The International Residential Code (IRC) defines several different construction methods that may be used to build a braced wall panel. The methods include twelve intermittent bracing methods (occurring at isolated locations within a braced wall line) and four continuous sheathing bracing methods (requiring sheathing over the full wall surface of a braced wall line).

The required minimum length of an intermittent braced wall panel generally ranges from 4' to 8' of wall with no openings. In areas where window or door openings do not provide enough space to put a standard panel, the IRC allows for alternate braced wall panels and portal-frame applications to be site-built to fit a narrower wall space in some applications. To use these narrow alternatives, specific requirements for holdowns, mudsill anchors, header attachments, and minimum sheathing thickness and fastening must be followed. There are also narrow alternatives when using the continuous sheathing bracing methods, including a continuously sheathed portal frame that can have a panel length as narrow as 16" in some cases.

This document provides information about the Simpson Strong-Tie products that meet the requirements for constructing and anchoring braced wall panels in accordance with Section R602.10.4 of the 2012/2015 IRC. It covers the specific wall bracing methods and code provisions that require connectors (e.g., holdowns or straps) and anchors. It also highlights the code provisions that permit the use of holdowns to reduce certain wall-bracing requirements.

This document is intended to be used in conjunction with the 2012 or 2015 International Residential Code (IRC); it is not a comprehensive guide to the IRC wall bracing provisions. The user of this document is responsible for complying with prescriptive IRC provisions and the local building code. Refer to the IRC for additional information.

Table of Contents

Simpson Strong-Tie Products for Wall Bracing Connector and Anchorage Requirements .................................................... 2–5
Intermittent Bracing Methods Requiring Connectors and Anchors ................................................................. 6–8
Continuous Sheathing Bracing Methods Requiring Connectors and Anchors ......................................................... 9
Use of Holdowns to Reduce Wall Bracing Requirements .................................................................................. 10–11
General Uplift and Anchorage Connector Requirements for All Braced Wall Panels.............................................. 12
Simpson Strong-Tie Products for Wall Bracing Connector and Anchorage Requirements

This section provides information about products that meet the IRC connector and anchorage requirements for braced wall panels. Refer to the current Wood Construction Connectors catalog for additional options and installation requirements.

Holdowns

Holdowns are used to tie down braced wall panels and prevent overturning. Holdowns are only required in the construction of braced wall panel methods ABW (Alternate Braced Wall Panel), PFH (Portal Frame with Holdowns) and BV-WSP (wood structural panels with stone or masonry veneer in Seismic Design Category (SDC) D₀, D₁ and D₂). However, holdowns may also be used with other bracing methods to reduce the amount of required bracing length, eliminate the requirement for a corner return or eliminate the need to have a panel located at the corner.

The holdown options listed in Table 1 are designed to be installed after the concrete has been placed and require attachment to anchor bolts (cast-in-place or post-installed) with diameters as noted in the table. These holdowns may also be used to anchor the ends of braced wall panels on upper stories to the floor framing below. The designer must specify the anchor bolt type, length and embedment (for attachment to foundations) to be used in conjunction with these holdowns. Refer to the details in Figures 1 and 2 for complete holdown solutions that meet the IRC provisions for a min. 800 lb. holdown. Where higher capacity holdowns are required, refer to the Connector-Anchor Selector web application at strongtie.com/webapps for an online tool that helps find anchoring solutions for the holdowns shown in Table 1.

Table 1 — Holdowns That Attach to Anchor Bolts

<table>
<thead>
<tr>
<th>Holdown</th>
<th>Anchor Bolt Diameter (in.)</th>
<th>Min. Wood Member Thickness (in.)</th>
<th>Allowable Tension (lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTT1Z</td>
<td>%</td>
<td>1 ½</td>
<td>910 850</td>
</tr>
<tr>
<td>LTT19</td>
<td>½, ⅜ or ⅝</td>
<td>1 ½</td>
<td>1,310 1,125</td>
</tr>
<tr>
<td>DTT2Z</td>
<td>½</td>
<td>1 ½</td>
<td>1,825 1,800</td>
</tr>
<tr>
<td>DTT22-SDS2.5</td>
<td>%</td>
<td>3</td>
<td>2,145 2,105</td>
</tr>
<tr>
<td>HDU2-SDS2.5</td>
<td>%</td>
<td>3</td>
<td>3,075 2,215</td>
</tr>
<tr>
<td>HTT4</td>
<td>%</td>
<td>3</td>
<td>3,610 3,105</td>
</tr>
<tr>
<td>HTT5</td>
<td>%</td>
<td>3</td>
<td>4,350 3,740</td>
</tr>
<tr>
<td>HDU4-SDS2.5</td>
<td>%</td>
<td>3</td>
<td>4,565 3,285</td>
</tr>
<tr>
<td>HDU5-SDS2.5</td>
<td>%</td>
<td>3</td>
<td>5,645 4,065</td>
</tr>
</tbody>
</table>

1. Allowable loads have been increased for wind or earthquake load durations with no further increase allowed.
2. Refer to the current Wood Construction Connectors catalog for holdown fasteners.
3. Designer must specify anchor bolt type, length and embedment.
4. Post may consist of multiple members provided they are connected independently of the holdown fasteners.

Visit strongtie.com/holdownselector for a simple web app that selects holdown solutions based on design loads, then strongtie.com/connectoranchorselector for a quick and easy tool that determines the anchoring solution for the selected holdown.
Figure 1: Braced Wall Panel-to-Foundation Holdown Solutions for 800 lb. Capacity Holdown Requirement

- **DTT1Z** on concrete with:
  - THD37500H screw anchor, 2½" min. embedment
  - (6) SD#9 x 1½" screw (shown) or (8) 10d x 1½" nails

- **DTT2Z** on concrete with:
  - THD50600H screw anchor, 3½" min. embedment
  - (6) SD#9 x 1½" screw (shown) or (8) 10d x 1½" nails

- **LTT19** on CMU with:
  - RFB#5x8HDG with 5" min. embedment
  - AT or SET adhesive
  - Washer (supplied with RFB#5x8HDG) must be used in seat of LTT19
  - (8) 10d x 1½" nails

---

Figure 2: Braced Wall Panel-to-Floor Framing Holdown Solutions for 800 lb. Capacity Holdown Requirement

- **Fastener Requirements**
  - (6) SD#9 x 1½" screws or (8) 10d x 1½" nails (shown)

- **SDWH** Timber-Hex HDG screw with a minimum 3" of thread penetration into center of solid sawn 2x blocking (shown) or rim joist

- **DTT1Z**

- **Fastener Requirements**
  - LSTA18 with (12) 10d x 1½" nails
  - CS20 with (12) 10d x 1½" nails
  - MTS16 with (14) 10d x 1½" nails

- **Strap Alternative**
  - For straps installed over sheathing, use a 2½" long fastener, minimum.
The holdown options in Table 2 are embedded strap-style holdowns that are installed at the time of concrete placement and do not require anchor bolts. This type of holdown is specifically required in the construction of the PFH method.

### Table 2 — Embedded Strap-Style Holdowns

<table>
<thead>
<tr>
<th>Holdown</th>
<th>Min. Wood Member Thickness (in.)</th>
<th>Allowable Tension (lb.) (DF/SP/SPF/HF)</th>
<th>Wind and SDC A&amp;B</th>
<th>SDC C-F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Midwall/ Corner</td>
<td>Endwall</td>
<td>Midwall/ Corner</td>
</tr>
<tr>
<td>LSTHD8/LSTHD8RJ</td>
<td>3 1/2</td>
<td>2,700</td>
<td>2,230</td>
<td>1,950</td>
</tr>
<tr>
<td>STHD10/STHD10RJ</td>
<td>3 1/2</td>
<td>4,120</td>
<td>3,145</td>
<td>2,940</td>
</tr>
<tr>
<td>STHD14/STHD14RJ</td>
<td>3 1/2</td>
<td>5,345</td>
<td>4,210</td>
<td>3,815</td>
</tr>
</tbody>
</table>

1. Allowable loads have been increased for wind or earthquake load durations with no further increase allowed.
2. Post may consist of multiple members provided they are connected independently of the holdown fasteners.
3. Tension values apply to minimum concrete strength, f’c of 2,500 psi, and minimum stemwall width of 8”. For values with minimum stemwall width of 6”, refer to the current Wood Construction Connectors catalog.
4. Tension values for wind and SDC A&B apply to uncracked concrete; tension values for SDC C-F apply to cracked concrete. For allowable load information for other applications, refer to the current Wood Construction Connectors catalog.
5. Refer to the current Wood Construction Connectors catalog for installation requirements.

### Tension Straps for Portal Frames

Tension straps, such as shown in Table 3, are required at the top of the portal frame bracing methods — PFH (Portal Frame with Holdowns), PFG (Portal Frame at Garage Door Openings) and CS-PF (Continuously Sheathed Portal Frame) — to tie the header to the stud on both sides of the opening and resist wind pressures acting perpendicular to the frames. The straps are also used to attach pony walls located directly above the portal frames to the portals. The amount of required tension strap capacity depends on the wall stud size, the wall and pony wall height, the width of the adjacent opening and the wind speed (see Table 6).

### Table 3 — Tension Straps

<table>
<thead>
<tr>
<th>Strap</th>
<th>Fasteners (Total)</th>
<th>Dimensions (in.)</th>
<th>Allowable Tension (lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td>L</td>
<td>(DF/SP/SPF/HF)</td>
</tr>
<tr>
<td>LSTA21</td>
<td>(16) 10d x 2 1/2&quot;</td>
<td>1 1/4</td>
<td>21</td>
</tr>
<tr>
<td>LSTA30</td>
<td>(22) 10d x 2 1/2&quot;</td>
<td>1 1/4</td>
<td>30</td>
</tr>
<tr>
<td>MSTA30</td>
<td>(22) 10d x 2 1/2&quot;</td>
<td>1 1/4</td>
<td>30</td>
</tr>
<tr>
<td>(2) LSTA302</td>
<td>(44) 10d x 2 1/2&quot;</td>
<td>1 1/4</td>
<td>30</td>
</tr>
<tr>
<td>(2) MSTA302</td>
<td>(44) 10d x 2 1/2&quot;</td>
<td>1 1/4</td>
<td>30</td>
</tr>
</tbody>
</table>

1. Allowable loads have been increased for wind or earthquake load durations with no further increase allowed.
2. Double jack stud required; one strap installed per stud.
3. Use half the nails in each member being connected to achieve the listed loads.
4. 10d x 1 1/2” nails may be substituted where 10d x 2 1/2” are specified at 100% of the table loads except where installed over sheathing.
TECHNICAL BULLETIN

Connector Solutions to Meet the Wall-Bracing Requirements of the 2012/2015 International Residential Code®

© 2017 Simpson Strong-Tie Company. T-C-WALLBRACE17

Sill Plate Anchors

All wood sill plates, including braced wall line sills, are required to be anchored to the foundation to transfer shear loads between the wall framing and the foundation and prevent the building from sliding off of its foundation. The anchors in Table 4 provide alternatives to the code-specified cast-in-place anchor bolts. The MASA/MASAP anchors offer a cast-in-place alternative to anchor bolts, and the Titen HD® screw anchors provide a post-installed anchorage option that may be used as a direct replacement for cast-in-place bolts.

Table 4 — Sill Plate Anchors

<table>
<thead>
<tr>
<th>Anchor Type</th>
<th>Model Number</th>
<th>Size (in.)</th>
<th>Sill Plate Size</th>
<th>Min. Concrete End Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Installed</td>
<td>Titen HD</td>
<td>1/2 x 6</td>
<td>Single 2x</td>
<td>6&quot;</td>
</tr>
<tr>
<td></td>
<td>THD50600H</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Titen HD</td>
<td>1/2 x 8</td>
<td>Single 3x or Double 2x</td>
<td>6&quot;</td>
</tr>
<tr>
<td></td>
<td>THD50800H</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cast-In-Place</td>
<td>MASA/MASAP</td>
<td>---</td>
<td>Single 2x or 3x</td>
<td>4&quot;</td>
</tr>
</tbody>
</table>

1. Provide plate washers beneath the anchor head when required by code.
2. Mechanically galvanized anchors may be required by code when used with treated wood. Add ‘MG’ to model number for mechanically galvanized Titen HD option. For additional information, visit strongtie.com.
3. Minimum concrete edge distance required = 1 3/4" for Titen HD.
4. ZMAX® (galvanized G185) coating may be required by code when used with treated wood. Add ‘Z’ to model number for ZMAX option (e.g. MASAZ).
5. Minimum concrete strength, f’c = 2,500 psi.

Plate Washers

Braced wall panel methods PFH, PFG and CS-PF, and all panels in high seismic zones, require plate washers in addition to anchor bolts to provide a greater bearing surface and help distribute the load at these critical connections. Simpson Strong-Tie® BPS½-3 bearing plates meet the minimum IRC requirements for plate washers. The slotted hole in these bearing plates allows for adjustability to account for bolts that are not in the middle of the sill plate. When used with 1/2"-diameter anchor bolts, an additional standard-cut washer is required. The additional cut washer is not required when BPS½-3 bearing plates are used with the Titen HD screw anchors.
Intermittent Bracing Methods Requiring Connectors and Anchors

Three of the twelve intermittent bracing methods outlined in R602.10.4 provide narrow bracing alternatives that require connectors and anchors. Details for these three narrow braced panel alternatives are shown in this section, and the connector and anchor requirements for each of these methods appear in bold.

Another intermittent bracing method that requires holdowns is BV-WSP, wood structural panels with stone or masonry veneer, but this is limited to SDC D₁ and D₂ and only applies when the veneer extends past the top plates of the first floor. The detail and corresponding holdown requirements for the BV-WSP method are not addressed in this document; refer to Section R602.10.6.5 for those requirements.

Method ABW: Alternate Braced Wall (R602.10.6.1)

This narrow alternative may be used when there is not enough space to fit a 4' braced wall panel. It requires a holdown at each end with a capacity per Table R602.10.6.1 (see Table 5 below).

Table 5 — Holdown Forces for Alternate Braced Wall Panels (lb.) (Based on 2015 IRC Table R602.10.6.1)

<table>
<thead>
<tr>
<th>Alternate Braced Wall Panel Location</th>
<th>Height of Braced Wall Panel¹</th>
<th>Height of Braced Wall Panel²</th>
<th>Min. Sheathed Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8'</td>
<td>9'</td>
<td>10'</td>
</tr>
<tr>
<td>One Story</td>
<td>2'-4&quot;</td>
<td>2'-8&quot;</td>
<td>2'-10&quot;</td>
</tr>
<tr>
<td></td>
<td>1,800</td>
<td>1,800</td>
<td>1,800</td>
</tr>
<tr>
<td>First Story of Two Story</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
</tr>
</tbody>
</table>

¹. Alternate braced wall panels in Seismic Design Categories D₀, D₁, and D₂ are limited to a maximum height of 10'.
². The minimum length for alternate braced wall panels up to 9' in height in Seismic Design Categories D₀, D₁, and D₂ is 2'-8".
Method PFH: Portal Frame with Holdowns (R602.10.6.2)

This narrow alternative may be used adjacent to door or window openings and requires tension straps on each side, plus three holdowns for a single portal frame application or four holdowns for a double portal frame.

Table 6 — Tension Strap Capacity Required for Resisting Wind Pressures Perpendicular to Methods PFH, PFG and CS-PF Braced Wall Panels (Based on 2015 IRC Table R602.10.6.4)

<table>
<thead>
<tr>
<th>Min. Wall Stud Framing Nominal Size and Grade</th>
<th>Max. Pony Wall Height (ft.)</th>
<th>Max. Total Wall Height (ft.)</th>
<th>Max. Opening Width (ft.)</th>
<th>Tension Strap Capacity Required (lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exposure B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ult. Design Wind Speed $V_{ult}$ (mph)</td>
</tr>
<tr>
<td>2x4 No. 2 Grade</td>
<td>0</td>
<td>10</td>
<td>18</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>10</td>
<td>9</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>9</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td>1,775</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>2,075</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
<td>9</td>
<td>1,150</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td>2,875</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>3,425</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>12</td>
<td>9</td>
<td>2,275</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>3,225</td>
</tr>
</tbody>
</table>

1. Select strap from Table 3 based on capacity required.
2. DR = Design required.
Narrower Bracing Alternatives

In areas where window or door openings do not provide enough space to fit the code wall bracing options (min. 16” wide), or insufficient wall space is available to meet code-required braced wall lengths, consider using a code-listed shearwall product that meets the intent of the code while providing a narrow-wall solution, such as a Simpson Strong-Tie® Strong-Wall® shearwall (wood or steel), available in widths down to 12”. Visit strongtie.com/wallbracing to use our free Strong-Wall Bracing Selector to find a Strong-Wall alternative that meets your wall bracing requirements.

Strong-Wall Bracing Selector

The Strong-Wall Bracing Selector (SWBS) provides pre-engineered Strong-Wall alternatives to code-prescribed braced wall panels.
Continuous Sheathing Bracing Methods Requiring Connectors and Anchors

Of the four continuous sheathing bracing methods outlined in R602.10.4, the only one that requires connectors is the continuously sheathed portal frame (CS-PF), shown below.

Method CS-PF: Continuously Sheathed Portal Frame (R602.10.6.4)

The CS-PF portal frame does not require holdowns, and it may be used on a raised wood floor or upper floor using alternative attachment details (see the Framing Anchor Option). Like the intermittent portal frame methods, the CS-PF requires tension straps on each side of the opening.

**Over Concrete or Masonry Block Foundation**

- Fasten sheathing to header with 8d common nails in 3" grid pattern and 3" o.c. in all framing typ.
- Min. length based on 6:1 height-to-length ratio. For example: 16" min. for 6" height.
- Wood structural panel strength axis.
- Simpson Strong-Tie Titen HD® screws per R403.1.6.
- Simpson Strong-Tie THD50600H Anchor bolt per R403.1.6 typ.
- Simpson Strong-Tie BPS ½-3 Min. 2" x 2" x 3/16" plate washer typ.
- Wood structural panel must be continuous from top of wall to bottom of wall, or from top of wall to permitted splice area.
- ¾" min. thickness wood structural panel sheathing.

**Over Raised Wood Floor or Second Floor — Framing Anchor Option**

- Simpson Strong-Tie LTP4 Framing anchors 670 lb. uplift, 670 lb. lateral
- Nail sole plate to joist per table R602.3(1)
- Wood structural panel sheathing over approved band joist
- Simpson Strong-Tie THS50600H Anchor bolt per R403.1.6 typ.
- Approved band joist

**Side Elevation**

- Strap centered at bottom of header.
- 16d sinker nails in 2 rows at 3" o.c.
- Sheathing filler if needed.
- Wood structural panel sheathing over approved band joist.
Use of Holdowns to Reduce Wall Bracing Requirements

The following wall bracing code provisions offer advantages when holdowns are used, such as reducing the required length of bracing, eliminating the requirement for a corner return or eliminating the need to have a panel located at the corner.

Adjustments to Required Length of Wind Bracing (Table R602.10.3(2))

Table R602.10.3(2) specifies adjustment factors to be applied to the required length of wind wall bracing. Per Item 5 in this table, the amount of required wind bracing length of several bracing methods may be multiplied by 0.80 when a min. 800 lb. holdown is attached to both end studs of each braced wall panel and to the foundation or framing below. Note that this reduction is limited to braced wall panels that are only supporting a roof above. Refer to the details in Figures 1 and 2 for complete holdown solutions that meet this min. 800 lb. requirement.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Adjustment Based on</th>
<th>Story/ Supporting Condition</th>
<th>Adjustment Factor [multiply length from Table R602.10.3 (1) by this factor]</th>
<th>Applicable Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Additional 800 lb. holdown device</td>
<td>Top story only Fastened to the end studs of each braced wall panel and to the foundation or framing below</td>
<td>0.80</td>
<td>DWB, WSP, SFB, PBS, PCP, HPS</td>
</tr>
</tbody>
</table>

Example: One-story house, 2 braced wall lines 60' apart

- Ultimate Design Wind Speed: 115 mph
- Wind Exposure Category: B
- 10’ Roof eave-to-ridge height
- 10’ Wall height

Option 1: Method WSP without Holdowns

Length of wall bracing required = 10.5’

Option 2: Method WSP with 800 lb. Holdowns at each end of each braced wall panel

Length of wall bracing required = 0.80 x 10.5’ = 8.4’

Need Help Determining Wall-Bracing Length Requirements?

Determining the wall-bracing requirements for a structure is a complex process. In an effort to simplify it, Simpson Strong-Tie has developed a Wall-Bracing-Length Calculator — a quick and easy tool that helps calculate the required length of wall bracing in accordance with the International Residential Code. The tool provides printed output of the bracing requirements along with a summary of input information and factors used in the calculations.

Visit strongtie.com/wallbracing for more information and to try this free tool.
End Conditions for Braced Wall Lines with Continuous Sheathing (R602.10.7)
Per Section R602.10.7, each end of a continuously sheathed braced wall line must have one of the following conditions:

- a min. 48" braced wall panel located at the end of the braced wall line; or
- a braced wall panel located at the end of the braced wall line and a return panel at the corner; or
- a 24" full-height panel segment (or 32" for structural fiberboard) located at the end of the braced wall line and a return panel at the corner; or
- a braced wall panel located at the end of the braced wall line with a min. 800 lb. holdown; or
- a braced wall panel located within 10’ of the corner with a min. 800 lb. holdown

Therefore, the addition of a 800 lb. holdown to a continuously sheathed braced wall line in accordance with R602.10.7 can reduce the required length of braced wall panel at the end of the braced wall line, eliminate the need for a corner return, and allow for the first braced panel to be located up to 10’ away from the corner. Refer to the details in Figures 1 and 2 for complete holdown solutions that meet this min. 800 lb. requirement.

End Conditions for Braced Wall Lines in Seismic Design Categories D₁ and D₂ (R602.10.2.2.1)
Per R602.10.2.2.1, braced wall panels in SDC D₀, D₁ and D₂ must be located at each end of a braced wall line with the following exceptions. WSP, BV-WSP and continuous sheathing methods are permitted to be located up to 10’ from the corner, provided one of the following two provisions are met:

- a min. 24" panel for methods WSP, CS-WSP, CS-G and CS-PF is applied to each side of the corner; or
- the end of each braced wall panel closest to the end of the braced wall line has an 1,800 lb. holdown

Refer to Tables 1 and 2 for holdown options to meet the 1,800 lb. holdown requirement that permits method WSP, BV-WSP and continuous sheathing panels to be located up to 10’ away from the corner in SDC D₀, D₁ and D₂.
General Uplift and Anchorage Connector Requirements for All Braced Wall Panels

**Uplift Connections**

Section R602.10.2.1 requires a continuous uplift load path to be provided for all braced wall panels, and Section R602.3.5 specifies the specific connection requirements for the braced wall panel uplift load path. Roof uplift connectors are required when the roof uplift loads exceed the capacity of the standard nailed connections given in the general wood wall framing fastening schedule (Table R602.3(1)). Per Section R602.3.5:

- Where the net uplift at the top of the wall exceeds 100 plf, uplift framing connectors shall be installed to provide a continuous load path from the top of the wall to the foundation or to a point where the uplift force is 100 plf or less.

Refer to the current Simpson Strong-Tie Wood Construction Connectors catalog for uplift connectors that can be used to meet these continuous load path requirements.

**Anchorage**

Per Section R602.11, all braced wall line sills must be anchored to concrete or masonry foundations in accordance with R403.1.6 and R602.11.1:

- R403.1.6 requires a minimum of 1/4"-diameter anchor bolts with min. 7" embedment spaced a maximum of 6" on center or other approved equivalent anchors. The sill plate anchors in Table 4 are approved as 1:1 replacements for these 1/4"-diameter anchor bolts.
- R602.11.1 requires the anchorage of buildings in SDC D0, D1 and D2 and townhouses in SDC C to also include a plate washer not less than 0.229" by 3" square except where approved anchor straps are used. See p. 5 for a bearing plate that meets this plate washer requirement. Alternately, the cast-in-place MASA mudsill anchors (Table 4) can be used in lieu of the anchor bolts and plate washers in these high seismic zones.

---

Ex: H10A Hurricane Tie  
(refer to Wood Construction Connectors catalog for more options)

Ex: Titen HD Anchor  
(refer to p. 5 for sill plate anchors and plate washers)