

# URFP/FRFP

## Retrofit Foundation Plates

Ideal where there is minimum vertical clearance, the URFP universal retrofit foundation plate provides a retrofit method to secure the mudsill to the foundation. This design allows installation flexibility when the mudsill is offset or inset from the foundation edge. With its combination of longitudinal embossments, stiffening darts and scalloped slotted holes, the URFP allows for a one-for-one replacement of 1/2" or 5/8" mudsill anchors as well as fixity to both the SDS screws and required concrete anchorage.

The FRFP flat retrofit foundation plate connects the mudsill to the foundation and provides lateral load resistance. This design allows the designer to maintain prescriptive requirements when filling three holes, or as an alternate, fill the two optional triangle holes and designers can utilize increased loads and greater allowable spacing.

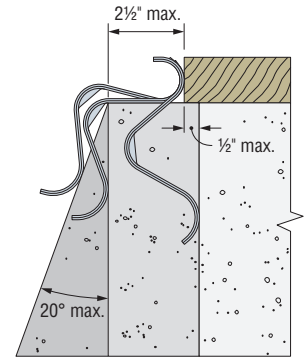
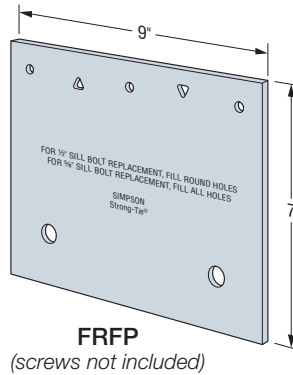
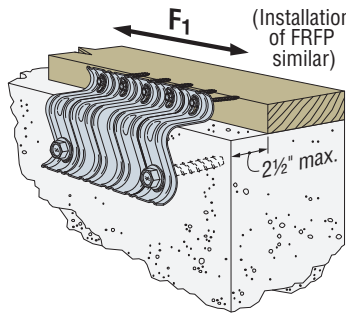
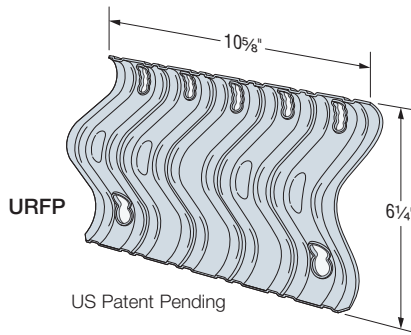
**Material:** URFP — 14 gauge; FRFP — 8 gauge

**Finish:** Galvanized. May be ordered HDG; contact Simpson Strong-Tie. See Corrosion Information, pp. 12–15.

**Installation:**

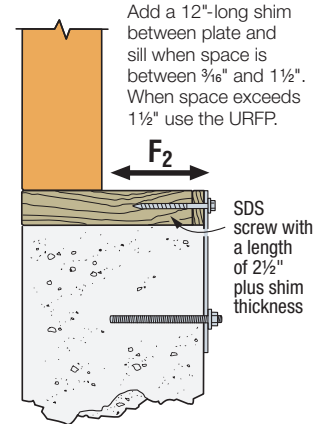
- Use all specified fasteners; see General Notes.
- Install URFP using 1/4" x 3" Strong-Drive® SDS Heavy-Duty Connector screws, which are supplied with the URFP.
- For URFP, alternate lag screws will not achieve published loads.
- FRFP shall use a minimum Strong-Drive SDS Heavy-Duty Connector screw length of 2 1/2" plus the shim thickness. Follow code requirements for predrilling. **Fasteners are sold separately.**
- For additional retrofit information, see [strongtie.com](http://strongtie.com).

**Codes:** See p. 11 for Code Reference Key Chart



Typical URFP Installation for Three Foundation Types (End View)

URFP Installed on a Straight Foundation with 1/2" Offset Mudsill



Typical FRFP Installation Foundation to Mudsill

These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Fasteners			Allowable Loads DF/SP (160)		Code Ref.
	Anchor Bolt Qty.	Anchor Bolt Dia.	Sill Plate	F <sub>1</sub>	F <sub>2</sub>	
FRFP	2	1/2"	(3) 1/4" x 2 1/2" SDS + shim thickness	1,065	320	
	2	1/2"	(5) 1/4" x 2 1/2" SDS + shim thickness	1,810	320	

1. Allowable loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
2. Each anchor bolt requires a standard-cut washer. The Simpson Strong-Tie® Titen HD® heavy-duty screw anchor does not require a washer.
3. Nominal embedment depth for post-installed anchors into concrete must be 4" for SET-3G or AT-XP, or use THD50400H Titen HD® screw anchors. **Anchorage into CMU is per designer.**
4. For redwood mudsills, reduce F<sub>1</sub> on FRFP to 820 lb. (1,395 lb. for five screws) and on URFP to 1,180 lb.
5. For installation on SPF/HF sill plates, use 0.86 x DF/SP allowable load.

## Prescriptive Spacing for URFP and FRFP to Replace Sill Anchor Bolts

Number of Building Stories	Anchor Bolt Size	Anchor Bolt Spacing	Retrofit Foundation Anchor Model		
			URFP	FRFP with Three Fasteners	FRFP with Five Fasteners
One story	1/2" dia.	6' o.c.	6'	6'	6'
	5/8" dia.	6' o.c.	6'	4'–3"	6'
Two stories	1/2" dia.	4' o.c.	4'	4'	4'
	5/8" dia.	6' o.c.	6'	4'–3"	6'
Three stories	5/8" dia.	4' o.c.	4'	2'–10"	4'

1. "Prescriptive" denotes spacing requirements per the IEBG and designs per the IRC and conventional provisions of the IBC.
2. For design in accordance with the IEBG Chapter A3, the URFP may be used as a one-for-one replacement for the alternative connections shown in Figures A3-4A, A3-4B, and A3-4C.
3. Spacing is based on the parallel-to-plate load direction.
4. 5/8" anchor bolt required for Seismic Design Category E.