

PA/HPA Purlin Anchors

Holdowns & Tension Ties

PA/HPA purlin anchors offer solutions for wood to concrete and concrete block connections which satisfy code requirements. The PA's dual embedment line allows installation in concrete or concrete block.

MATERIAL: PA—12 gauge; HPA—10 gauge

FINISH: Galvanized. PA's available HDG or ZMAX® coating

INSTALLATION: • Minimum concrete strength is 2000 psi.

- Use all specified fasteners; some models have extra fastener holes. See General Notes.
- Purlin Anchor must hook around rebar.
- Wood splitting may occur when anchor is nailed to wood less than 3½" wide. For widths less than 3½", see PAHD Holdowns for alternate nailing configurations, or PAI.

EDGE DISTANCE—Minimum concrete edge distance is 5".

Minimum concrete block left-to-right edge distance is 20".

CONCRETE BLOCK WALL—The masonry embedment line on the PA allows for 4" of grout embedment in a standard 8" concrete masonry unit. 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.

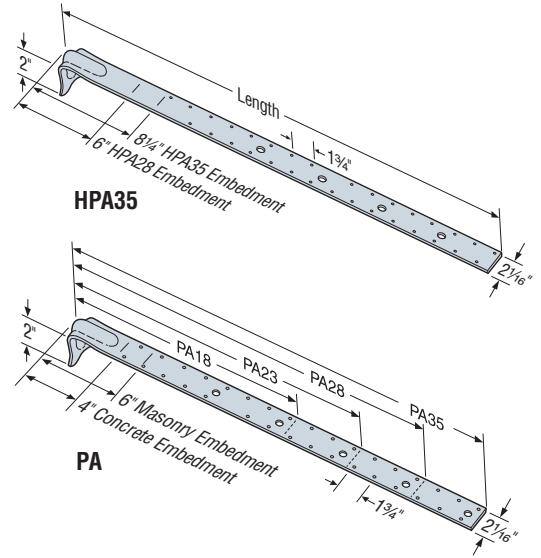
All cells grouted with 2000 psi ¾" aggregate grout. Grout shall be vibrated per the Code. Rebar quantities, sizes and lengths are minimum requirements and may be increased per any additional wall design requirements.

OPTIONS: See LTT and HTT Tension Ties for alternate retrofit solutions.

CODES: See page 12 for Code Reference Key Chart.

ASCE7-05 12.11.2.2.5 states:

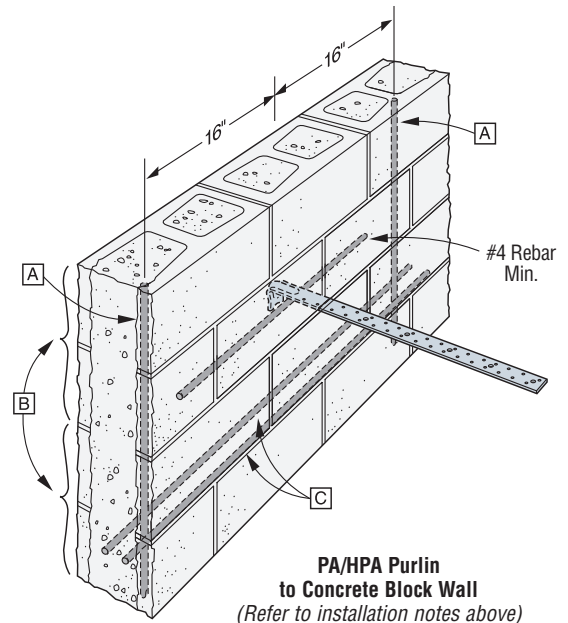
... Diaphragm to wall anchorage using embedded straps shall have the straps attached to or hooked around the reinforcing steel, or otherwise terminated to effectively transfer forces to the reinforcing steel.



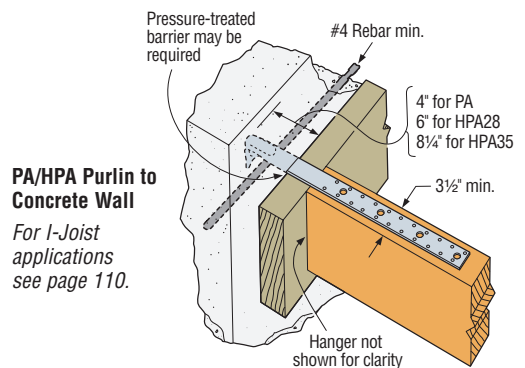
These products are available with additional corrosion protection. Additional products on this page may also be available with this option, check with Simpson Strong-Tie for details.

Model No.	L	Fasteners		Allowable Tension Loads (160)		Code Ref.
		Masonry	Concrete	Masonry	Concrete	
Maximum Capacity						
PA18	18½	12-16d	12-16d	2815	2845	IL8 ⁶ , F24
PA23	23¾	14-16d	18-16d	2815	3685	
PA28	29	14-16d	18-16d	2815	3685	
PA35	35	14-16d	18-16d	2815	3685	
HPA28	32½	—	24-16d	—	4845	
HPA35	38½	—	27-16d	—	5420	
1¼ LVL and 3x Ledger						
PA18	18½	10-16d	12-16d	2370	2845	IL8 ⁶ , F24
PA23	23¾	14-16d	18-16d	2815	3685	
PA28	29	14-16d	18-16d	2815	3685	
PA35	35	14-16d	18-16d	2815	3685	
HPA28	32½	—	24-16d	—	4845	
HPA35	38½	—	27-16d	—	5420	
4x Ledger						
PA18	18½	8-16d	11-16d	1895	2605	IL8 ⁶ , F24
PA23	23¾	14-16d	17-16d	2815	3685	
PA28	29	14-16d	18-16d	2815	3685	
PA35	35	14-16d	18-16d	2815	3685	
HPA28	32½	—	27-16d	—	4845	
HPA35	38½	—	27-16d	—	5420	

1. Allowable loads are for a horizontal installation into the side of a concrete or masonry wall.
2. Minimum penetration for 16d commons is 1¼".
3. 16d sinkers (0.148" dia. x 3¼" long) or 10d commons may be substituted for the specified 16d commons at 0.85 of the table loads.
4. Allowable loads have been increased for earthquake or wind load durations with no further increase allowed; reduce where other load durations govern.
5. Strap may be bent one full cycle. (Bent horizontal 90° then bent vertical.)
6. Testing to new ICC-ES acceptance criteria to be completed in 2009. Reference www.strongtie.com for latest loads and information.
7. **NAILS:** 16d = 0.162" dia. x 3½" long. See page 16-17 for other nail sizes and information.



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



PA/HPA Purlin to Concrete Wall
For I-Joist applications see page 110.