# ASCF-HWH: Attached Structure Compliance Form

SILVER Designation Requirement

*TO BE COMPLETED AND SIGNED BY A LICENSED BUILDING CONTRACTOR, REGISTERED ARCHITECT, PROFESSIONAL ENGINEER OR A BUILDING CODE OFFICIAL.*

## PROPERTY INFORMATION

Homeowner's name:

Property address: City:

State: ZIP Code: County:

**FORTIFIED ID:**

*(OBTAIN FROM HOMEOWNER OR FORTIFIED EVALUATOR)*

## PORCHES AND CARPORTS

*Complete documentation of the installation of connections providing anchorage, from the roof all the way to the foundation, at each porch/carport must be submitted and meet all compliance requirements upon review.*

**1. *Existing Homes***

*Porch and/or carport roof framing is usually supported by horizontal beams which are supported by vertical columns and the columns are then connected to foundation systems. The connections- roof framing to beam, beam to column, and column to foundation- are often concealed by finished materials. Any connections that are concealed and cannot be verified will not meet documentation requirements for FORTIFIED anchorage of attached structures.*

**2. *New Homes***

Anchoring porches and carports requires:

- ☐ Metal connectors attaching the roof framing members to the horizontal beams
- ☐ Metal connectors attaching beams to columns
- ☐ Metal connector at each column-to-foundation connection.

**3. *Determining uplift loads and connection requirements***

*The uplift loads for the connections can be determined by completing the Porch/Carport Uplift Worksheet (see below) and selecting an appropriate metal connector based on load and site conditions. Note that the anchorage requirements in the Worksheet are based on 110 mph (ASD) or 140 mph (ULT) wind speed.*

**4. *Instructions for documentation:***

- ☐ Can all connections be seen or are there photos that show the installed connections? If not, then documentation requirements cannot be satisfied for attached structure anchorage and no further information is required. If yes, proceed to the next paragraph.
- ☐ Describe the roof to beam connection, the beam to column connection, and the column to foundation or supporting structure connection in section 5 below.. Take photos of each of these installed connections.
- ☐ Complete the Porch/Carport Uplift Worksheet (see below)

**5. *Description of connections***

*Complete for each porch or carport if connections types are different*

- ☐ Roof to beam (provide photos)
  Description of typical connection
- ☐ Beam to column (provide photos)
  Description of typical connection
- ☐ Column to foundation or supporting structure/column below (provide photos)
  Description of typical connection

## CHIMNEY FRAMING AND CONNECTIONS

***(COMPLETE FOR EACH CHIMNEY)***

- ☐ Not applicable. Check here if the home has no chimney.
- ☐ Check here if the chimney is not wood frame.

**6. *Chimney framing and anchorage. Check all that apply***

- ☐ Check here if there is a wood frame chimney with 2x framing, sheathed with 7/16" wood panels. ***PHOTO DOCUMENTATION REQUIRED.***
- ☐ Check here if there is a wood frame chimney and it is anchored to supporting roof framing with metal strap- or- the chimney framing extends below the roof to ceiling level. ***PHOTO DOCUMENTATION REQUIRED.***
- ☐ Check here if the chimney framing and anchorage cannot be seen or the chimney framing and anchorage do not match any description above
- ☐ Check here if the chimney extends more than 5 ft. above the roof (Measured from the low side of the roof)

**7. *Porch/Carport Uplift Worksheet:***

*Use the following guidelines to determine how much uplift resistance is required to retrofit the existing carport/porch column connection at both the top and bottom. A continuous load path must be achieved from the roof framing members to the supporting beam, from the beam to the column, then from the column to the foundation.*

- ☐ Measure how far the porch roof sticks out from the wall, D = ft.
- ☐ Measure the width of the porch parallel to the house wall, W = ft.
- ☐ Measure the roof member spacing, S = ft.
- ☐ Measure the roof overhang distance, OH = ft.
- ☐ Count the number of columns supporting the roof (whole number = N) (Count each end wall as a post that supports the roof instead of a post, maximum 2.)
- ☐ Column support area can be calculated as following:
  Inside Column Area (A)= D/2 × W/(N-1)
  Corner Column Area (A)= D/2 × W/(2(N-1))
- ☐ Select the appropriate net uplift pressure, P wind pressure minus weight) from the Uplift Pressure Table below; P = 29 psf.
- ☐ The roof member uplift force can be calculated as follows:
  Pup = P * (D/2 + OH) * S = lbs.
- ☐ The uplift force on the beam to column and column to foundation can be calculated by Multiplying the net uplift pressure times the typical area, P*A = lbs.

*This is the uplift on each column, on the connection at the top of the column, and also on the connection at the bottom of the column. If the column is heavy (e.g. concrete or masonry) then you can reduce the force on the connection at the bottom of the column by the weight of the column.*

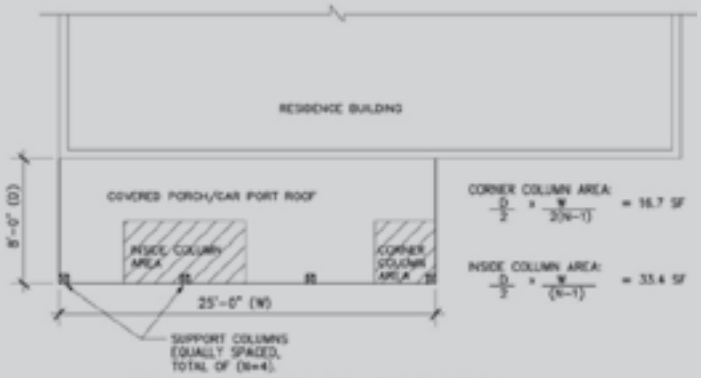
## UPLIFT PRESSURE TABLE

| WIND SPEED (MPH) | WIND UPLIFT PRESSURE (LB PER SQ. FT) (PSF) | WEIGHT OF ROOF (PSF) | NET UPLIFT PRESSURE ON ROOF (PSF) |
|---|---|---|---|
| 110 (ASCE 7-05)<br>140 (ASCE 7-10) | 39 | 10 | 29 |

**8.** ***Example Calculation and Observations:***

*A porch is 8 ft deep and 25 ft wide with 4 columns along the outside edge of the porch with roof framing members at 2 ft o.c. that extend 1.5 ft beyond the beam (overhang). Consequently: D = 8 ft; W = 25 ft; N = 4; S = 2 ft; OH = 1.5 ft; inside column area (A) = (8/2) x [25/ (4-1)] = 33.4 sq. ft; corner column area (A) = (8/2) x [25/2(4-1)] = 16.7 sq. ft; If the design wind speed is 110 mph, the net uplift pressure on the roof (P) is 29 psf.*

*Then P*A is 969 lb for inside columns and 484 lb for corner columns. The uplift force at the roof member and beam intersection is: Pup = 29 * (8/2 + 1.5) * 2 = 319 lb. So the roof to wall connection must be good for 319 lb uplift; the inside beam to column and column to foundation connections must be good for 969 lb uplift; the corner beam to column and column to foundation connections must be good for 484 lb.*



COLUMN SUPPORT AREA CALCULATION FOR UPLIFT RESISTANCE

## ASCF-HWH CERTIFICATION

*I hereby certify that I am a Licensed Building Contractor, Registered Architect or an Engineer in the State of _____ or a Building Code Official (who is duly authorized by the State of _____ or its county's municipalities, to verify building code compliance). In my professional opinion, based on my knowledge, information and belief, I certify that, as of the date shown below, all information listed above is accurate for the home located at:*

*Address:*
*City:* *State:*

*Furthermore, I understand that any person who makes a false statement or misrepresentation, and any other person knowingly, with an intent to injure, defraud, or deceive, who assists, abets, solicits, or conspires with such person to make a false statement or misrepresentation may be subject to both criminal and/or civil penalties.*

*By completion of this Affidavit, the undersigned does not make a health or safety certification.*

*Signature:* *Date:*
*Printed Name:*
*Company:*
*Phone number:*
*Address:*
*City:* *State:*
*License Number or Registration Number:*

*Note: Completion of this form in its entirety does not, by itself, satisfy FORTIIFIED requirements for attached structure anchorage. Additional information presented by the FORTIFIED Evaluator will also be considered in determining if FORTIFIED attached structure anchorage requirements have been satisfied.*