

PA/HPA Purlin Anchors

PA/HPA purlin anchors offer solutions for CFS to concrete and concrete block connections which satisfy code requirements. The HPA offers the highest capacity in concrete. The PAs dual embedment line allows installation in concrete or concrete block.

Material: PA — 12 gauge; HPA — 10 gauge

Finish: Galvanized. PAs available in HDG or ZMAX® coating.

Installation:

- Use all specified fasteners; some models have extra fastener holes. See General Notes.
- Purlin anchor must hook around rebar.
- Allowable loads are for a horizontal installation into the side of a concrete or masonry wall.
- Strap may be bent one full cycle.
(Bent vertical 90° then bent horizontal.)

Edge Distance — Minimum concrete edge distance is 5".
Minimum concrete block left-to-right edge distance is 20".

Concrete Block Wall — The minimum wall specifications are:

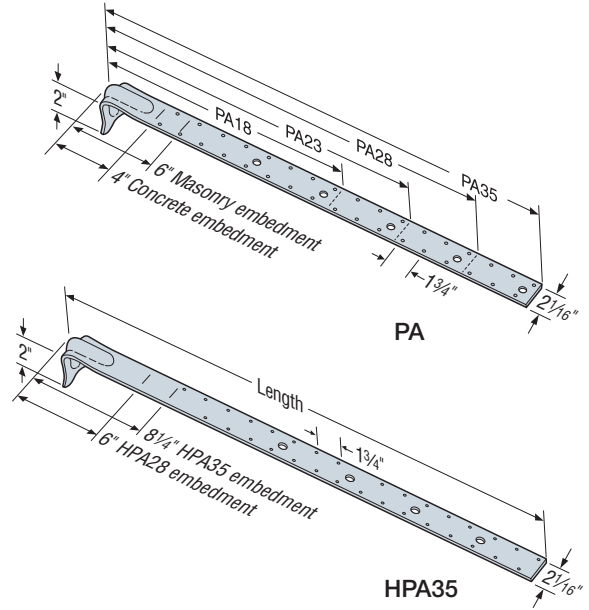
- ☐ A One #4 vertical rebar, 32" long, 16" each side of anchor.
- ☐ B Two courses of grout filled block above and below the anchor (no cold joints allowed).
- ☐ C A horizontal bond beam with two #4 rebars, 40" long, a maximum of two courses above or below the anchor.
- ☐ D Minimum masonry compressive strength, $f'_m = 1,500$ psi.

Options: See S/LTT and HTT Tension Ties for alternate retrofit solutions

Codes: See p. 13 for Code Reference Key Chart

ASCE 12.11.2.2.5 states:

... Diaphragm to structural wall anchorage using embedded straps shall have the straps attached to, or hooked around the reinforcing steel or otherwise terminated to effectively transfer forces to the reinforcing steel.

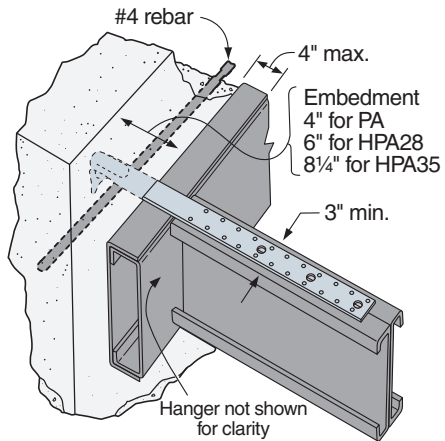


These products are available with additional corrosion protection. Additional products on this page may also be available with this option. Check with Simpson Strong-Tie for details.

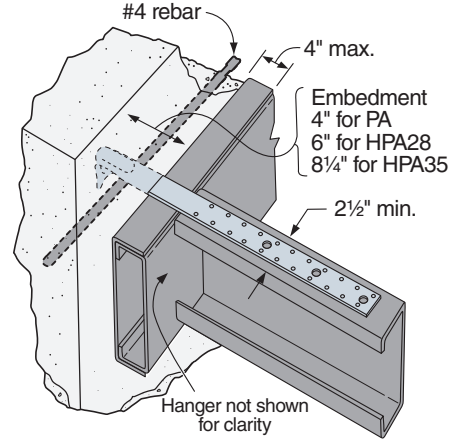
Wind and SDC A&B — Allowable Load (lb.)										Code Ref.
Model No.	Strap Length L (in.)	l _e ^a (in.)	Fasteners ^a			Tension Load		Max. Allowable Strap Tension	Masonry Installation Tension Load	
			Rafter/Stud /Joist Thickness			UnCracked	Cracked			
			33 mil (20 ga.)	43 mil (18 ga.)	54 mil (16 ga.)					
PA18	18½	4	(16) #10	(16) #10	(8) #10	2,430	2,260	NA	1,895	IBC
PA23	23¾	4	(22) #10	(16) #10	(8) #10	3,220	2,260	NA	2,815	
PA28	29	4	(22) #10	(16) #10	(8) #10	3,230	2,260	NA	2,815	
PA35	35	4	(22) #10	(16) #10	(8) #10	3,230	2,260	NA	2,815	
HPA28	32½	6	(28) #10	(20) #10	(10) #10	5,145	4,675	NA	—	
HPA35	38½	8¼	(32) #10	(22) #10	(12) #10	5,145	5,145	NA	—	
SDC C–F — Allowable Load (lb.)										IBC
PA18	18½	4	(16) #10	(16) #10	(8) #10	2,340	1,980	3,220	1,895	
PA23	23¾	4	(22) #10	(16) #10	(8) #10	2,830	1,980	3,220	2,815	
PA28	29	4	(22) #10	(16) #10	(8) #10	2,830	1,980	3,935	2,815	
PA35	35	4	(22) #10	(16) #10	(8) #10	2,830	1,980	3,935	2,815	
HPA28	32½	6	(28) #10	(20) #10	(10) #10	5,145	4,090	5,145	—	
HPA35	38½	8¼	(32) #10	(22) #10	(12) #10	5,145	5,145	5,145	—	

1. Loads may not be increased for short-term loading.
2. For concrete installs, the minimum compressive strength, $f'_c = 3,000$ psi.
3. Multiply Seismic and Wind ASD load values by 1.4 or 1.67, respectively, to obtain LRFD capacities.
4. In accordance with 2012, 2015 and 2018 IBC Section 1613.1, detached one- and two-family dwellings in Seismic Design Category (SDC) C may use "Wind and SDC A&B" allowable loads.
5. Minimum center-to-center spacing is 3 times the required embedment ($S_{min} = 3 \times l_e$) for PA/HPAs acting in tension simultaneously, where l_e = embedment depth. Standard installation is based on minimum 5" end distance.
6. Install fasteners symmetrically and with a minimum of 4 of the required fasteners between the embedment line and the first tooling hole. In some cases, not all of the fastener holes will need to be filled.
7. For wall anchorage systems in SDC C-F, the maximum strap allowable load shall not be less than 1.4 times the ASD anchor design load.
8. For PA straps, concrete embedment shown; embedment in masonry shall be 6".
9. See the current *Fastening Systems* catalog at strongtie.com for more information on Simpson Strong-Tie fasteners.

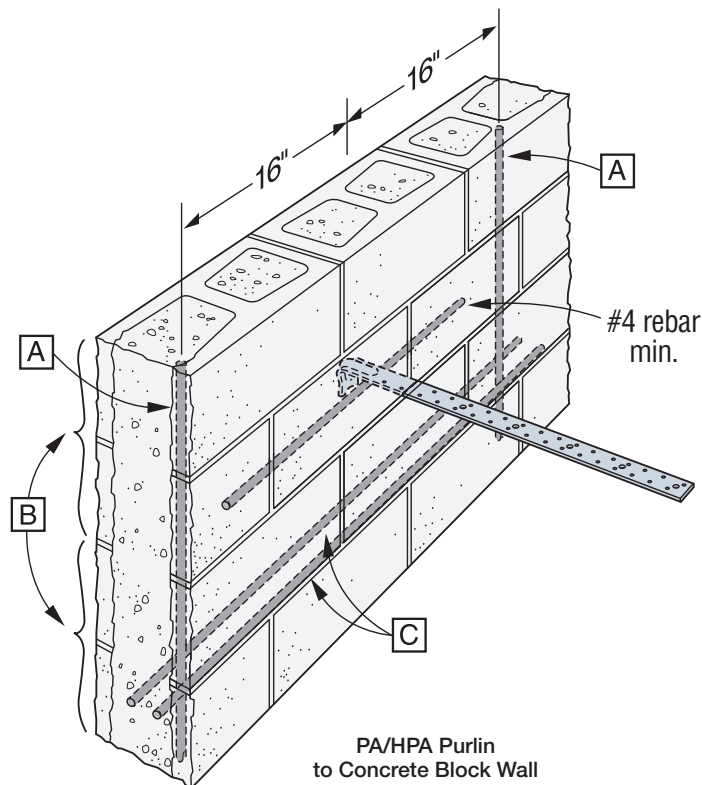
PA/HPA Purlin Anchors



PA/HPA Purlin to Concrete Wall
Back-to-Back Joist Installation



PA/HPA Purlin to Concrete Wall
Single C-Shape Joist Installation



PA/HPA Purlin
to Concrete Block Wall
(refer to installation
notes above)