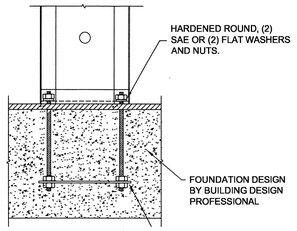
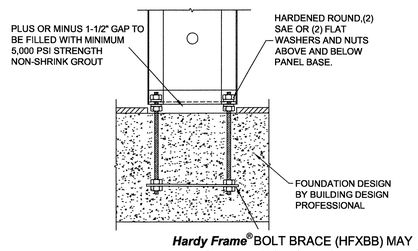


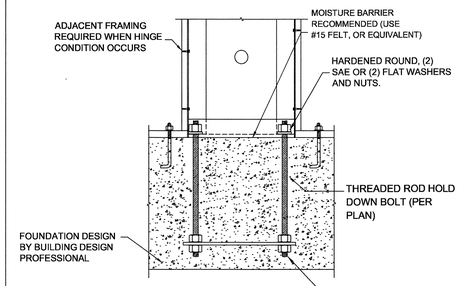
Hardy Frame®BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES PANEL — ON WOOD SILL — ESR 2A/P — 3 HFX1



Hardy Frame®BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES PANEL — ON NUT & WASHER (DOUBLE NUT) — ESR 1D/P — 2 HFX1



Hardy Frame®BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES PANEL — ON FOUNDATION — ESR 1A/P — 1 HFX1

Hardy Frame® Installation

Step 1: Concrete Preparation

A) Concrete contractor shall use ***Hardy Frame***® HFX-Series Templates to accurately place embed bolts and ***Hardy Frame***® Bolt Braces to prevent sway.
B) Attach the HFX-Series Template to a formboard at location specified on plans. Bolt Braces connect at the embed end of the hold down bolts.
C) At interior footings Templates may be secured in place using stakes.
D) Footing design, embed depths and bolt edge/end distances are per the Building Design Professional.
E) Determine if the ***Hardy Frame***® will be installed on concrete or a mudsill. For installation directly on concrete the recommended bolt height above finished concrete is 2 3/4" and for installation on a 2x mudsill it is 4 1/2".

Step 2: First Floor installation on concrete

A) Installation of a moisture barrier such as Moistop or 15# felt is recommended under the Frame.
B) Set the ***Hardy Frame***®over the embed bolts and install (1) Hardened Round, (2) Flat, or (2) SAE washers and a nut.
C) Tighten nuts until snug tight.
D) After framing and plumb & line are complete, place a 2x filler above the Frame to make up the height difference created by eliminating the sill plate, and connect with 1/4" x 4 1/2" screws through the top of the Frame, through the filler and into the double top plates or header above. For fillers larger than 1 1/2" net , refer to detail 3/HFX2.

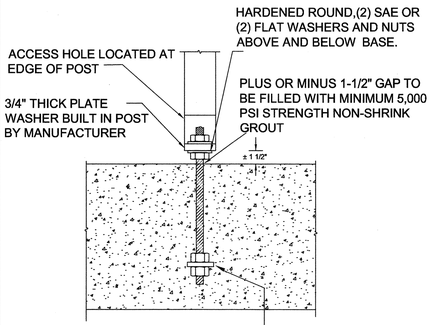
Step 2: First Floor installation on a Sill Plate

A) If the ***Hardy Frame***®is to be installed on a mudsill, plot the bottom plate and cut the length to match the width of the Panel. If located next to a door opening, allow the plate to run into the opening.
B) Set the ***Hardy Frame***®over the embed bolts and install (1) Hardened Round, (2) Flat, or (2) SAE washers and a nut.
C) Tighten nuts until snug tight.
D) After framing and plumb & line are complete, install 1/4"x 3" screws through the top of the Frame into the double top plates or header above.

REVISIONS	DATE

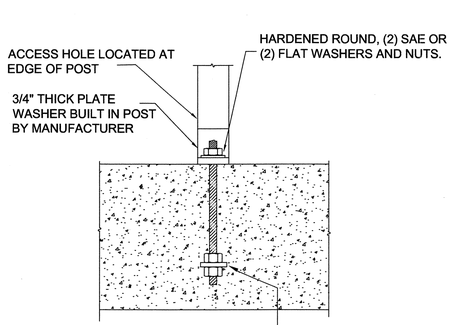
HFX-Series Panels-Typ Foundation Details

THIS DETAIL SHEET IS NOT PROPRIETARY AND IS NOT REQUIRED FOR PLAN SUBMITTAL WITH *HARDY FRAME*® PRODUCTS



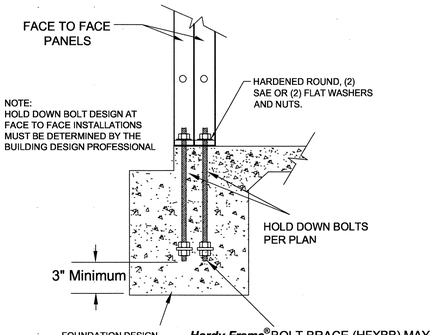
THREADED ROD HOLD DOWN BOLT WITH 1/2 THICK x 3" x 3" PLATE WASHER & NUT. ***Hardy Frame***® BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F1554 GR36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES POST — ON NUT & WASHER (DOUBLE NUT) — ESR P2 — 6 HFX1



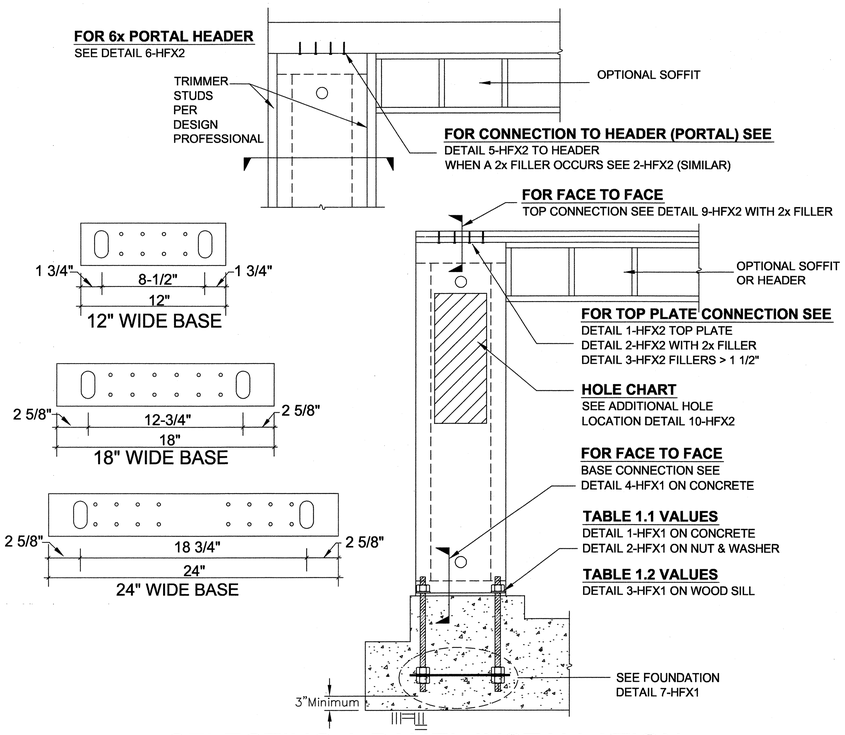
THREADED ROD HOLD DOWN BOLT WITH 1/2 THICK x 3" x 3" PLATE WASHER & NUT. ***Hardy Frame***® BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F1554 GR36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES POST — ON FOUNDATION — ESR P1 — 5 HFX1

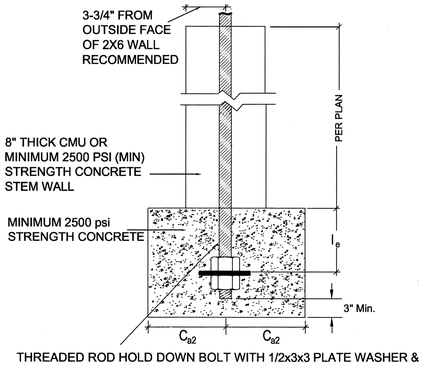


Hardy Frame®BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME® HFX-SERIES PANEL — **ON FOUNDATION - FACE TO FACE CONDITION** — 4 HFX1



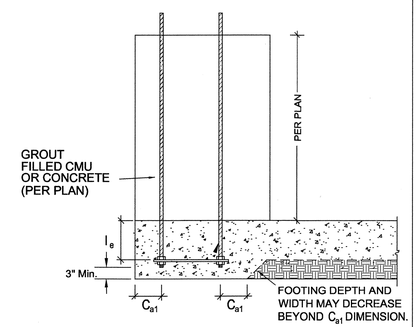
SELECTING A PANEL INSTALLATION



THREADED ROD HOLD DOWN BOLT WITH 1/2x3x3 PLATE WASHER & NUT. ***Hardy Frame***® BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F 1554 GRADE 36 THREADED ROD IS SPECIFIED.

NOTES: 1) ALL EMBED DIMENSIONS PER PLAN
2) COUPLING NUTS MAY BE USED TO EXTEND ALL THREAD LENGTH THROUGH GROUT FILLED CMU.

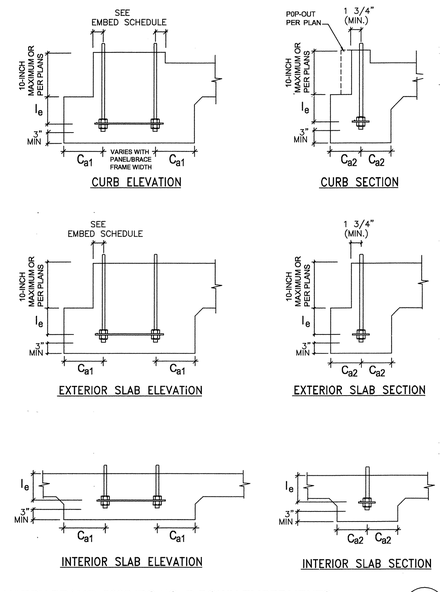
HARDY FRAME® HOLD DOWN AT STEM WALL — STEM WALL SECTION — ESR 3B/FDN — 9 HFX1



THREADED ROD HOLD DOWN BOLT WITH 1/2x3x3 PLATE WASHER & NUT. ***Hardy Frame***® BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F 1554 GRADE 36 THREADED ROD IS SPECIFIED.

NOTES: 1) ALL EMBED DIMENSIONS PER PLAN
2) COUPLING NUTS MAY BE USED TO EXTEND THREAD ROD LENGTH THROUGH GROUT FILLED CMU.

HARDY FRAME® EMBED AT STEM WALL — STEM WALL ELEVATION — ESR 3A/FDN — 8 HFX1



HARDY FRAME 2006 IBC HOLD DOWN EMBEDMENTS — ESR 1/FDN — 7a HFX1

HARDY FRAME® IBC Embed Schedule for Panels, Brace Frames and Post

Embed Callout	TENSION (lbs) Post Only		All Thread Diameter (inches)	All Thread ASTM GRADE	l_e Embed From T.O. Footing (in)	C_{a1} &C_{a2} Edge & End Distance at Footing (in)	Edge Distance at Top of Concrete (in)	12" Panel End Distance at Top of Concrete (in)	18" & 24" Panels End Distance at Top of Concrete (in)	32" Brace Frame End Distance at Top of Concrete (in)	44" Brace Frame End Distance at Top of Concrete (in)
	Seismic	Wind									
7/8" Std	13,530	13,530	7/8	F 1554 GR 36	12	14	1 3/4	1 3/4	2 5/8	5 3/4	6 1/2
7/8" HS	20,805	25,805		A 193 GR B7	18	16					
1 1/8" Std	22,365	22,365	1 1/8	F 1554 GR 36	18	18					
1 1/8" HS	31,340	39,140		A 193 GR B7	18	24					

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

1) ASSUMES CRACKED CONCRETE WITH NO SUPPLEMENTARY REINFORCEMENT PER ACI 318.
2) VALUES AND DISTANCES ARE FOR 2500 PSI CONCRETE (MINIMUM).
3) INSTALL 1/2 x3x3 ASTM A 36 PLATE WASHERS AT EMBED END OF HD BOLTS***Hardy Frame***® BOLT BRACE (HFXBB) MAY BE SUBSTITUTED AT PANEL INSTALLATIONS WHEN ASTM F 1554 GR 36 ALL THREAD GRADE IS SPECIFIED.
4) HIGH STRENGTH RODS MAY ALSO BE ASTM F 1554 GR 105, ASTM A 354 GR BD OR AS SPECIFIED BY THE BUILDING DESIGN PROFESSIONAL.
5) FOUNDATION DESIGN BY OTHERS.
6) THE BUILDING DESIGN PROFESSIONAL IS PERMITTED TO MODIFY THIS DETAIL TO ACCOMMODATE A SPECIFIC CONDITION.

HARDY FRAME® 2006 IBC HOLD DOWN EMBEDMENT TABLE — 7 HFX1

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HFX SERIES

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HFX1 FDN

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