



SIMPLIFIED ROOF UPLIFT CHART FOR ROOFING APPLICATIONS

This simplified chart represents the worse-case wind pressures for the various roof slopes and heights. This chart is based on a Tributary Area = 10 SF which is required for roofing applications. If the roof height is less than 30 feet, but not exactly 15, 20, or 25 feet, you will need to go to the next higher roof height. If your roof is higher than 30 feet, these charts do not apply. Refer to Roof Chart Diagrams on Page 1 for Roof Zone Locations.

MEAN ROOF HEIGHT = 15 FEET

Flat Roof		Gable Roof			Hip Roof			
		1.51 to 4:12		4.1 to 6:12	6.1 to 12:12	1.51 to 4:12		4.1 to 6:12
Positive*	15.4/38.0	Positive 23.2		Positive 23.2	Positive 34.7	Positive 28.3		Positive 28.3
Zone		Zone	Roof	Roof	Roof	Zone	Roof	Roof
1	-60.5	1, 2e	-70.1	-54	-63.7	1	-63.7	-50.8
1'	-34.8	2n & 2r	-102	-86.2	-70.1	2e	-89.4	-70.1
2	-79.8	3e	-102	-86.2	-86.7	2r	-83	-70.1
3*	-109	3r	-102	-102	-70.1	3	-89.4	-70.1

MEAN ROOF HEIGHT = 20 FEET

Flat Roof		Gable Roof			Hip Roof			
		1.51 to 4:12		4.1 to 6:12	6.1 to 12:12	1.51 to 4:12		4.1 to 6:12
Positive*	16.4/40.3	Positive 24.6		Positive 24.6	Positive 36.9	Positive 30.1		Positive 30.1
Zone		Zone	Roof	Roof	Roof	Zone	Roof	Roof
1	-64.2	1, 2e	-74.5	-57.4	-67.7	1	-67.6	-54
1'	-36.9	2n & 2r	-109	-91.5	-74.5	2e	-95	-74.5
2	-84.8	3e	-109	-91.5	-92.1	2r	-88.1	-74.5
3*	-116	3r	-129	-108	-74.5	3	-95	-74.5

MEAN ROOF HEIGHT = 25 FEET

Flat Roof		Gable Roof			Hip Roof			
		1.51 to 4:12		4.1 to 6:12	6.1 to 12:12	1.51 to 4:12		4.1 to 6:12
Positive*	17.2/42.3	Positive 25.8		Positive 25.8	Positive 38.7	Positive 31.5		Positive 31.5
Zone		Zone	Roof	Roof	Roof	Zone	Roof	Roof
1	-67.3	1, 2e	-78.1	-60.2	-70.9	1	-70.9	-58.6
1'	-38.7	2n & 2r	-114	-96	-78.1	2e	-99.6	-78.1
2	-88.8	3e	-114	-96	-96.6	2r	-92.4	-78.1
3*	-121	3r	-135	-113	-78.1	3	-99.6	-78.1

MEAN ROOF HEIGHT = 30 FEET

Flat Roof		Gable Roof			Hip Roof			
		1.51 to 4:12		4.1 to 6:12	6.1 to 12:12	1.51 to 4:12		4.1 to 6:12
Positive*	17.9/43.9	Positive 26.8		Positive 26.8	Positive 40.2	Positive 32.8		Positive 32.8
Zone		Zone	Roof	Roof	Roof	Zone	Roof	Roof
1	-70	1, 2e	-81.1	-62.6	-73.7	1	-73.7	-58.8
1'	-40.2	2n & 2r	-118	-99.8	-81.1	2e	-103	-81.1
2	-92.3	3e	-118	-99.8	-100	2r	-96	-81.1
3*	-126	3r	-141	-118	-81.1	3	-103	-81.1

*If Parapet >= 3Ft occurs around entire building use the same Zone 2 pressure for Zone 3 and use the higher positive pressure shown.



TABLE 2 GC

Gable Roof – ASCE 7-22

Exposure C – Tile Factor = 1.407 ft³

Roof Slopes	Mean Roof Height (ft.)	Roof Zones	170
			Ma (ft-lbf)
Less than 4.5:12	0-15	LPZ	39.3
		HPZ	48.8
	20	LPZ	41.6
		HPZ	51.7
	30	LPZ	45.3
		HPZ	56.3
	40	LPZ	48.1
		HPZ	59.8
	50	LPZ	50.4
		HPZ	62.6
	60	LPZ	52.2
		HPZ	64.9
4.5: 12 to less than 6:12	0-15	LPZ	37.2
		HPZ	42.5
	20	LPZ	39.4
		HPZ	45.0
	30	LPZ	42.8
		HPZ	49.0
	40	LPZ	45.5
		HPZ	52.0
	50	LPZ	47.7
		HPZ	54.5
	60	LPZ	49.4
		HPZ	56.5
6:12 to 12:12	0-15	LPZ	31.9
		HPZ	37.2
	20	LPZ	33.7
		HPZ	39.4
	30	LPZ	36.7
		HPZ	42.8
	40	LPZ	39
		HPZ	45.5
	50	LPZ	40.8
		HPZ	47.7
	60	LPZ	42.3
		HPZ	49.4

TABLE 2 HC

Hip Roof – ASCE 7-22

Exposure C – Tile Factor = 1.407 ft³

Roof Slopes	Mean Roof Height (ft.)	Roof Zones	170
			Ma (ft-lbf)
Less than 4.5:12	0-15	LPZ	36.1
		HPZ	38.2
	20	LPZ	38.2
		HPZ	40.5
	30	LPZ	41.6
		HPZ	44.1
	40	LPZ	44.2
		HPZ	46.8
	50	LPZ	46.3
		HPZ	49.0
	60	LPZ	48.0
		HPZ	50.8
4.5: 12 to less than 6:12	0-15	LPZ	31.9
		HPZ	31.9
	20	LPZ	33.7
		HPZ	33.7
	30	LPZ	36.7
		HPZ	36.7
	40	LPZ	39.0
		HPZ	39.0
	50	LPZ	40.8
		HPZ	40.8
	60	LPZ	42.3
		HPZ	42.3
6:12 to 12:12	0-15	LPZ	29.7
		HPZ	36.1
	20	LPZ	31.5
		HPZ	38.2
	30	LPZ	34.3
		HPZ	41.6
	40	LPZ	36.4
		HPZ	44.2
	50	LPZ	38.1
		HPZ	46.3
	60	LPZ	39.5
		HPZ	48.0

LPZ - Low Pressure Zones 2 for Hip Roofs
 HPZ - High Pressure Zones 3 for Hip Roofs
 h/B ≤ 0.80 values used where applicable (most conservative)



**DESIGN PRESSURES FOR UNDERLAYMENT AND RIDGE ATTACHMENT REQUIRED FOR
CATEGORY II BUILDINGS HAVING A 3:12 AND GREATER PITCH PER ASCE 7-22 (psf)**

TABLE 1-H

**Hip Roof -ASCE 7-22 (3:12 and Over), Category II Buildings (psf)
Required Design Uplift Pressures (psf) For Underlayment and Ridge Attachment**

ROOF EXPOSURE	ROOF ZONES	MEAN ROOF HEIGHT	170 DESIGN PRESSURE (psf)
EXP B	ALL	0-15	68.7
		20	68.7
		30	68.7
		40	72.6
		50	77.5
		60	81.4
EXP C	ALL	0-15	83.4
		20	88.3
		30	96.1
		40	102.0
		50	106.9
		60	110.9
EXP D	ALL	0-15	101.0
		20	106.0
		30	113.8
		40	119.7
		50	124.6
		60	128.5

Notes:

1. The pressures (psf) in the above table are indicative of the required design uplift pressure based upon less than 4.5: 12 for roof zone 3.
2. The roofing professional has the option to review and determine alternative methods that would reflect the full calculation options of ASCE 7-22 that might provide lower uplift resistance values in certain areas.
3. For actual uplift resistance values for Foam Adhesives or Mortar installations, please see the Adhesive manufacturer's formal product approvals for additional information.



DESIGN PRESSURES FOR UNDERLAYMENT AND RIDGE ATTACHMENT REQUIRED FOR CATEGORY II BUILDINGS HAVING A 3:12 AND GREATER PITCH PER ASCE 7-22 (psf)

TABLE 1-G

**Gable Roof-ASCE 7-22 (3:12 and Over), Category II Buildings
Pressures for Underlayment and Ridge Attachment (psf)**

ROOF EXPOSURE	ROOF ZONES	MEAN ROOF HEIGHT	170 DESIGN PRESSURE (psf)
EXP B	ALL	0-15	95.1
		20	95.1
		30	95.1
		40	100.5
		50	107.3
		60	112.7
EXP C	ALL	0-15	115.5
		20	122.3
		30	133.1
		40	141.3
		50	148.1
		60	153.5
EXP D	ALL	0-15	139.9
		20	146.7
		30	157.6
		40	165.7
		50	172.5
		60	177.9

Notes:

1. The pressures (psf) in the above table are indicative of the required design uplift pressure based upon less than 4.5: 12 for roof zone 3.
2. The roofing professional has the option to review and determine alternative methods that would reflect the full calculation options of ASCE 7-22 that might provide lower uplift resistance values in certain areas.
3. For actual uplift resistance values for Foam Adhesives or Mortar installations, please see the Adhesive manufacturer's formal product approvals for additional information.



Mandated Retrofits of Roof-to-Wall Connection

THIS FORM MUST BE FILLED OUT AND INCLUDED WITH ALL RE-ROOFING APPLICATIONS FOR EXISTING STRUCTURES WITH WOOD ROOF DECKS.

Address: _____

For the purpose of this document, "Sections" as cited below are from the Florida Building Code-Existing Building, 7TH Edition (2020) Section 706.8, unless otherwise noted.

When the roof covering on an existing structure with a wood roof deck is removed and replaced...the structure shall be evaluated for mandated retrofits of the roof-to-wall connections in accordance with Section 706.8.

1. Was permit for the original construction of the building applied for on or after January 1, 1990?

- Yes** – The application date was on or after January 1, 1990.
*** Proceed to signature and permit submittal. (Attach documentation verifying the application date)*
- No** – The application date was prior to January 1, 1990.
*** Continue with questions and details below.*

2. Applicant must provide one of the following to document the value of the building.

- Copy of current home insurance summary sheet.
- Copy of the latest Tax Bill or Property Appraiser Valuation for the structure (the *Appraised Improvement Value* determines the threshold amount).

3. Based on the documentation provided, is the value of the Building \$300,000 or more?

- No** - Building is valued at less than \$300,000
*** Proceed to signature and permit submittal.*
- Yes** - Building valuation exceeds \$300,000
*** Enhanced Roof-to-Wall connections are required unless meeting one of the following exceptions:*
 - Exception 1:** Cost of "evaluation and roof-to-wall connections" at gable ends or **all** corners will exceed 15% of the cost of the roof replacement (attach professional estimate by a Florida Licensed General or Building Contractor).
 - Exception 2:** Analysis submitted by FL Design Professional validates the existing roof-to-wall load path connections are compliant for the applicable wind loads in Table 706.8.1.

COMPLIANCE Options to Complete Mandated Retrofits (Identify one)

- Prescriptive Retrofit Procedures.**
 - Roof-to-wall connections will be enhanced using the prescriptive measures in Sections 706.8.1.3 – 7.
 - Priority of work shall be determined by Section 706.8.1.7.
 - Details provided on page 2
- Professional Design**
 - Provide engineered design plan, and identify details on page 2

If enhanced roof to wall connections are required, the following page (Connection Details) must also be completed and submitted along with a roof plan of the building, including span distances and gable/ hip locations identified. Plan should indicate areas to be retrofitted, connectors to be used, and fastener requirements. Please include product approvals for all the connectors specified.

Qualifier or Owner/Builder Name (Print)

Qualifier or Owner/Builder Signature

Date



Roof to Wall Mandated Retrofits (Cont.)

MANDATED RETROFIT CONNECTION DETAILS

Exterior Wall Construction:

- Wood
- CBS
- Other explain: _____

Roof Geometry:

- Gable
- Hip
- Flat
- Other explain: _____

Existing Anchors

Identify existing straps/anchors and fasteners (quantity & size) at areas proposed for retrofit.

Strap/Anchor: _____ Fasteners: _____

Determine if *Existing Straps* were manufactured and rated for four (4) fasteners at each end.

- YES - *Existing Straps* were *manufactured and rated* for four (4) fasteners at each end
 - o Specify additional fastener size and quantity: _____

NOTE: A Roofing Contractor (CCC) may install the additional fasteners to the existing straps – Details shall be included in primary Reroof permit scope of work.

- NO - *Existing Straps* were not *manufactured and rated* for four (4) fasteners at each end
 - o Retrofit straps/anchors shall be added and installed (CGC, CBC or CRC required)

NOTE: Installation of new straps/ anchors is outside the scope of a Roofing Contractor (CCC), and requires an appropriately licensed *building* Contractor (CGC, CBC or CRC).

Retrofit Straps/ Anchors (Minimum uplift capacity of 500 pounds each, unless designed by FL P.E.)

“B” Subpermit (“Mandated Retrofits, GC required”) shall be added to the primary Reroof permit.

Manufacturer: _____

Type/ Model: _____

Fasteners: _____

(Nails, Screws, Bolts / Size / Quantity / Minimum Embedment / Spacing / etc.)

Qualifier or Owner/Builder Name (Print)

Qualifier or Owner/Builder Signature

Date