Foundation Straps offer an economical, one-piece method of achieving a continuous load path from a 2 x 8 or 2 x 14 dimensional rim joist through concrete block to foundation. All models require a 6" embedment into concrete footings.

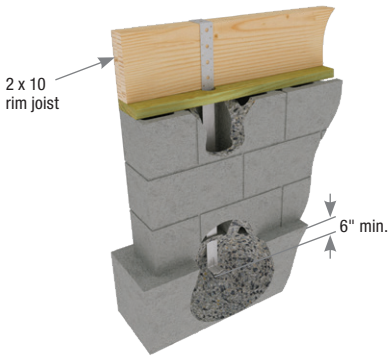
Materials: 12 gauge

Finish: G90 galvanizing

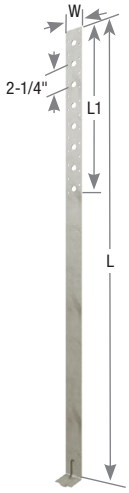
Options: See chart for Corrosion Finish Options

Installation:

- Use all specified fasteners. See Product Notes, page 18.
- Allowable loads are based on either nail fastening or bolt fastening; nail and bolt values cannot be combined.
- Install by inserting product into footing's wet concrete. All models require a 6" embedment into concrete foundations. Courses of concrete block must be laid over connector. Notch mudsill at connector locations. Wrap strap over rim joist and fasten.
- Do not rely on these straps to secure concrete sections together between cold joints; take other measures to transfer the load. If there is a cold joint between block and foundation, the minimum embedment must be made into the foundation.
- Based on product embedment the exposed number of fastener holes may be reduced. Using fewer fasteners will reduce allowable loads. Reduce allowable loads by the code prescribed allowable load per fastener, for each fastener not installed.
- Allowable loads are based on a minimum concrete compressive strength of 2,500 psi at 28 days.



Typical TA rim joist to foundation installation



TA

MiTek USP Stock No.	Ref. No.	Dimensions (in)			DF/SP Allowable Loads (Lbs.)												Corrosion	Finish	Code Ref.
					2 x 8			2 x 10			2 x 12			2 x 14					
					Fastener Schedule[1,4]		Uplift[2] 160%	Fastener Schedule[1,4]		Uplift[2] 160%	Fastener Schedule[1,4]		Uplift[2] 160%	Fastener Schedule[1,4]		Uplift[2] 160%			
		W	L	L1	Qty	Type		Qty	Type		Qty	Type		Qty	Type				
TA51	PA51	2-1/16	48-1/4	17-5/8	2	1/2	1340	3	1/2	1950	4	1/2	2475	5	1/2	3230			
					8	16d x 2-1/2	1905	10	16d x 2-1/2	2385	14	16d x 2-1/2	3230	16	16d x 2-1/2	3230			--
TA71	PA68	2-1/16	68-1/4	22-1/8	2	1/2	1340	3	1/2	1950	4	1/2	2475	5	1/2	3230			
					8	16d x 2-1/2	1905	10	16d x 2-1/2	2385	14	16d x 2-1/2	3230	16	16d x 2-1/2	3230			

1) Bolt values are for 3" thick rim joist loaded perpendicular to grain.
2) Uplift loads have been increased 60% for wind and seismic loads; no further increase shall be permitted.
3) Minimum of (9) 16d nails per strap is required to meet IRC R 404.1.5.
4) **NAILS:** 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

Corrosion Finish
Stainless Steel | Gold Coat
HDG | Triple Zinc

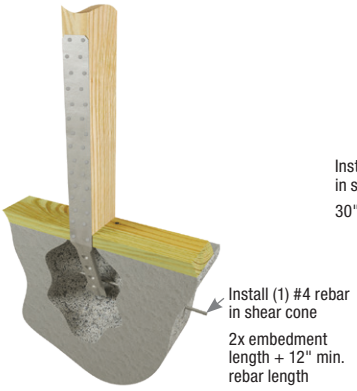
The coined dimples below the embedment line allow for increased concrete bonding. These holdowns retain high uplift capacity even when installed at corners of foundation stemwalls. Ideal for use with built up 2x end posts.

RJ after the model indicates LSTAD or STAD for rim joist applications as in **STAD8RJ**. Rim joist models provide for a 17" clear span without the loss of strap nailing.

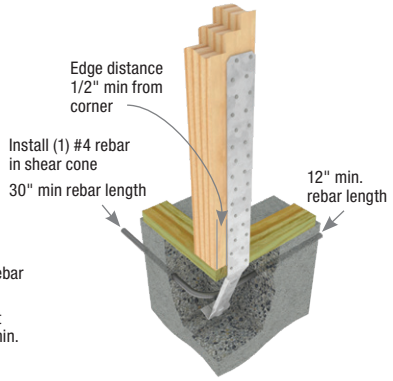
Materials: LSTAD-14 gauge; STAD-12 gauge
Finish: G90 galvanizing
Codes: IBC, FL, LA

Installation:

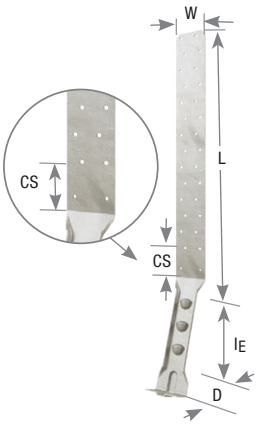
- Use all specified fasteners. See Product Notes, page 18. The bottom (2) nails are for form board attachment only and do not contribute to fastener schedule requirements.
- Embed holdown in concrete to the embedment line (bend line).
- See illustrations for requirements on rebar, edge distances, and clear spans.
- Bending the strap horizontally 90° to facilitate wall placement may cause concrete behind the embedded strap to break away at the top edge (spalling). If the spall is 1" or less from the top edge of the concrete, no load reduction is necessary. If the spall is between 1" and 4" the allowable load is 0.90 of the published chart load.
- When installing on lumber less than 3-1/2" wide, wood splitting may occur. To reduce splitting, use 10d (0.148") x 1-1/2" nails or fill every other hole with 16d (0.162" x 3-1/2") common nails. Reduce allowable loads per code requirements accordingly.
- These straps do not secure concrete sections together at cold joints; take other measures to transfer the load. If there is a cold joint between slab and foundation, the minimum embedment must be made into the foundation. Fastening opportunities may be reduced because the slab pour level may be higher than some nail holes. Using fewer fasteners will reduce allowable loads. Reduce allowable load by the code capacity for each fastener not installed.
- To achieve full table loads the minimum center-to-center spacing is twice the embedment depth (l_E) when resisting tension loads at the same time.
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
- There may be an increase in the amount of deflection if the strap is installed on the outside of the sheathing, versus directly to the framing members.
- Strap may be bent one complete cycle to aid installation.
- For installation in severe corrosion environments, see Corrosion Information on pages 11-16.



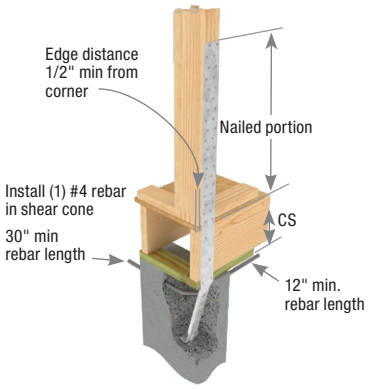
Typical STAD10 middle wall installation



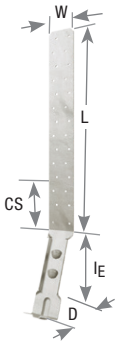
Typical STAD10 corner installation



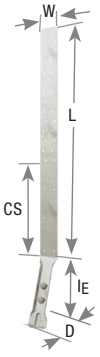
STAD



Typical STAD14RJ corner rim joist installation



LSTAD



STAD_RJ

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MiTek USP Stock No.	Ref. No.	Ga.	Dimensions (in) W	L	I_E	D	CS	Concrete Stemwall Minimum Thickness (in)	Fastener Schedule[1,12] Qty[8]	Type	Allowable Tension Loads (Lbs.)[6,7] Uncracked Corner[3]	Uncracked Midwall[4,5]	Cracked Corner[3]	Cracked Midwall[4,5]	Code Ref.
Wind and SDC A & B - Allowable Tension Loads (Lbs.)															
LSTAD8	LSTHD8	14	3	21-5/8	8	5	4-5/8	6	20	16d Sinker	2280	2950	1820	2950	IBC, FL, LA
LSTAD8RJ	LSTHD8RJ			35-1/8			18-1/8								
STAD8	--	12	3	21-5/8	8	5	4-5/8	6	22	16d Sinker	2265	3675	1905	3175	
STAD8RJ	--			35-1/8			18-1/8								
STAD10	STHD10	12	3	21-5/8	10	5	1-5/8	6	28	16d Sinker	3135	4675	2540	4480	
STAD10RJ	STHD10RJ			36			16-1/8								
STAD14	STHD14	12	3	32-1/8	14	5	4-5/8	6	30	16d Sinker	4745	5010	4745	5010	
STAD14RJ	STHD14RJ			39-5/8			12-1/8								
SDC C thru F - Allowable Tension Loads (Lbs.)															
MiTek USP Stock No.	Ref. No.	Ga.	Dimensions (in) W	L	I_E	D	CS	Concrete Stemwall Minimum Thickness (in)	Fastener Schedule[1,12] Qty[8]	Type	Allowable Tension Loads (Lbs.)[6,7] Uncracked Corner[3]	Uncracked Midwall[4,5]	Cracked Corner[3]	Cracked Midwall[4,5]	Code Ref.
LSTAD8	LSTHD8	14	3	21-5/8	8	5	4-5/8	6	20	16d Sinker	1995	3125	1595	2735	IBC, FL, LA
LSTAD8RJ	LSTHD8RJ			35-1/8			18-1/8								
STAD8	--	12	3	21-5/8	8	5	4-5/8	6	18	16d Sinker	1985	2945	1665	2780	
STAD8RJ	--			35-1/8			18-1/8								
STAD10	STHD10	12	3	21-5/8	10	5	1-5/8	6	24	16d Sinker	2740	4275	2220	3920	
STAD10RJ	STHD10RJ			36			16-1/8								
STAD14	STHD14	12	3	32-1/8	14	5	4-5/8	6	24	16d Sinker	3880	4185	3880	4185	
STAD14RJ	STHD14RJ			39-5/8			12-1/8								

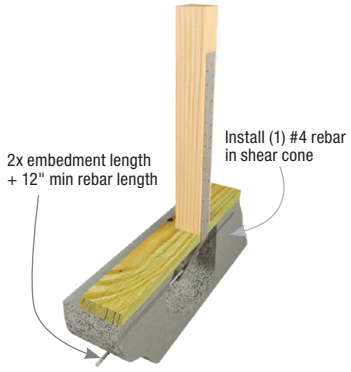
1) Predrilled holes are not required.
2) Wood thickness shall be no less than 3" (2 - 2x members).
3) Corner strap location implies that the distance from the corner of the wall to the edge of the strap is no less than 1/2".
4) Midwall strap location implies that the minimum distance from the corner of the wall to the centerline of the strap is no less than 1.5 times the embedment depth (I_E).
5) For edge distances between 1/2" and 1.5 x I_E calculate loads using straight line interpolation.
6) Minimum anchor spacing for full capacity is 2 x I_E. For spacing less than that reduce capacity proportionally.
7) Allowable tension loads are for Doug-Fir, Southern Pine, Spruce-Pine-Fir and Hem Fir.
8) The strap should be fastened with nails starting from lowest pair of nail holes and working up towards the top of the strap. In many cases, not all nail holes are needed to be filled.
9) Minimum concrete strength f'c = 2,500 psi.
10) Minimum 1-#4 rebar shall be installed in the shear cone.
11) Deflection at highest allowable loads for installation over wood double studs are as follows:
LSTAD8 = **0.025"**, STAD8 = **0.045"**, STAD10 = **0.051"**, STAD14 = **0.099"**.
LSTAD8RJ = 0.032", STAD8RJ = 0.050", STAD10RJ = 0.058", STAD14RJ = 0.103".
12) **NAILS:** 16d sinkers are 0.148" dia. x 3-1/4" long. 10d common (0.148" dia. x 3" long) nails may be substituted with no load reduction.
New products or updated product information are designated in **blue font**.

Designed to anchor wood framing to poured concrete foundations.

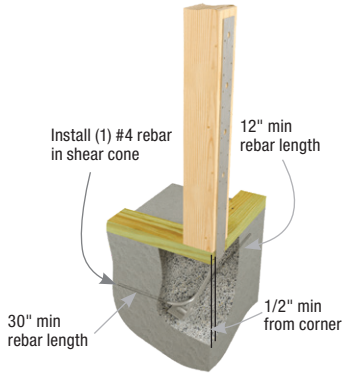
Materials: See chart
Finish: G90 galvanizing
Codes: See chart for code references

Installation:

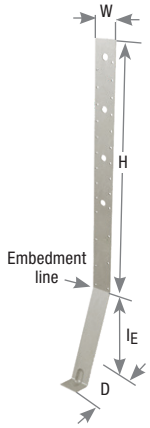
- Use all specified fasteners. See Product Notes, page 18.
- Bending the strap horizontally 90° to facilitate wall placement may cause concrete behind the embedded strap to break away at the top edge (spalling). If the spall is 1" or less from the top edge of the concrete, no load reduction is necessary. If the spall is between 1" and 4", the allowable load is 0.90 of the published chart load.
- When installing on lumber less than 3-1/2" wide, wood splitting may occur. To reduce splitting, use 10d (0.148") x 1-1/2" nails or fill every other hole with 16d (0.162" x 3-1/2") common nails. Reduce allowable loads in accordance with code requirements.
- Straps are to be installed at the edge of concrete. Install prior to pour by nailing to form. Drive temporary nails through lowest two nail holes into form. Concrete level should reach embedment line; minimum embedment depths are listed in chart.
- Do not rely on these straps to secure concrete sections together between cold joints; take other measures to transfer the load. If there is a cold joint between slab and foundation, the minimum embedment must be made into the foundation. Fastening opportunities may be reduced because the slab pour level may be higher than some nail holes. Using fewer fasteners will reduce allowable loads. Reduce allowable load by the code capacity for each fastener not installed.
- Allowable loads based on a minimum concrete compressive strength of 2,500 psi at 28 days, with one #4 horizontal rebar in the shear cone. Rebar should be a minimum length of 2x embedment depth plus 12" (see chart for exceptions in corner installations).
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
- There may be an increase in the amount of deflection if the strap is installed on the outside of the sheathing, versus directly to the framing members.
- Strap may be bent one complete cycle to aid installation.
- For installation in severe corrosion environments, see Corrosion Information on pages 11-16.



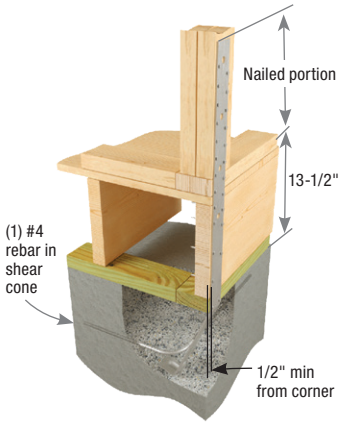
Typical HPAHD22 single pour midwall installation



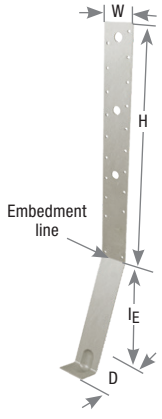
Typical HPAHD22 single pour corner and endwall installation



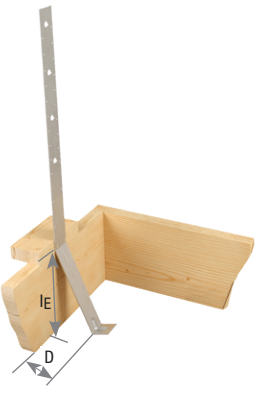
HPAHD



Typical HPAHD22 single pour rim joist corner installation



PAHD42



HPAHD22 form board installation

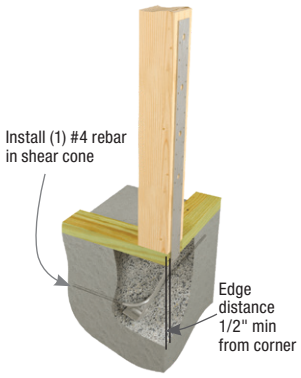
Continued on next page

HPAHD22 / PAHD42 Load Table

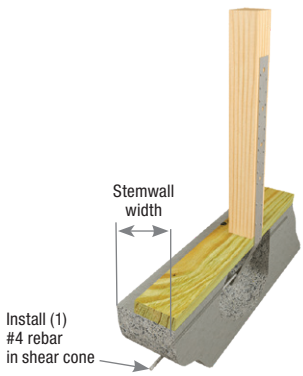
MiTek USP Stock No.	Ref. No.	Ga.	Dimensions (in) W	L	I_E	D	Concrete Stemwall Minimum Thickness (in)	Fastener Schedule[1] Qty[6]	Type[10]	DF/SP Allowable Tension Loads (Lbs.)[5] Uncracked Corner[2]	Uncracked Midwall[3,4]	Cracked Corner[2]	Cracked Midwall[3,4]	Code Ref.
Wind and SDC A & B - Allowable Tension Loads (Lbs.)														
HPAHD22	--	10	2-1/16	24-3/4	9-1/2	4-1/8	6	23	16d	3110	3265	2175	2285	IBC, FL, LA
PAHD42	--	12	2-1/16	16-5/8	8	5-3/4	6	15	16d	1155	2465	810	1725	
SDC C thru F - Allowable Tension Loads (Lbs.)														
MiTek USP Stock No.	Ref. No.	Ga.	Dimensions (in) W	L	I_E	D	Concrete Stemwall Minimum Thickness (in)	Fastener Schedule[1] Qty[6]	Type[10]	DF/SP Allowable Tension Loads (Lbs.)[5] Uncracked Corner[2]	Uncracked Midwall[3,4]	Cracked Corner[2]	Cracked Midwall[3,4]	Code Ref.
HPAHD22	--	10	2-1/16	24-3/4	9-1/2	4-1/8	6	23	16d	2280	2855	1905	2000	IBC, FL, LA
PAHD42	--	12	2-1/16	16-5/8	8	5-3/4	6	15	16d	1010	1850	705	1510	

1) Predrilled holes are not required.
2) Corner strap location implies that the distance from the corner of the wall to the edge of the strap is no less than 1/2".
3) Midwall strap location implies that the minimum distance from the corner of the wall to the centerline of the strap is no less than 1.5 times the embedment depth (I_E).
4) For edge distances between 1/2" and 1.5 x I_E calculate loads using straight line interpolation.
5) Minimum anchor spacing for full capacity is 2 x I_E. For spacing less than that reduce capacity proportionally.
6) The strap should be fastened with nails starting from lowest pair of nail holes and working up towards the top of the strap. In many cases, not all nail holes are needed to be filled.
7) Minimum concrete strength f'c = 2,500 psi.
8) Minimum 1-#4 rebar shall be installed in the shear cone.
9) Deflection at highest allowable loads for installation over wood double studs are as follows: HPAHD22 = 0.118", PAHD42 = 0.095".
10) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

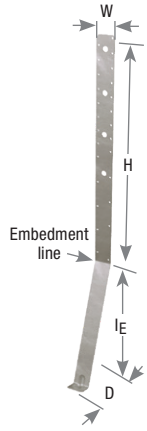
New products or updated product information are designated in **blue font**.



Typical HPAHD22-2P corner installation



Typical HPAHD22-2P midwall installation



HPAHD22-2P

HPAHD22-2P Load Table

MiTek USP Stock No.	Steel Gauge	Dimensions (in) W	H	I_E	D	Stemwall Width	Fastener Schedule[2,5] Min Qty[4]	Nail	DF/SP Allowable Tension Loads (Lbs.)[1] 160%	Code Ref.
MIDWALL INSTALLATION - 2,500 psi Concrete										
8" min from corner										
HPAHD22-2P	10	2-1/16	26-1/4	14	6-1/4	6 8	24	16d	5170	--
CORNER INSTALLATION - 2,500 psi Concrete										
1/2" min from corner										
HPAHD22-2P	10	2-1/16	26-1/4	14	6-1/4	6 8	24	16d	4095	

1) Allowable loads have been increased 60% for wind or seismic loads; no further increase shall be permitted.
2) 16d sinkers (0.148" dia. x 3-1/4" long) or 10d common (0.148" dia. x 3" long) nails may be substituted for the specified 16d common nails provided the listed allowable loads are reduced 15%.
3) Minimum quantity of fasteners to be installed. Product may have additional nail holes not needed to meet published allowable load of product.
4) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.