

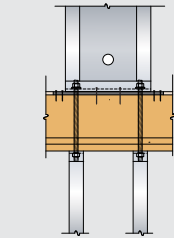
Hardy Frame® Post

The Hardy Frame HFP and HFP/S Post are now available in 7/8 inch diameter hold down rods for connecting to Brace Frames above and in 1-1/8 inch diameter for connecting to Panels above.

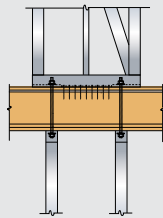
Tables provide tensile values for standard grade (STD) and for High Strength (HS) hold down rods. Be sure to include the embed callout on the foundation plan.

The access holes to both the bottom and the top hold down rods are now located on the same edge of the post.

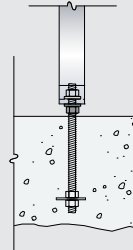
All Posts are 3 1/2" x 3 1/2" square and are fabricated from 12 gage steel. Custom heights up to the maximum listed in the table are available.



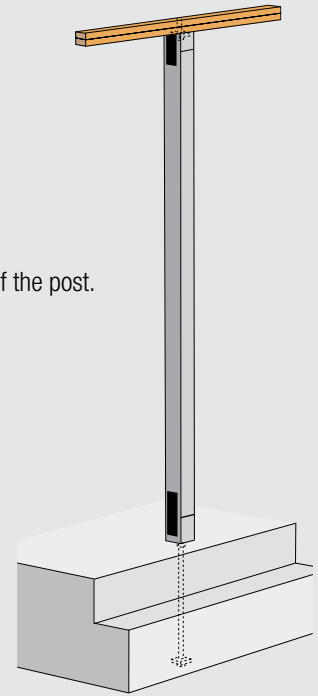
Hardy Frame® Panel to two Hardy Frame® Posts below



Hardy Frame® Brace Frame to two Hardy Frame® Posts below



Hardy Frame® Post on nut and washer (requires 5,000 psi non-shrink grout)



| Model Number | Net Height (in) | HD Dia (in) | Allowable Compression ^{3,4,5} (lbs) | STD Allowable Tension ⁶ (lbs) | HS Allowable Tension ⁶ (lbs) |
|---------------|-----------------|-------------|--|--|---|
| HFP | | | | | |
| HFP8-7/8 | 92 1/4 | 7/8 | 24,735 | 13,080 | 28,185 |
| HFP8-1 1/8 | 92 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP9-7/8 | 104 1/4 | 7/8 | 22,325 | 13,080 | 28,185 |
| HFP9-1 1/8 | 104 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP10-7/8 | 116 1/4 | 7/8 | 19,900 | 13,080 | 28,185 |
| HFP10-1 1/8 | 116 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP11-7/8 | 128 1/4 | 7/8 | 17,520 | 13,080 | 28,185 |
| HFP11-1 1/8 | 128 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP12-7/8 | 140 1/4 | 7/8 | 15,230 | 13,080 | 28,185 |
| HFP12-1 1/8 | 140 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP13-7/8 | 152 1/4 | 7/8 | 13,050 | 13,080 | 28,185 |
| HFP13-1 1/8 | 152 1/4 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S | | | | | |
| HFP/S8-7/8 | 96 5/8 | 7/8 | 23,865 | 13,080 | 28,185 |
| HFP/S8-1 1/8 | 96 5/8 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S9-7/8 | 108 5/8 | 7/8 | 21,440 | 13,080 | 28,185 |
| HFP/S9-1 1/8 | 108 5/8 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S10-7/8 | 120 5/8 | 7/8 | 19,025 | 13,080 | 28,185 |
| HFP/S10-1 1/8 | 120 5/8 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S11-7/8 | 132 5/8 | 7/8 | 16,670 | 13,080 | 28,185 |
| HFP/S11-1 1/8 | 132 5/8 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S12-7/8 | 144 5/8 | 7/8 | 14,430 | 13,080 | 28,185 |
| HFP/S12-1 1/8 | 144 5/8 | 1 1/8 | | 21,620 | 35,275 |
| HFP/S13-7/8 | 156 5/8 | 7/8 | 12,330 | 13,080 | 28,185 |
| HFP/S13-1 1/8 | 156 5/8 | 1 1/8 | | 21,620 | 35,275 |

1) The values in this table are Allowable Stress Design (ASD), exclude a 1.33 stress increase, and assume installations on a rigid base, or a nut and washer with non-shrink grout of 5000 psi minimum compressive strength.

2) The HFP is used to transfer tension and compression loads from Panels or Brace Frames on upper floors. The amplification factor (Ω) for discontinuous lateral systems does need to be applied.

3) The maximum allowable compression of the post is limited as follows:

- A) Wood with 625 psi allowable compression perpendicular to grain = 7,656 lbs.
- B) Wood with 680 psi allowable compression perpendicular to grain = 8,330 lbs.
- C) 2500 psi Concrete = 10,412 lbs.
- D) 3000 psi Concrete = 12,495 lbs.
- E) 4000 psi Concrete = 16,660 lbs.

4) For installation on supporting materials other than noted above, the Design Professional must check the Bearing Stress based on the Post bearing area of 12.25 square inches.

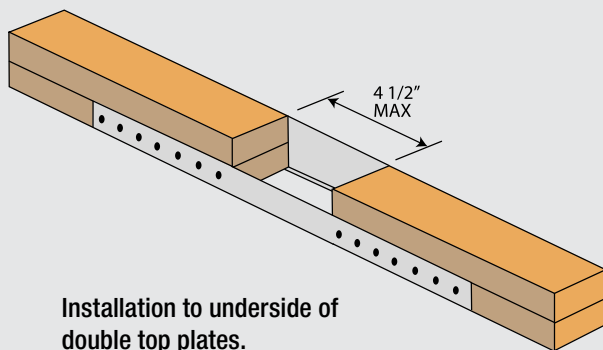
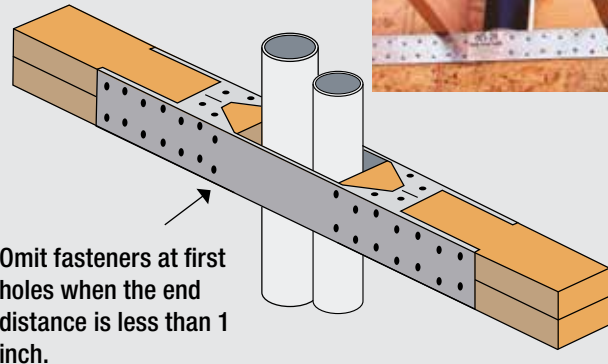
5) For compression loads exceeding the allowable bearing stress of the supporting material the Building Design Professional is permitted to design bearing plates to increase the bearing area in order to reduce the bearing stress.

6) STD indicates bolts complying with ASTM F1554 Grade 36. HS rods include, but are not limited to ASTM F1554 Grade 105, ASTM A193 Grade B7 or ASTM A354 Grade BD.

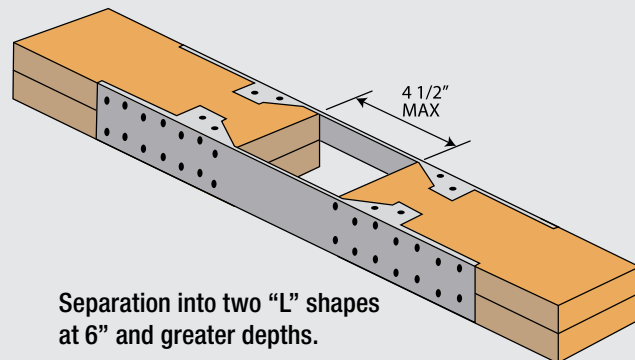
For Sl: 1 inch = 25.4 mm, 1 lbf = 4.45 N

Hardy Frame® Saddle

The Hardy Frame® Saddle (HFS) is a 14 gauge steel channel intended to be used as a splice at locations where plumbing or other vertical penetrations destroy the structural integrity of a wall's top plates. The Saddle can be installed over the top or from the underside of the top plates, and is capable of resisting both tension and compression loads in a clearspan of up to 4-1/2" inches. For wall depths greater than 3-1/2", or to install after plumbing lines have been run, the product can be separated into two "L" shapes by gripping the legs of the channel and flexing the top surface along the serration lines.



Installation to underside of double top plates.



Separation into two "L" shapes at 6" and greater depths.

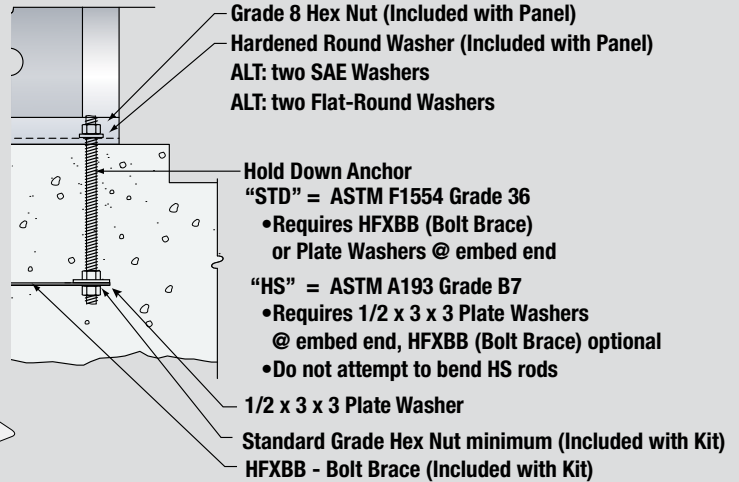
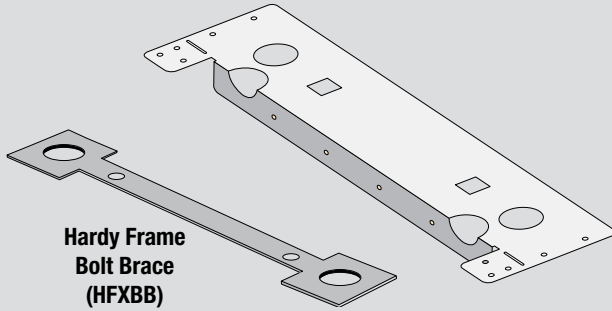
| Hardy Frame® Saddle ^{1,2} | | | |
|------------------------------------|----------------------------------|--|-----------------------------|
| Model Number | Fastener Quantity ^{3,4} | Allowable Tension ^{5,6} (lbs) | Allowable Compression (lbs) |
| HFS24 | 24-16d common | 2950 | 2500 |
| HFS36 | 32-16d common | 4280 | 2500 |

For SI 1 inch = 25.4 mm, 1 lb. = 4.45 N

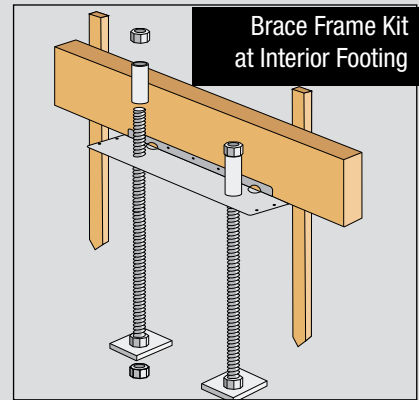
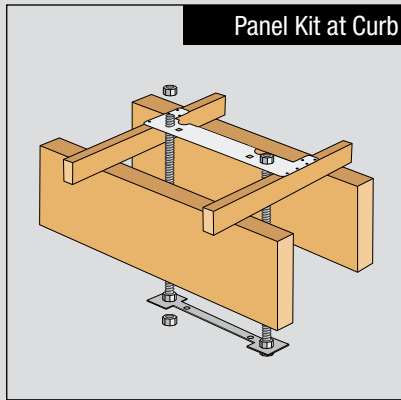
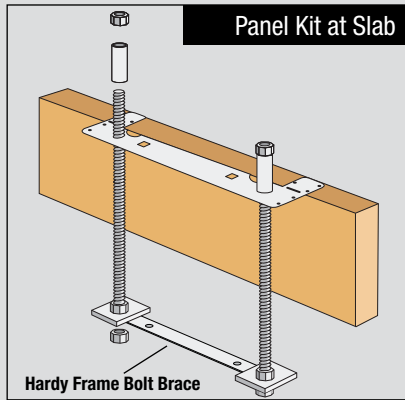
1. Loads shown are Allowable Stress Design (ASD) and exclude a 1.33 stress increase.
2. The maximum notched section in the wood member is 4-1/2 inches.
3. Fastener quantity is the number of 16d Common nails to be installed into each of the members to be joined.
4. When the end distance from the joint to the first nail hole is less than 1-inch, omit the (2) nails in the 3-inch side-plate and the (1) nail in the 1-1/2 inch side-plate that are nearest the joint. For this condition there is no reduction in values.
5. The allowable tension capacities are for normal duration. The values may be adjusted for other durations, such as for seismic and wind loading in accordance with the AF&PA NDS.
6. Allowable tension capacities assume the Saddle is attached to lumber members with a specific gravity of 0.49 or higher

Hardy Frame® HFX Template (HFXT)

- Assures proper bolt spacing and alignment
- 16 gage material supports weight of embed bolts
- Variety of applications
- Also available for 2x6 wall framing



Hardy Frame® HFX Template Kit (HFXTK)



Hardy Frame® HFX Template Kit Components

| Kit Model Number | Template (1 ea) | Bolt Brace (1 ea) | Panels | | Brace Frames | |
|------------------|-----------------|-------------------|---------------------------|----------|--------------|--------|
| | | | Hold Down Anchor Assembly | | | |
| | | | 1-1/8 STD | 1-1/8 HS | 7/8 STD | 7/8 HS |
| HFXTK9 | HFXT9 | HFxBB9 | 2 | | | |
| HFXTK12 | HFXT12 | HFxBB12 | 2 | | | |
| HFXTK-HS12 | | | | 2 | | |
| HFXTK15 | HFXT15 | HFxBB15 | 2 | | | |
| HFXTK-HS15 | | | | 2 | | |
| HFXTK18 | HFXT18 | HFxBB18 | 2 | | | |
| HFXTK-HS18 | | | | 2 | | |
| HFXTK21 | HFXT21 | HFxBB21 | 2 | | | |
| HFXTK-HS21 | | | | 2 | | |
| HFXTK24 | HFXT24 | HFxBB24 | 2 | | | |
| HFXTK-HS24 | | | | 2 | | |
| HFXTK32 | HFXT32 | NA | | | 2 | |
| HFXTK-HS32 | | | | | | 2 |
| HFXTK44 | | | | | | 2 |
| HFXTK-HS44 | HFXT44 | | | | | 2 |

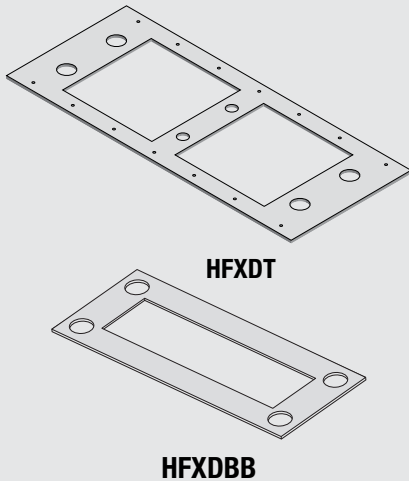
Hold Down Anchor Assemblies:

- 1-1/8 STD = 1-1/8 x 32" ASTM F1554 Grade-36 all thread with (3) Standard Hex Nuts.
- 1-1/8 HS = 1-1/8 x 38" ASTM A193 Grade-B7 all thread with (1) 1/2x3x3 ASTM A36 Plate Washer & (3) Standard Hex Nuts
- 7/8 STD = 7/8 x 30" ASTM F1554 Grade-36 all thread with (1) 1/2x3x3 ASTM A36 Plate Washer & (3) Standard Hex Nuts
- 7/8 HS = 7/8 x 31" ASTM A193 Grade-B7 all thread with (1) 1/2x3x3 ASTM A36 Plate Washer & (3) Standard Hex Nuts

For other rod lengths contact Hardy Frames

- 1) All Thread length = length of embed (le) + 12" (formboard) + 6"(Kit assembly + height above concrete) For Raised Floor installations adjust the all thread length or extend length with a Grade 8 Coupling nut
- 2) The Hardened Round Washers for connecting the Panel base may be substituted with two SAE or two Round-Flat Washers
- 3) STD assemblies require a Hardy Frame® Bolt Brace (Minimum) double nipped at the embed end or 1/2x3x3 ASTM A36 Plate Washer
- 4) HS assemblies require 1/2x3x3 ASTM A36 Plate Washer (Minimum) and the Hardy Frame® Bolt Brace is optional
- 5) HS all thread rods provided by Hardy Frame are stamped on both ends



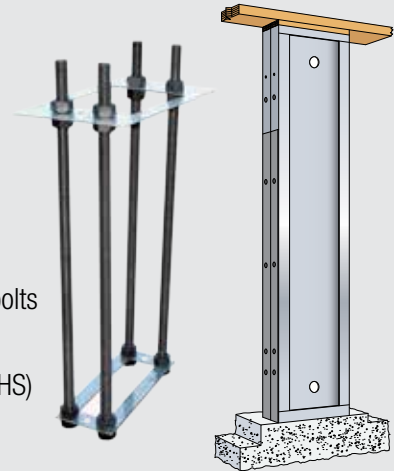


**Back-to-Back Hardy Frame®
HFX Double Template**

- Locates bolts for “Back-to-Back” installation in 8” wall framing
- Large cut-outs allow concrete and mortar placement
- 14 gage material supports weight of embed bolts

Back to Back Anchorage Components

- 4 ea. HFAB 1-1/8 (specify length and STD or HS)
- 1 ea. HFXDT Template
- 1 ea. HFXDBB Bolt Brace



Anchor Bolt Assemblies

Hardy Frame Anchor Bolt Assemblies (HFAB) are sold individually in lengths of 36", 48", 60" and 72" inches to provide rod lengths for various embed depths. HFABs are available in Standard Grade (STD) or High Strength Grade (HS) to meet plan specifications and in 1-1/8 inch diameters for anchoring Panels, 7/8 inch diameters for anchoring Brace Frames.



ANCHOR BOLT ASSEMBLY

For complete structural components provided in Hardy Frame Template Kits order the following:

Panels

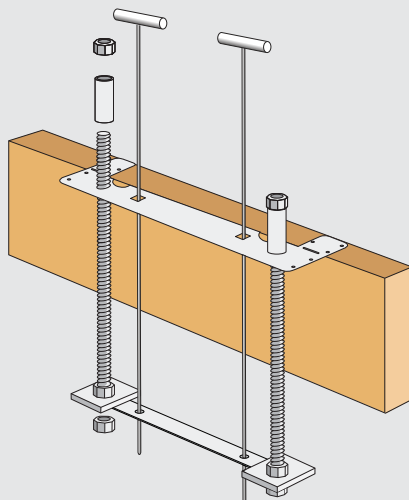
- 2 each HFAB1-1/8 (Specify length and STD or HS grade)
- 1 each HFXT Template
- 1 each HFXBB Bolt Brace

Brace Frames

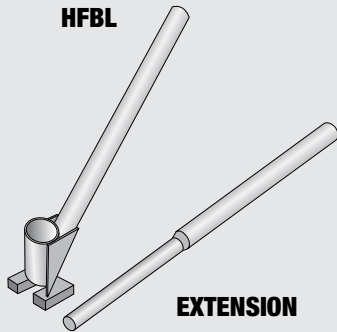
- 2 each HFAB7/8 (Specify length and STD or HS grade)
- 1 each HFXT Template

| Panels | Brace Frames |
|-----------------|---------------|
| HFAB1-1/8x36STD | HFAB7/8x36STD |
| HFAB1-1/8x48STD | HFAB7/8x48STD |
| HFAB1-1/8x60STD | HFAB7/8x60STD |
| HFAB1-1/8x72STD | HFAB7/8x72STD |
| HFAB1-1/8x36HS | HFAB7/8x36HS |
| HFAB1-1/8x48HS | HFAB7/8x48HS |
| HFAB1-1/8x60HS | HFAB7/8x60HS |
| HFAB1-1/8x72HS | HFAB7/8x72HS |

Hardy Frame® T-Rods (HFTR)

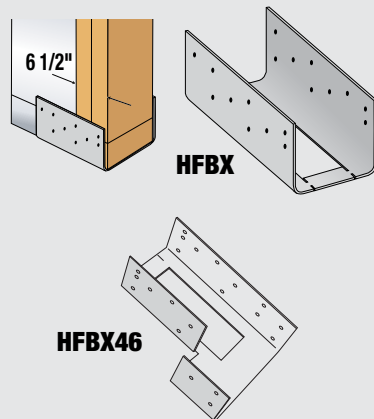


Hardy Frame T-Rods (HFTR) are used in combination with Hardy Frame Templates and Bolt Braces to position the embed end of hold down anchors prior to pouring concrete. T-Rods are 1/2 inch diameter, 5 feet long, pointed on one end with a handle provided on the other end. With the Hardy Frame Template Kit assembled and hung from a form board the installer feeds the pointed end of the HFTR through square holes provided in the Template then through holes provided in the Bolt Brace. When the embed end of the hold down anchor is in the desired location the T-Rod is pushed into the soil at the bottom of the footing to prevent movement during the concrete pour. After the concrete is poured and before it sets remove the T-Rod leaving the anchors positioned perfectly in the footing.



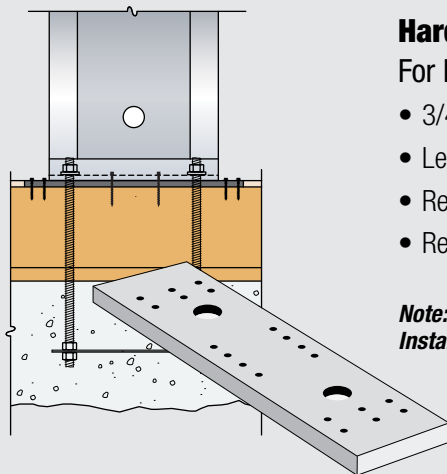
Hardy Frame® Bolt Lever (HFBL)

- Straightens embed bolts while preventing concrete spall
- Place nut on bolt and position inside the HFBL cylinder. With handle oriented in direction to be bent, pull handle downwards
- Unique base plate applies compression to concrete to prevent spall
- Extension handle provides leverage
- *Note: Not recommended for use with high strength rods*



Hardy Frame® Base Extension (HF BX)

- Connects adjacent wood mudsill and stud (or Post) to Hardy Frame Panel/Brace Frame
- Adjustable installation for HF BX extends up to 6 1/2" beyond face of Panel
- "Break-away" tab allows installation after Panel/Frame has been set
- Pre-punched holes for wood nailing
- Can be screwed to Panel/Brace Frame for additional stability

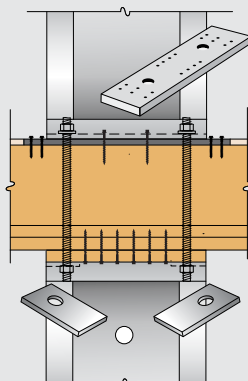


Hardy Frame® Bearing Plate (HF XBP)

For Installation with Hardy Frame® Panels

- 3/4" thick x 3 1/2" wide ASTM A36 steel
- Length extends 3" beyond Panel edges Check for outside corner conditions!
- Reduces wood deformation from overturning forces
- Reduces effects of shrinkage by eliminating bottom plate

Note: The allowable values in raised floor and upper floor tables assume installation of HF XBP. Installation without a HF XBP may result in a reduction of allowable loads

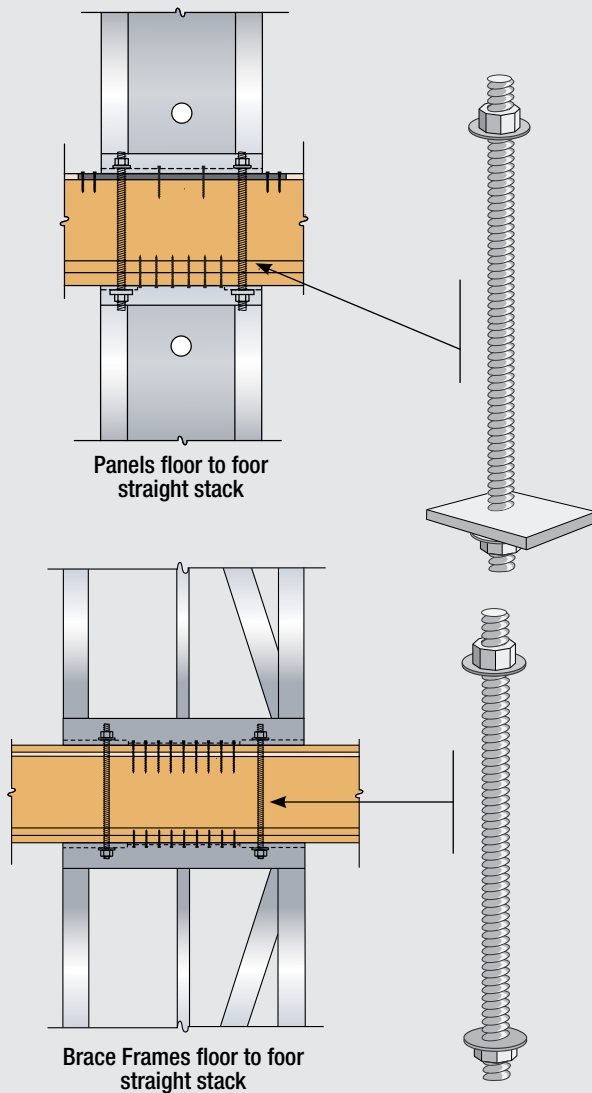


Hardy Frame® Stacking Washer (STK)

- Hardy Frame® Stacking ("STK") washers are required in the top of Panels when connecting to a hold down rod from above.
- Hardy Frame® "STK" Panels, include Stacking Washers pre-welded inside the top channel.
- When Stacking Washers have not been pre-welded, they are available individually or in Tension Connector Kits (HFTC)
- HFSW12 measures 2-3/4" x 3" for installation in HF X-12x Panels
- HFSW15-24 measures 2-3/4" x 5" for installation in HF X-15x through HF X-24x Panels

Hardy Frame® Tension Connectors

*For joist depths up to 14"



- Hardy Frame "STK" washers are required in the top of Panels when connecting to a hold down rod from above.
- Includes all rods, nuts and washers for making floor to floor tension connections
- Provides connection of Panels and Brace Frames straight or "staggered" stack conditions
- For Panels - Indicate Panel width and rod grade
- For Brace Frames - Indicate rod grade

HFTC12 STD

- ROD GRADE
- 12 in. PANEL WIDTH
- HARDY FRAME TENSION CONNECTORS

HFTC15-24 STD

- ROD GRADE
- 15 in. THROUGH 24 in. PANEL WIDTHS
- HARDY FRAME TENSION CONNECTORS

HFTC-7/8 STD

- ROD GRADE
- ROD DIAMETER (FOR BRACE FRAMES)
- HARDY FRAME TENSION CONNECTORS

Hardy Frame® Tension Connector Kit Components

| Tension Kit Model Number | "STK" Stacking Washer | Panels | | Brace Frames | |
|--------------------------|-----------------------|---------------------------|----------|--------------|--------|
| | | Hold Down Anchor Assembly | | | |
| | | 1-1/8 STD | 1-1/8 HS | 7/8 STD | 7/8 HS |
| HFTC12-STD | 2-HFSW12 | 2 | | | |
| HFTC12-HS | 2-HFSW12 | | 2 | | |
| HFTC15-24 STD | 2-HFSW15-24 | 2 | | | |
| HFTC15-24 HS | 2-HFSW15-24 | | 2 | | |
| HFTC-7/8 STD | NA | | | 2 | |
| HFTC-7/8 HS | NA | | | | 2 |

Hold Down Anchor Assemblies:

HFTC-1 1/8 STD = 1-1/8 x 26" ASTM F1554 Grade-36 all thread with (2) Hardened Round Washers & (2) Grade 8 Hex Nuts.

HFTC-1 1/8 HS = 1-1/8 x 26" ASTM A193 Grade-B7 all thread with (2) Hardened Round Washers & (2) Grade 8 Hex Nuts

HFTC-7/8 STD = 7/8 x 26" ASTM F1554 Grade-36 all thread with (2) Hardened Round Washers & (2) Grade 8 Hex Nuts.

HFTC-7/8 HS = 7/8 x 26" ASTM A193 Grade-B7 all thread with (2) Hardened Round Washers & (2) Grade 8 Hex Nuts

1) Hardy Frame® "STK" washers are required in the top channel of Panels when connecting to a hold down rod from above

2) All Thread length fits up to a 14" joist depth + 3/4" subfloor + (4) 2x wood plate

3) Each Hardened Round Washer may be substituted with (2) SAE or (2) Round-Flat Washers

4) HS all thread rods provided by Hardy Frame are stamped on both ends

