

Designed to anchor wood framing to poured concrete foundations.

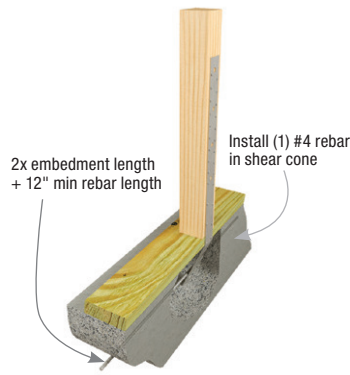
**Materials:** See chart

**Finish:** G90 galvanizing

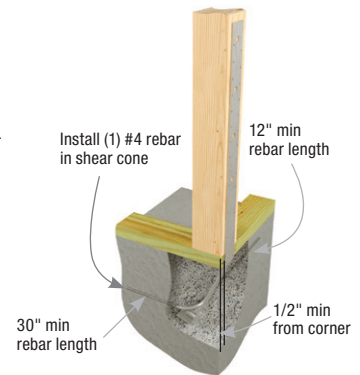
**Codes:** See chart for code references

**Installation:**

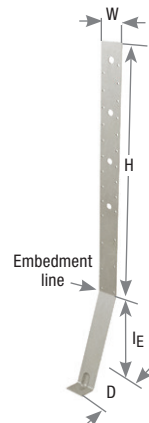
- Use all specified fasteners. See Product Notes, page 18.
- Bending the strap horizontally 90° to facilitate wall placement may cause concrete behind the embedded strap to break away at the top edge (spalling). If the spall is 1" or less from the top edge of the concrete, no load reduction is necessary. 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.



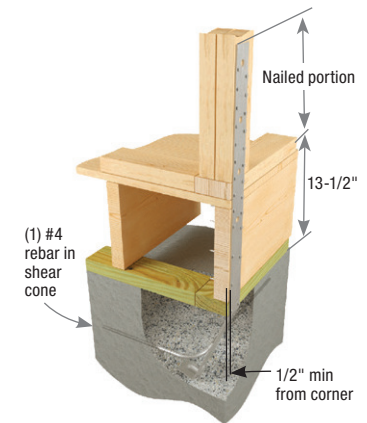
**Typical HPAHD22 single pour midwall installation**



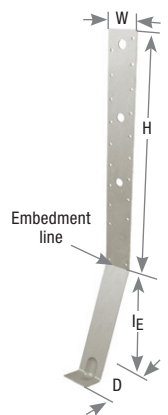
**Typical HPAHD22 single pour corner and endwall installation**



**HPAHD**



**Typical HPAHD22 single pour rim joist corner installation**



**PAHD42**



**HPAHD22 form board installation**

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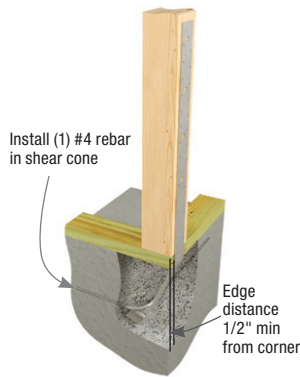
Holdowns

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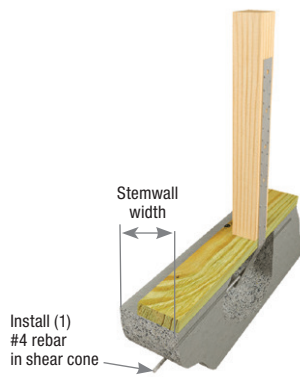
HPAHD22 / PAHD42 Load Table

| MiTek USP Stock No.  | Ref. No. | Ga. | Dimensions (in) |        |                |       | Concrete Stemwall Minimum Thickness (in) | Fastener Schedule <sup>1</sup> |                    | DF/SP Allowable Tension Loads (Lbs.) <sup>5</sup> |                        |                     |                        | Code Ref.   |
|--|----------|-----|-----------------|--------|----------------|-------|--|--------------------------------|--------------------|---|------------------------|---------------------|------------------------|-------------|
|  |          |     | W               | L      | I <sub>E</sub> | D     |  | Qty <sup>6</sup>               | Type <sup>10</sup> | Uncracked   |                        | Cracked             |                        |             |
|  |          |     |                 |        |                |       |  |                                |                    | Corner <sup>2</sup>                               | Midwall <sup>3,4</sup> | Corner <sup>2</sup> | Midwall <sup>3,4</sup> |             |
| <b>Wind and SDC A &amp; B - Allowable Tension Loads (Lbs.)</b> |          |     |                 |        |                |       |  |                                |                    |   |                        |                     |                        |             |
| 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                   |             |
| <b>SDC C thru F - Allowable Tension Loads (Lbs.)</b>           |          |     |                 |        |                |       |  |                                |                    |   |                        |                     |                        |             |
| MiTek USP Stock No.  | Ref. No. | Ga. | Dimensions (in) |        |                |       | Concrete Stemwall Minimum Thickness (in) | Fastener Schedule <sup>1</sup> |                    | DF/SP Allowable Tension Loads (Lbs.) <sup>5</sup> |                        |                     |                        | Code Ref.   |
|  |          |     | W               | L      | I <sub>E</sub> | D     |  | Qty <sup>6</sup>               | Type <sup>10</sup> | Uncracked   |                        | Cracked             |                        |             |
|  |          |     |                 |        |                |       |  |                                |                    | Corner <sup>2</sup>                               | Midwall <sup>3,4</sup> | Corner <sup>2</sup> | Midwall <sup>3,4</sup> |             |
| 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                   |             |

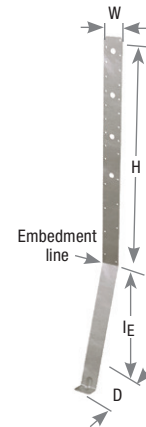
- 1) Predrilled holes are not required.
  - 2) Corner strap location implies that the distance from the corner of the wall to the edge of the strap is no less than 1/2".
  - 3) Midwall strap location implies that the minimum distance from the corner of the wall to the centerline of the strap is no less than 1.5 times the embedment depth (I<sub>E</sub>).
  - 4) For edge distances between 1/2" and 1.5 x I<sub>E</sub> calculate loads using straight line interpolation.
  - 5) Minimum anchor spacing for full capacity is 2 x I<sub>E</sub>. 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) |        |                |       | Stemwall Width | Fastener Schedule <sup>2,5</sup> |      | DF/SP Allowable Tension Loads (Lbs.) <sup>1</sup> | Code Ref. |
|--|-------------|-----------------|--------|----------------|-------|----------------|----------------------------------|------|---|-----------|
|  |             | W               | H      | I <sub>E</sub> | D     |                | Min Qty <sup>4</sup>             | Nail |   |           |
|  |             |                 |        |                |       |                |                                  |      | 160%  |           |
| <b>MIDWALL INSTALLATION - 2,500 psi Concrete</b> |             |                 |        |                |       |                |                                  |      |   |           |
| <b>8" min from corner</b>                        |             |                 |        |                |       |                |                                  |      |   |           |
| HPAHD22-2P                                       | 10          | 2-1/16          | 26-1/4 | 14             | 6-1/4 | 6              | 24                               | 16d  | 5170  | --        |
|  |             |                 |        |                |       | 8              |                                  |      |   |           |
| <b>CORNER INSTALLATION - 2,500 psi Concrete</b>  |             |                 |        |                |       |                |                                  |      |   |           |
| <b>1/2" min from corner</b>                      |             |                 |        |                |       |                |                                  |      |   |           |
| HPAHD22-2P                                       | 10          | 2-1/16          | 26-1/4 | 14             | 6-1/4 | 6              | 24                               | 16d  | 4095  | --        |
|  |             |                 |        |                |       | 8              |                                  |      |   |           |

- 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.