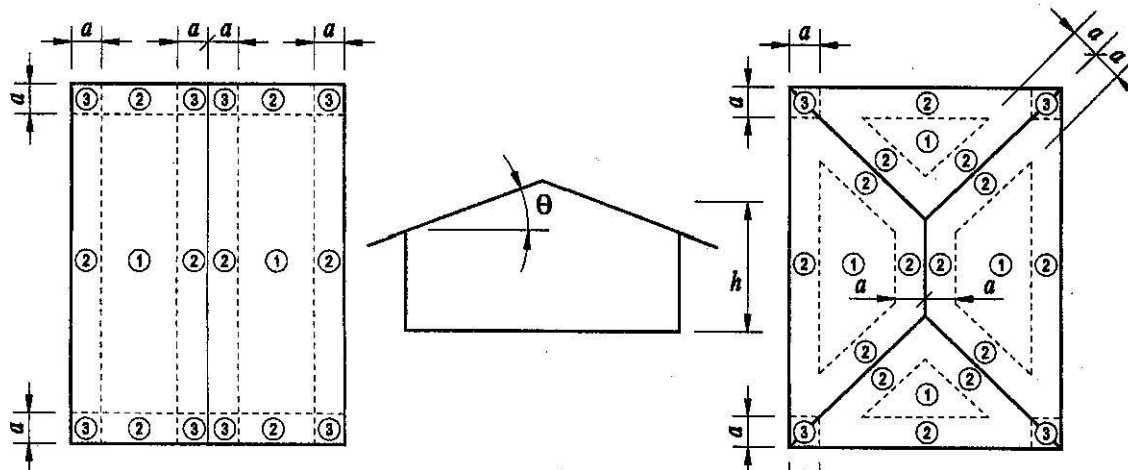


Table 1A: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure B for Slope Range 7° < slope ≤ 27° (1.5:12 < pitch ≤ 6.1:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 30	1	14	15	17	20	23	26	30	38	46
	2	24	27	29	34	40	45	52	65	81
	3	36	40	43	51	59	67	77	97	120
	2 Overhang	29	31	34	40	46	53	61	77	95
	3 Overhang	48	53	57	67	78	90	102	129	159
30 < h ≤ 40	1	15	17	18	21	25	28	32	41	51
	2	27	29	32	37	43	50	56	71	88
	3	39	43	47	55	64	73	83	106	130
	2 Overhang	31	34	37	44	51	58	66	84	103
	3 Overhang	52	57	62	73	85	98	111	140	173
40 < h ≤ 50	1	16	18	19	23	26	30	34	44	54
	2	28	31	34	40	46	53	60	76	94
	3	42	46	50	59	68	78	89	112	139
	2 Overhang	33	36	40	46	54	62	70	89	110
	3 Overhang	56	61	66	78	90	104	118	150	185
50 < h ≤ 60	1	17	19	20	24	28	32	36	46	57
	2	30	33	36	42	48	55	63	80	99
	3	44	48	53	62	71	82	93	118	146
	2 Overhang	35	38	42	49	57	65	74	94	115
	3 Overhang	59	64	70	82	95	109	124	157	194

Table 1B: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure B for Slope Range 27° < slope < 45° (6.1:12 < pitch ≤ 12:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 30	1	15	17	18	21	25	29	32	41	51
	2 & 3	18	20	21	25	29	33	38	48	59
	2 & 3 Overhang	26	28	31	36	42	48	55	70	86
30 < h ≤ 40	1	17	18	20	23	27	31	35	45	55
	2 & 3	20	21	23	27	32	36	41	52	65
	2 & 3 Overhang	28	31	34	40	46	53	60	76	94
40 < h ≤ 50	1	18	19	21	25	29	33	38	48	59
	2 & 3	21	23	25	29	34	39	44	56	69
	2 & 3 Overhang	30	33	36	42	49	56	64	81	100
50 < h ≤ 60	1	19	20	22	26	30	35	40	50	62
	2 & 3	22	24	26	31	35	41	46	59	72
	2 & 3 Overhang	32	35	38	44	51	59	67	85	105

Table 2A: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure C for Slope Range 7° < slope < 27° (1.5:12 < pitch ≤ 6.1:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	17	19	20	24	28	32	36	46	56
	2	30	32	35	41	48	55	63	79	98
	3	44	48	52	61	71	81	93	117	145
	2 Overhang	35	38	41	48	56	64	73	93	114
	3 Overhang	58	64	69	81	94	108	123	156	193
15 < h ≤ 20	1	18	20	22	25	29	34	38	49	60
	2	32	34	38	44	51	59	67	84	104
	3	47	51	56	65	76	87	99	125	154
	2 Overhang	37	40	44	52	60	69	78	99	122
	3 Overhang	62	68	74	87	101	115	131	166	205
20 < h ≤ 30	1	20	21	23	27	32	37	42	53	65
	2	34	37	41	48	55	64	72	92	113
	3	51	55	60	71	82	94	107	136	167
	2 Overhang	40	44	48	56	65	75	85	107	132
	3 Overhang	67	74	80	94	109	125	143	180	223
30 < h ≤ 40	1	21	23	25	29	34	39	44	56	69
	2	36	40	43	51	59	68	77	98	120
	3	54	59	64	75	87	100	114	144	178
	2 Overhang	43	47	51	60	69	79	90	114	141
	3 Overhang	72	78	85	100	116	133	152	192	237
40 < h ≤ 50	1	22	24	26	31	36	41	46	59	72
	2	38	42	45	53	62	71	81	102	126
	3	56	62	67	79	91	105	119	151	187
	2 Overhang	45	49	53	62	72	83	94	120	148
	3 Overhang	75	82	89	105	122	140	159	201	248
50 < h ≤ 60	1	23	25	27	32	37	42	48	61	75
	2	40	43	47	55	64	74	84	106	131
	3	59	64	70	82	95	109	124	157	194
	2 Overhang	46	51	55	65	75	86	98	124	153
	3 Overhang	78	85	93	109	126	145	165	209	258

Table 2B: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure C for Slope Range 27° < slope < 45° (6.1:12 < pitch ≤ 12:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	19	20	22	26	30	35	39	50	61
	2 & 3	22	24	26	30	35	40	46	58	72
	2 & 3 Overhang	31	34	37	44	51	59	67	84	104
15 < h ≤ 20	1	20	22	24	28	32	37	42	53	65
	2 & 3	23	25	28	32	38	43	49	62	77
	2 & 3 Overhang	34	37	40	47	54	62	71	90	111
20 < h ≤ 30	1	21	23	26	30	35	40	45	58	71
	2 & 3	25	27	30	35	41	47	53	67	83
	2 & 3 Overhang	36	40	43	51	59	68	77	98	120
30 < h ≤ 40	1	23	25	27	32	37	43	48	61	76
	2 & 3	27	29	32	37	43	50	57	72	88
	2 & 3 Overhang	39	42	46	54	63	72	82	104	128
40 < h ≤ 50	1	24	26	29	33	39	45	51	64	79
	2 & 3	28	31	33	39	45	52	59	75	93
	2 & 3 Overhang	41	44	48	57	66	75	86	109	134
50 < h ≤ 60	1	25	27	30	35	40	46	53	67	82
	2 & 3	29	32	35	41	47	54	62	78	96
	2 & 3 Overhang	42	46	50	59	68	78	89	113	139

Table 3A: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure D for Slope Range 7° < slope < 27° (1.5:12 < pitch ≤ 6.1:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	21	23	25	29	33	38	44	55	68
	2	36	39	43	50	58	67	76	96	119
	3	53	58	63	74	86	99	112	142	176
	2 Overhang	42	46	50	59	68	78	89	113	139
	3 Overhang	71	77	84	99	115	132	150	189	234
15 < h ≤ 20	1	22	24	26	30	35	40	46	58	72
	2	38	41	45	53	61	70	80	102	125
	3	56	61	67	78	91	104	119	150	185
	2 Overhang	44	48	53	62	72	82	94	119	147
	3 Overhang	75	82	89	104	121	139	158	200	247
20 < h ≤ 30	1	23	25	28	33	38	43	49	62	77
	2	41	44	48	57	66	75	86	109	134
	3	60	66	71	84	97	112	127	161	198
	2 Overhang	48	52	57	66	77	88	101	127	157
	3 Overhang	80	87	95	112	129	149	169	214	264
30 < h ≤ 40	1	24	27	29	34	40	45	52	65	81
	2	43	47	51	59	69	79	90	114	141
	3	63	69	75	88	102	117	133	169	208
	2 Overhang	50	54	59	70	81	93	105	133	165
	3 Overhang	84	92	100	117	136	156	177	224	277
40 < h ≤ 50	1	25	28	30	36	41	47	54	68	84
	2	44	48	53	62	72	82	94	119	146
	3	65	72	78	91	106	122	139	175	216
	2 Overhang	52	57	62	72	84	96	110	139	171
	3 Overhang	87	95	104	122	141	162	184	233	288
50 < h ≤ 60	1	26	29	31	37	43	49	56	70	87
	2	46	50	54	64	74	85	97	122	151
	3	68	74	80	94	110	126	143	181	224
	2 Overhang	54	58	64	75	87	100	113	143	177
	3 Overhang	90	98	107	126	146	167	190	241	298

Table 3B: Roof Cladding Design Wind Pressures (psf) – SEE NOTE 1
Exposure D for Slope Range 27° < slope < 45° (6.1:12 < pitch ≤ 12:12)

Mean Roof Height (ft)	Zone	Basic Wind Speed (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	23	25	27	32	37	42	48	60	75
	2 & 3	26	29	31	37	43	49	56	71	87
	2 & 3 Overhang	38	42	46	53	62	71	81	102	126
15 < h ≤ 20	1	24	26	28	33	39	44	50	64	79
	2 & 3	28	30	33	39	45	52	59	75	92
	2 & 3 Overhang	40	44	48	56	65	75	85	108	133
20 < h ≤ 30	1	25	28	30	36	41	47	54	68	84
	2 & 3	30	33	35	42	48	55	63	80	99
	2 & 3 Overhang	43	47	51	60	70	80	91	116	143
30 < h ≤ 40	1	27	29	32	37	43	50	57	72	88
	2 & 3	31	34	37	44	51	58	66	84	103
	2 & 3 Overhang	45	49	54	63	73	84	96	121	150
40 < h ≤ 50	1	28	30	33	39	45	52	59	74	92
	2 & 3	32	36	39	45	53	60	69	87	107
	2 & 3 Overhang	47	51	56	66	76	88	100	126	156
50 < h ≤ 60	1	29	31	34	40	47	53	61	77	95
	2 & 3	34	37	40	47	54	62	71	90	111
	2 & 3 Overhang	49	53	58	68	79	90	103	130	161