

This product line is only available from our western U.S. branches.

The expiration date of this document has been extended until 12/31/12.



**SIMPSON**

**Strong-Tie**

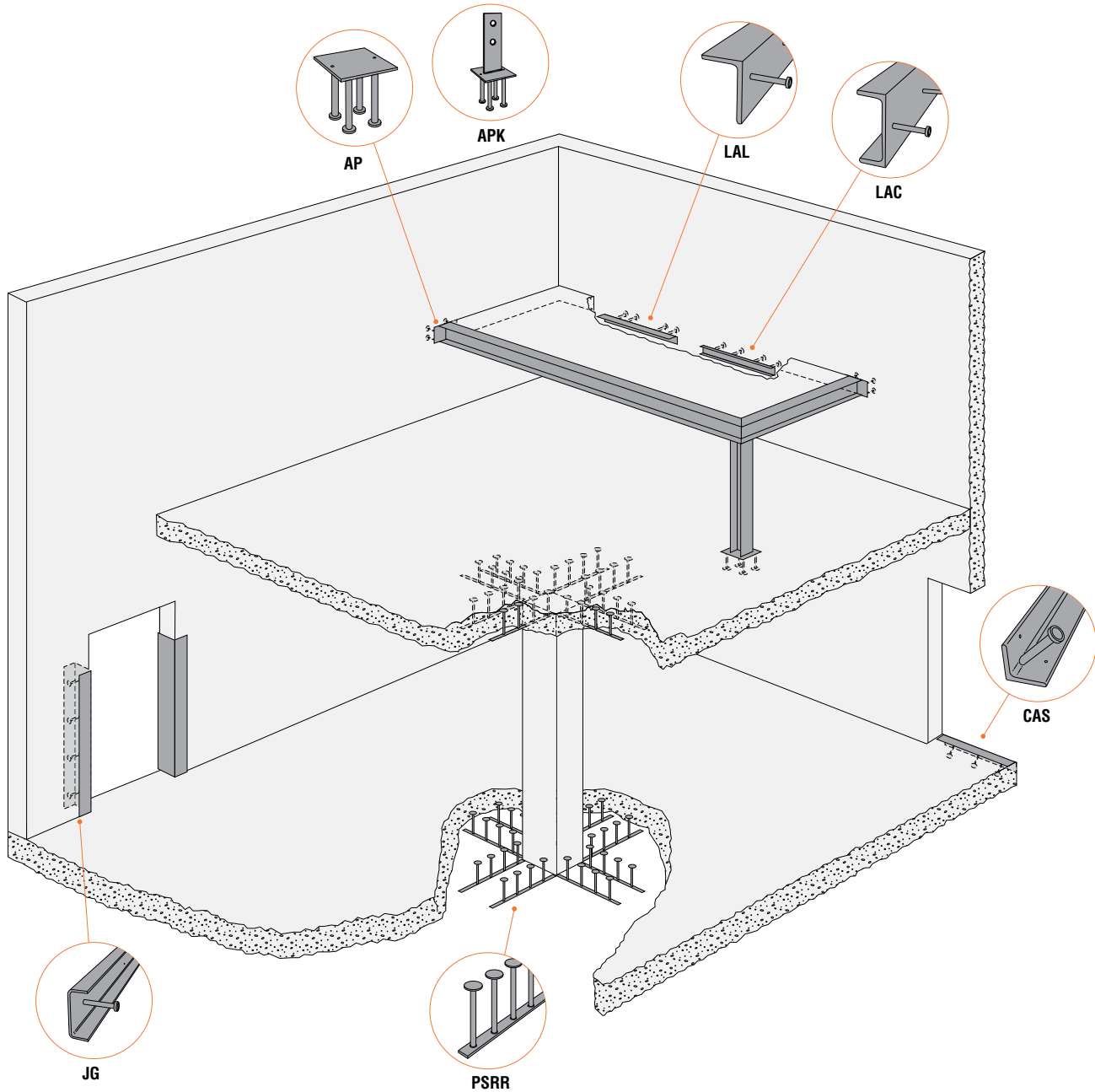
®

## Embedded Angles, Plates and Rails

For Concrete and  
Masonry Construction

(800) 999-5099  
[www.strongtie.com](http://www.strongtie.com)

## Introduction



Simpson Strong-Tie® embedded angles, plates and rails are designed for use in concrete and masonry construction. This product group includes corner angle reinforcements, ledger angles, jamb guards, anchor plates and punching shear resisting rails. The Punching Shear Resistor Rails (PSRR) are code listed under ICC-ES ESR-2992 and LA RR25878. They were evaluated under ICC-ES's latest Acceptance Criteria for Headed Shear Stud Reinforcement Assemblies for Concrete Slabs and Footings (AC 395).

Our embedded angles, plates and rails carry the Simpson Strong-Tie promise of quality and performance, and are backed by prompt, knowledgeable service. You can count on the strength of our products and our people to perform.

For limited warranty information and terms and conditions of sale, please see [www.strongtie.com](http://www.strongtie.com).



# PSRR Punching-Shear Resistor Rails

## Punching-Shear Resistor Rails are Code-Listed

Simpson Strong-Tie® PSRR punching-shear resistor rails are used as reinforcement for concrete floor slabs and foundations to resist “punching shear.” Placed where the column meets the slab, they replace heavy reinforcement, drop panels and column capitals on the underside of the floor slab. The rails are placed on spacers to help ensure proper concrete cover underneath the rail.

Simpson Strong-Tie® PSRR punching-shear resistor rails meet ICC-ES AC395 *Acceptance Criteria for Headed Shear Stud Reinforcement Assemblies for Concrete Slabs or Footings*.

### FEATURES:

- Fabrication of rails to design specification
- Standard 36", 48" and 60" rails available for easy specification and ordering
- Rails made with studs conforming to ASTM A1044
- Color-coded for ease of installation
- Reduces the expense and installation time associated with heavy reinforcing
- No interference with flexure reinforcement
- PSRR rails available with 3/8", 1/2", 5/8" or 3/4" dia. studs 6" to 20'-long rail plates

**MATERIAL:** Headed stud – ASTM A108, Grade 1015  
Rail plate – A36,  $F_{y_{min}}=44$  ksi,  $F_{u_{min}}=65$  ksi



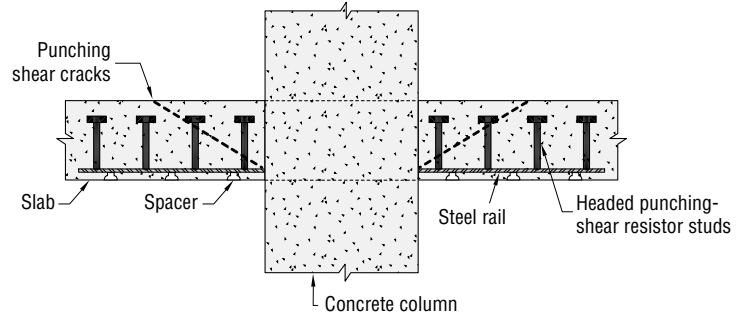
**FINISH:** None

**INSTALLATION:** Install PSRR on forms before the pour using spacer clips (included) at 24" on center.

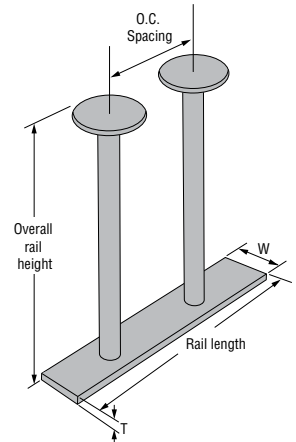
**CODE LISTED:** ICC-ES ESR-2992 (compliant to 2006 and 2009 IBC); LA RR25878

### Product Information

Model Number	Quantity	Headed Studs		Overall Rail Height (in)
		Diameter (in)	O.C. Spacing (in)	
<b>8" Slab</b>				
<b>36" Rail</b>				
PSRR50836-3	12	1/2	3	6 1/2
PSRR50836-4	9	1/2	4	6 1/2
PSRR63836-3	12	3/8	3	6 1/2
PSRR63836-4	9	3/8	4	6 1/2
PSRR75836-3	12	3/4	3	6 1/2
PSRR75836-4	9	3/4	4	6 1/2
<b>48" Rail</b>				
PSRR50848-3	16	1/2	3	6 1/2
PSRR50848-4	12	1/2	4	6 1/2
PSRR63848-3	16	3/8	3	6 1/2
PSRR63848-4	12	3/8	4	6 1/2
PSRR75848-3	16	3/4	3	6 1/2
PSRR75848-4	12	3/4	4	6 1/2
<b>60" Rail</b>				
PSRR50860-3	20	1/2	3	6 1/2
PSRR50860-4	15	1/2	4	6 1/2
PSRR63860-3	20	3/8	3	6 1/2
PSRR63860-4	15	3/8	4	6 1/2
PSRR75860-3	20	3/4	3	6 1/2
PSRR75860-4	15	3/4	4	6 1/2
<b>10" Slab</b>				
<b>36" Rail</b>				
PSRR501036-3	12	1/2	3	8 1/2
PSRR501036-4	9	1/2	4	8 1/2
PSRR631036-3	12	3/8	3	8 1/2
PSRR631036-4	9	3/8	4	8 1/2
PSRR751036-3	12	3/4	3	8 1/2
PSRR751036-4	9	3/4	4	8 1/2
<b>48" Rail</b>				
PSRR501048-3	16	1/2	3	8 1/2
PSRR501048-4	12	1/2	4	8 1/2
PSRR631048-3	16	3/8	3	8 1/2
PSRR631048-4	12	3/8	4	8 1/2
PSRR751048-3	16	3/4	3	8 1/2
PSRR751048-4	12	3/4	4	8 1/2
<b>60" Rail</b>				
PSRR501060-3	20	1/2	3	8 1/2
PSRR501060-4	15	1/2	4	8 1/2
PSRR631060-3	20	3/8	3	8 1/2
PSRR631060-4	15	3/8	4	8 1/2
PSRR751060-3	20	3/4	3	8 1/2
PSRR751060-4	15	3/4	4	8 1/2



<b>12" Slab</b>				
<b>36" Rail</b>				
PSRR501236-3	12	1/2	3	10 1/2
PSRR501236-4	9	1/2	4	10 1/2
PSRR631236-3	12	3/8	3	10 1/2
PSRR631236-4	9	3/8	4	10 1/2
PSRR751236-3	12	3/4	3	10 1/2
PSRR751236-4	9	3/4	4	10 1/2
<b>48" Rail</b>				
PSRR501248-3	16	1/2	3	10 1/2
PSRR501248-4	12	1/2	4	10 1/2
PSRR631248-3	16	3/8	3	10 1/2
PSRR631248-4	12	3/8	4	10 1/2
PSRR751248-3	16	3/4	3	10 1/2
PSRR751248-4	12	3/4	4	10 1/2
<b>60" Rail</b>				
PSRR501260-3	20	1/2	3	10 1/2
PSRR501260-4	15	1/2	4	10 1/2
PSRR631260-3	20	3/8	3	10 1/2
PSRR631260-4	15	3/8	4	10 1/2
PSRR751260-3	20	3/4	3	10 1/2
PSRR751260-4	15	3/4	4	10 1/2



### Rail Dimensions

Stud Dia. (in)	Base Rail (in)	
	W	T
3/8	1	3/16
1/2	1 1/4	1/4
5/8	1 3/4	5/16
3/4	2	3/8

1. Overall rail heights provide 3/4" concrete cover for the slab thickness. Designer shall verify concrete cover satisfies the project specific requirements.
2. Additional sizes available; contact Simpson Strong-Tie to order custom length, height, stud quantity and spacing to Designer specification.



## AP Attachment Plate Embed

### Embeds for Concrete or Masonry Construction, with Headed Concrete Anchors

Simpson Strong-Tie® AP attachment plates provide a flush-to-concrete weldable location for general anchorage for concrete and masonry construction. They are available in a variety of sizes and thicknesses to suit most common applications.

#### FEATURES:

- Standardized product line for easier specification and ordering
- Each plate features four headed concrete anchors
- Contact Simpson Strong-Tie for fabrication of AP to design specifications

**MATERIAL:** Plates – 3 ga. (0.229" min.) – ASTM A1011,  
 3/8" and 1/2" – ASTM A36  
 Concrete anchors – ASTM A108

**FINISH:** None. Hot-dip galvanized available; specify HDG

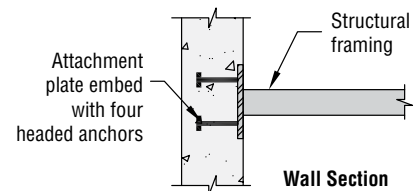
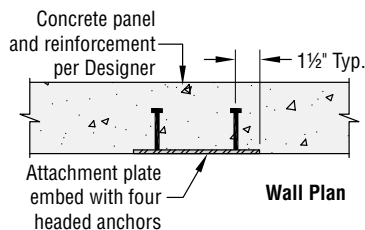
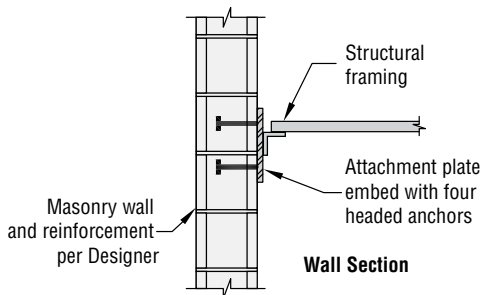
#### INSTALLATION:

- Install on forms prior to concrete placement using 10d nails.
- Welding galvanized steel may produce harmful fumes; follow proper welding procedures and safety precautions. Welding should be in accordance with AWS standards.



Model No.	Plate Dimensions (in)	Headed Anchor Size (in)
AP66-3GA	6x6x1/4	1/2x4
AP66-3/8	6x6x3/8	1/2x4 or 3/8x6
AP66-1/2	6x6x1/2	1/2x4 or 3/8x6
AP88-3GA	8x8x1/4	1/2x4
AP88-3/8	8x8x3/8	1/2x4 or 3/8x6
AP88-1/2	8x8x1/2	1/2x4 or 3/8x6
AP1212-3/8	12x12x3/8	1/2x4 or 3/8x6
AP1212-1/2	12x12x1/2	1/2x4 or 3/8x6

1. Other sizes available. Contact your Simpson Strong-Tie representative.
2. Hot-dip galvanized coating available.





## APK Attachment Plate Embed – with Knife Plate

### Embeds for Concrete Construction, with Headed Concrete Anchors

Simpson Strong-Tie® APK attachment plates provide a flush-to-concrete anchor plate for framing connections. They are available in a variety of sizes and thicknesses to suit most common applications.

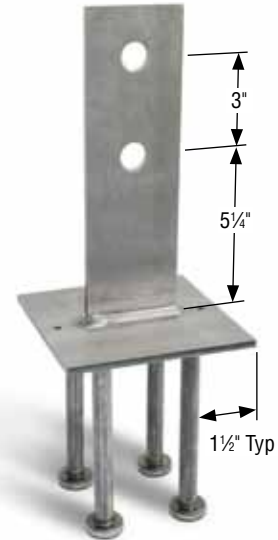
#### FEATURES:

- Standardized product line for easier specification and ordering
- Four headed concrete anchors welded directly to each plate
- A 3 ga., 3" x 9 3/4" knife plate for wood-post connection, sized for 3/4" dia. bolts with a 1/4" fillet weld each side of plate
- Contact Simpson Strong-Tie for fabrication of APK to design specifications

**MATERIAL:** Plates – 3 ga. (0.229" min.) – ASTM A1011  
 3/8" and 1/2" – ASTM A36  
 Concrete anchors – ASTM A108

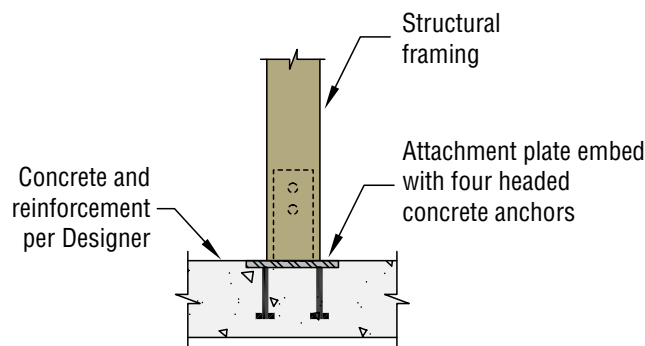
**FINISH:** None. Hot-dip galvanized available; specify HDG

**INSTALLATION:** Secure in place prior to concrete placement.



Model No.	Base Plate Dimensions (in)	Headed Anchor Size (in)
AP66K-3GA	6 x 6 x 1/4	1/2 x 4
AP66K-3/8	6 x 6 x 3/8	1/2 x 4 or 5/8 x 6
AP66K-1/2	6 x 6 x 1/2	1/2 x 4 or 5/8 x 6
AP88K-3GA	8 x 8 x 1/4	1/2 x 4
AP88K-3/8	8 x 8 x 3/8	1/2 x 4 or 5/8 x 6
AP88K-1/2	8 x 8 x 1/2	1/2 x 4 or 5/8 x 6
AP1212K-3/8	12 x 12 x 3/8	1/2 x 4 or 5/8 x 6
AP1212K-1/2	12 x 12 x 1/2	1/2 x 4 or 5/8 x 6

1. Other sizes available. Contact your Simpson Strong-Tie representative.
2. Hot-dip galvanized coating available.





## CAS/CAD Corner Angle, Concrete-Anchor Embed and Corner Angle, Deformed-Bar Embed

### Embeds for Concrete Construction, with Corner-Angle Concrete-Anchor Embeds (CAS) and Deformed-Bar Embeds (CAD)

Simpson Strong-Tie offers two options for corner angle, concrete embed products to protect concrete corners and provide a weld location for connections and general anchorage for concrete construction: CAS corner-angle, concrete-anchor embeds and CAD corner-angle, deformed-bar embeds. Both products are available in a variety of lengths to suit most common applications.

#### FEATURES:

- Standardized product line for easier specification and ordering
- Made from 3" x 3" angle, 3/8" thick
- Each CAS features 5/8" x 4" weldable headed concrete anchors
- Each CAD features various lengths of 1/2" dia. weldable deformed bar (12", 24", 36")
- Contact Simpson Strong-Tie for fabrication of CAS/CAD to design specifications

#### OPTIONS: Mitered Ends available for corner applications.

CAS – Ordering example: CAS36M = both ends mitered at 45°  
CAS36M1 = one end mitered at 45°

CAD – Ordering example: CAD36-12M = both ends mitered at 45°  
CAD36-12M1 = one end mitered at 45°

#### MATERIAL: L-angle – ASTM A36

Concrete anchors – ASTM A108  
Deformed Bar – ASTM A496

#### FINISH: None. Hot-dip galvanized available; specify HDG

#### INSTALLATION:

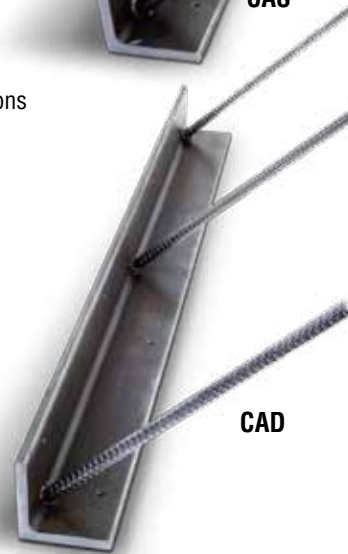
- Install on forms prior to concrete placement using 10d nails (CAD: Field bend deformed bars to suit application).
- Welding galvanized steel may produce harmful fumes; follow proper welding procedures and safety precautions. Welding should be in accordance with AWS standards.



CAS



Mitered ends available



CAD



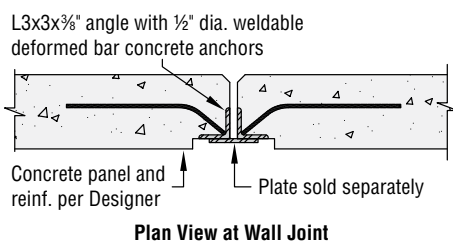
Mitered ends available



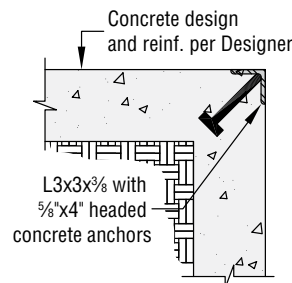
Model No.	Angle Length (in)	Headed Concrete Anchors	Deformed-Bar Anchors	
			Quantity	Length (in)
CAS8	8	2	2	12, 24, 36
CAS12	12	2	2	12, 24, 36
CAS24	24	2	2	12, 24, 36
CAS36	36	3	3	12, 24, 36
CAS48	48	3	3	12, 24, 36

Model Number	Angle Length (in)	Deformed-Bar Anchors	
		Quantity	Length (in)
CAD8	8	2	12, 24, 36
CAD12	12	2	12, 24, 36
CAD24	24	2	12, 24, 36
CAD36	36	3	12, 24, 36
CAD48	48	3	12, 24, 36

1. All angles are 3" x 3" x 3/8" thick.
2. Other sizes available. Contact your Simpson Strong-Tie representative.
3. Hot-dip galvanized coating available.



Plan View at Wall Joint



Corner Section



## JG/JGC Jamb Guard Embeds

### Embeds for Concrete and Masonry Construction, with Headed Concrete Anchors

Simpson Strong-Tie® JG and JGC jamb guard embeds protect panel edges at openings. They are manufactured from 3 ga. steel and are available in a standard 48" length and a variety of widths to suit most common concrete and masonry wall thicknesses.

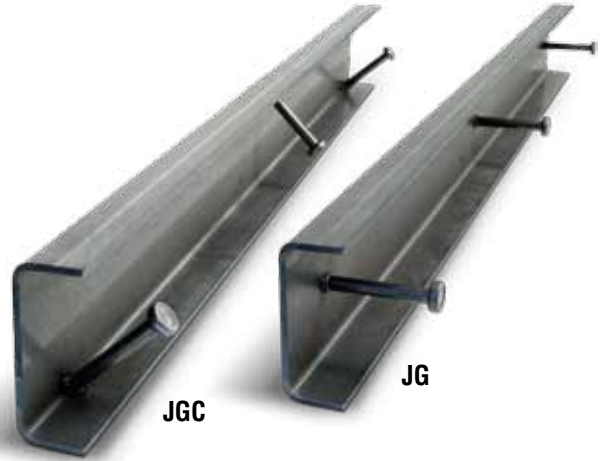
#### FEATURES:

- Standardized product line for easier specification and ordering
- Each guard features (3) ½" x 4" headed concrete anchors
- Available with anchors centered or in the corners of the guard
- Contact Simpson Strong-Tie for fabrication of JG/JGC to design specifications

**MATERIAL:** Bent plate – ASTM A1011, Grade 33  
Concrete anchors – ASTM A108

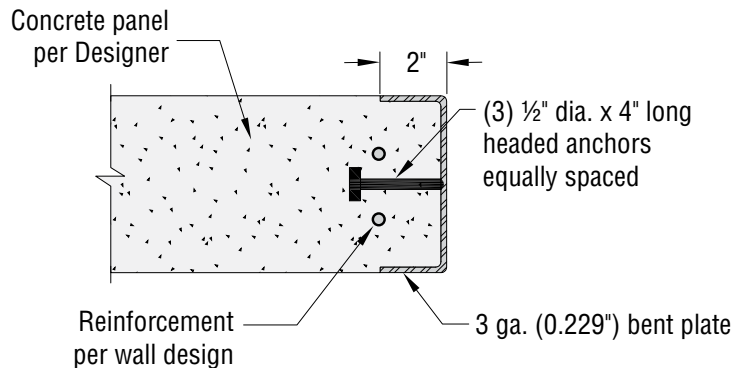
**FINISH:** None. Hot-dip galvanized available; specify HDG

**INSTALLATION:** Install on forms prior to concrete placement using 10d nails.



Model No.	Size (in)	Headed Anchor Location
JG648	5 ½ x 2 x 48	Centered
JGC648	5 ½ x 2 x 48	Corner
JG848	7 ¼ x 2 x 48	Centered
JGC848	7 ¼ x 2 x 48	Corner
JG1048	9 ¼ x 2 x 48	Centered
JGC1048	9 ¼ x 2 x 48	Corner

1. Other sizes available. Contact your Simpson Strong-Tie representative.
2. Hot-dip galvanized coating available.





## LAL/LAC Ledger Attachment Embeds

### Embeds for Concrete Construction, with Headed Concrete Anchors

Simpson Strong-Tie® LAL and LAC ledger embeds provide a horizontal ledger for the attachment of roof or floor framing to concrete or masonry walls. L-angle and C-channel configurations are available with several customizable options.

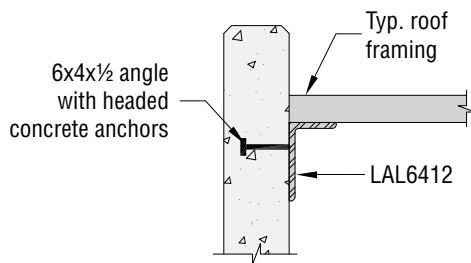
#### FEATURES:

- Ledger length is specified by the customer (maximum 20 ft.)
- Ledger can be made with either ½" or ⅝" dia. headed concrete anchors. Available in multiple lengths listed below; specify length
- Specify concrete-anchor size, quantity and spacing

**MATERIAL:** L-angle or C-channel – ASTM A36  
Concrete anchors – ASTM A108

**FINISH:** None

**INSTALLATION:** Secure in place prior to concrete placement.



Model No.	Angle / C-channel Size
<b>Ledger Angle</b>	
LAL6412	6 x 4 x ½
LAL6458	6 x 4 x ⅝
LAL6434	6 x 4 x ¾
LAL8412	8 x 4 x ½
LAL8458	8 x 4 x ⅝
<b>Ledger C-channel</b>	
LAC820	MC8 x 20
LAC822	MC8 x 22.8
LAC925	MC9 x 25.4
LAC1030	C10 x 30
LAC1230	C12 x 30

1. L-angle / C-Channel length specified by the customer.
2. Concrete anchor diameter, length and spacing specified by customer.
3. Contact Simpson Strong-Tie for optional steel sections.

#### Available Headed Concrete Anchors

Diameter (in)	Available Lengths (in)
½	4, 5, 6, 8
⅝	4, 6, 8

Concrete anchor diameter, length and spacing specified by customer.

#### ORDERING EXAMPLE:

LAL6412 with L=120", D = ½", Stud L= 6" and S = 12" is a Ledger Attachment Embed, 120 inches long with ½"x6" headed stud spaced at 12" o.c.

This flier is effective until **January 31, 2012**, and reflects information available as of September 1, 2010. This information is updated periodically and should not be relied upon after **January 31, 2012**; contact Simpson Strong-Tie for current information and limited warranty or see [www.strongtie.com](http://www.strongtie.com).