

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to a sloping double plate with bevel filler. The diagram includes labels for the WSP to be designed by the building design professional, the strap by the building design professional, and the adjacent framing and connections by the building design professional. It also shows the 1/4" diameter (minimum) x 3" long USP-WS screw (or equal) per table.

BUILDING DESIGN PROFESSIONAL MUST DESIGN:
1. STUDS OR STRAPS TO TRANSFER UPLIFT OF FILLER MATERIAL
2. ADDITIONAL DRIFT DUE TO THE ADDITIONAL FILLER HEIGHT
3. STUDS/POST AT EACH END OF BRACE FRAME FOR OUT OF PLANE LOAD

HARDY FRAME® HFX-SERIES BRACE FRAME **4** **HFX5**
TOP TO SLOPING DOUBLE PLATE WITH BEVEL FILLER

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to double plates with filler height greater than 1 1/2 inches. The diagram includes labels for connectors by building design professional, 4x wood filler by building design professional, and adjacent framing for resisting out of plane loads by building design professional. It also shows the 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) per table.

FOR FILLERS LARGER THAN 1 1/2", ENGINEER OF RECORD TO DESIGN:
1. STUDS OR STRAPS TO TRANSFER UPLIFT OF FILLER MATERIAL
2. ADDITIONAL DRIFT DUE TO THE ADDITIONAL FILLER HEIGHT
3. STUDS/POST AT EACH END OF BRACE FRAME FOR OUT OF PLANE LOAD
4. IF SPLICE OCCURS AT TOP PLATES, FASTENING MUST DEVELOP TENSILE STRENGTH IN LUMBER

HARDY FRAME® HFX-SERIES BRACE FRAME **3** **HFX5**
TOP TO DOUBLE PLATES WITH FILLER HEIGHT GREATER THAN 1 1/2 INCHES

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to double plates with 2x filler. The diagram includes labels for 2x wood filler connection with 1/4" diameter (minimum) x 4 1/2" long USP-WS screws (or equal).

HARDY FRAME® HFX-SERIES BRACE FRAME **2** **HFX5**
TOP TO DOUBLE PLATES WITH 2x FILLER

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to double plates. The diagram includes labels for 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) per table.

HARDY FRAME® HFX-SERIES BRACE FRAME **1** **HFX5**
TOP TO DOUBLE PLATES

Table 1.0 *Hardy Frame® HFX-Series* Product Data and Connectors

MODEL NUMBER	NET HEIGHT (in)	DEPTH (in)	Hold Down Diameter ^{1,2} (in)	Top Screw ^{3A} Qty (ea)	Bottom Screw ^{3B} Qty (ea)	Screw Qty Available at Edges (ea)
HFX-32x8	92-1/4	3-1/2	7/8	14	14	NA
HFX-32x9	104-1/4					NA
HFX-32x10	116-1/4					NA
HFX-32x11	128-1/4					NA
HFX-32x12	140-1/4					NA
HFX-32x13	152-1/4					NA
HFX-44x8	92-1/4	3-1/2	7/8	17	14	NA
HFX-44x9	104-1/4			15		NA
HFX-44x10	116-1/4			14		NA
HFX-44x11	128-1/4					NA
HFX-44x12	140-1/4					NA
HFX-44x13	152-1/4					NA

¹ Hold down bolts must have a 1/2"x3"x3" ASTM A 36 plate washer double nutted on the embed end that connects to the Panel or Brace Frame base with one Hardened Round, two Round-Flat or two SAE Washers and a Grade 8 Hex Nut on each rod or as specified by the Building Design Professional.

² High Strength Hold Downs can be ASTM A 193 Grade B7 (or specified by the Building Design Professional) with 1/2"x3"x3" ASTM A 36 Plate Washers double nutted on the embed end that connects to the Panel or Brace Frame base with one Hardened Round, two Round-Flat or two SAE Washers and a Grade 8 Hex Nut on each rod.

³ Screws: 1/4" diameter USP-WS Series (or equal) with a minimum allowable design value of 311 lbs. (excluding the allowable 1.33 stress increase) when connecting to wood with specific gravity of 0.50 (Min.)

^A Top Screw length is 3" (minimum) when attached directly to the collector, 4 1/2" (minimum) when installing a 2x filler above.

^B Bottom Screw length is 4 1/2" (minimum) at Brace Frame connections.

Diagram showing the Hardy Frame HFX-Series Post connection to double plates. The diagram includes labels for the threaded rod with hardened round, (2) SAE or (2) round-flat washers and grade 8 hex nut connecting to hold down above, and the 3/4" thick platewasher built in by manufacturer. It also shows the access hole located at edge of post.

HARDY FRAME® HFX-SERIES POST **8** **HFX5**
TOP TO DOUBLE PLATES

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to header with filler height greater than 1-1/2 inches. The diagram includes labels for continuous header per plan, connectors by building design professional, 4x wood filler by building design professional, 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) per table, and adjacent framing for resisting out of plane loads by building design professional.

HARDY FRAME® HFX-SERIES BRACE FRAME **7** **HFX5**
TOP TO HEADER WITH FILLER HEIGHT GREATER THAN 1-1/2 INCHES

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to header with 2x filler. The diagram includes labels for continuous header per plan, 2x wood filler connection with 1/4" diameter (minimum) x 4 1/2" long USP-WS screws (or equal), and adjacent framing for resisting out of plane loads by building design professional.

HARDY FRAME® HFX-SERIES BRACE FRAME **6** **HFX5**
TOP TO HEADER WITH 2x FILLER

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to header with cripple studs. The diagram includes labels for shear transfer design and details by the building design professional, continuous header per plan, 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) per table, and adjacent framing for resisting out of plane loads by building design professional.

HARDY FRAME® HFX-SERIES BRACE FRAME **5** **HFX5**
TOP TO HEADER WITH CRIPPLE STUDS

Diagram showing the hole pattern top & bottom for 32" and 44" brace frames. The 32" brace frame has a total width of 32" with 5-3/4" end offsets and a 20-1/2" central spacing. The 44" brace frame has a total width of 44" with 6-1/2" end offsets and a 31" central spacing.

32" BRACE FRAME **44" BRACE FRAME**
HOLE PATTERN TOP & BOTTOM

Diagram showing the Hardy Frame HFX-Series Saddle connection to double top plates. The diagram includes labels for the collector by building design professional, 2x wood filler connection with 1/4" diameter (minimum) x 4 1/2" long USP-WS screws (or equal), and the face to face Hardy Frame brace frame.

HARDY FRAME® SADDLE **13** **HFX5**

Table 6.1 : Hardy Frame® Saddle

Model Number	Fastener Qty	ASD Tension (lbs)	ASD Compression (lbs)
HFS24	24 - 16d common	2950	2500
HFS36	32 - 16d common	4280	2500

Notes:
1) Maximum Clearspan splice is 4-1/2"
2) Fastener quantity is the number of 16d common nails to be installed at each end of the splice.
3) When the distance from the splice to the first nail hole is less than 1 inch, omit the (2) nails in the 3 inch sideplate and the (1) nail in the 1-1/2 inch sideplate closest to the splice.
4) For the HFS24 that is installed with 22 - 16d common nails on each end of the splice (44 total) there is no reduction in the values.
5) For the HFS36 that is installed with 31 - 16d common nails on each end of the splice (62 total) there is no reduction in the values.
6) Allowable tension capacity is based on attachment to lumber with a minimum specific gravity of 0.49.
7) Loads shown are allowable stress design (ASD) and exclude a 1.33 stress increase.

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to double plates with 2x filler face to face condition. The diagram includes labels for collector by building design professional, 2x wood filler connection with 1/4" diameter (minimum) x 4 1/2" long USP-WS screws (or equal), and the face to face Hardy Frame brace frame.

HARDY FRAME® HFX-SERIES BRACE FRAME **12** **HFX5**
TOP TO DOUBLE PLATES WITH 2x FILLER FACE TO FACE CONDITION

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to double plates - face to face condition. The diagram includes labels for collector by building design professional, 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) per table, and the face to face Hardy Frame brace frame.

HARDY FRAME® HFX-SERIES BRACE FRAME **11** **HFX5**
TOP TO DOUBLE PLATES - FACE TO FACE CONDITION

Diagram showing the Hardy Frame HFX-Series Brace Frame connection to top to steel beam with wood nailer below. The diagram includes labels for connection by building design professional, 1/4" diameter (minimum) x 3" long USP-WS screws (or equal) for shear transfer from wood nailer to Hardy Frame brace frame, and steel beam per plans.

HARDY FRAME® HFX-SERIES BRACE FRAME **10** **HFX5**
TOP TO STEEL BEAM WITH WOOD NAILER BELOW

Diagram showing the Hardy Frame HFX-Series Brace Frame attachment with self tapping screws. The diagram includes labels for bugle head, wafer head, flat truss, modified truss, hex head, and self drilling tip. It also shows the use of #10 self-tapping screws when attachment to edge of brace frame is required by the building design professional (hex head with self drilling wing tip shown).

HARDY FRAME® HFX-SERIES BRACE FRAME **9** **HFX5**
ATTACHMENT WITH SELF TAPPING SCREWS

NOTES:
1) ATTACHMENTS TO THE FACE AND / OR EDGE OF **HARDY FRAME®** BRACE FRAMES, INCLUDING SURFACE FINISHES, CONNECTORS AND FIXTURES, ARE MADE WITH # 10 SELF-TAPPING SCREWS SPACED NO LESS THAN 2 1/4" OC.
2) STRUCTURAL CONNECTIONS ARE TO BE DESIGNED BY THE BUILDING DESIGN PROFESSIONAL.
3) HARDWARE USED STRUCTURALLY TO TRANSFER LOADS SHOULD NOT EXCEED 12 GAGE THICKNESS.