

RCA Rigid Connector Angles

The Simpson Strong-Tie® rigid connector angle is a general purpose clip angle designed for a wide range of cold-formed steel construction applications. With prepunched holes for fastener attachment, these L-shaped clips save time and labor on the job.

Features:

- Use with miscellaneous header/sill connections to jamb studs, jamb stud reinforcement at track, u-channel bridging, stud-blocking, bypass curtain-wall framing, joist connections and other versatile options
- Easy to install, with prepunched holes for quick and accurate fastener attachment

Material: RCAXXX/54 — 54 mil (16 ga.), 50 ksi

RCAXXX/68 — 68 mil (14 ga.), 50 ksi

RCAXXX/97 — 97 mil (12 ga.), 50 ksi

(Note: "XXX" is model number shown below.)

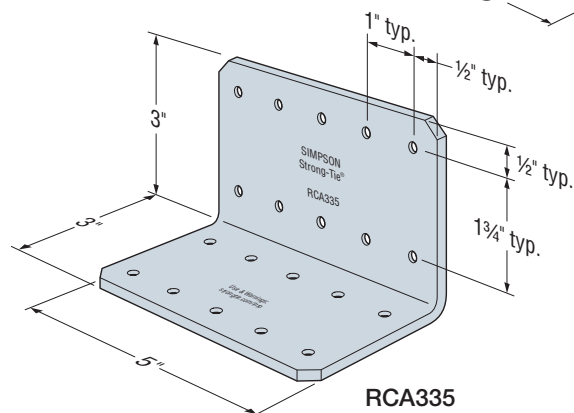
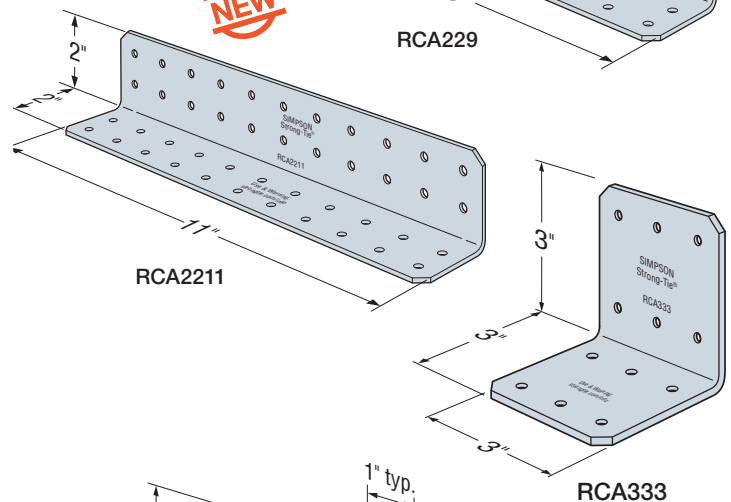
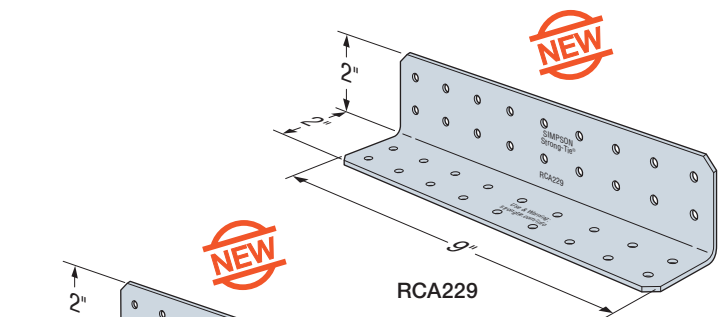
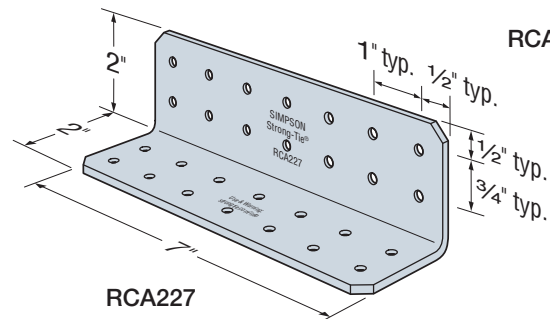
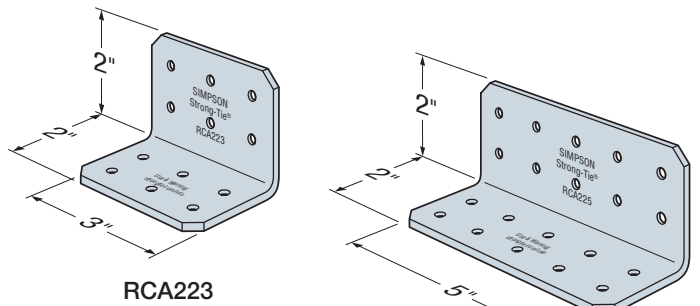
Finish: Galvanized (G90)

Installation:

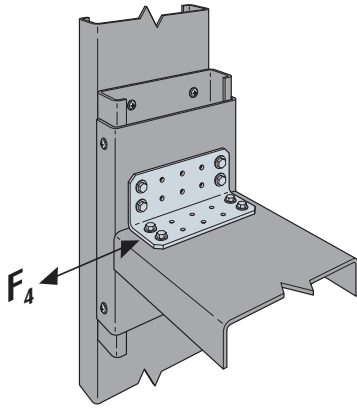
- Use all specified anchors/fasteners

Ordering Information

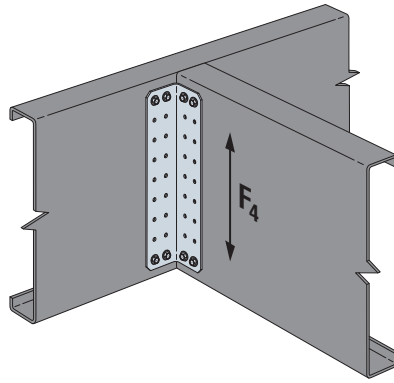
Model No.	Ordering SKU	Bucket Quantity
RCA223/54	RCA223/54-R150	150
RCA223/68	RCA223/68-R125	125
RCA223/97	RCA223/97-R90	90
RCA225/54	RCA225/54-R90	90
RCA225/68	RCA225/68-R75	75
RCA225/97	RCA225/97-R55	55
RCA227/54	RCA227/54-R65	65
RCA227/68	RCA227/68-R55	55
RCA227/97	RCA227/97-R40	40
RCA229/54	RCA229/54-R50	50
RCA229/68	RCA229/68-R50	50
RCA229/97	RCA229/97-R35	35
RCA2211/54	RCA2211/54-R45	45
RCA2211/68	RCA2211/68-R40	40
RCA2211/97	RCA2211/97-R30	30
RCA333/54	RCA333/54-R100	100
RCA333/68	RCA333/68-R85	85
RCA333/97	RCA333/97-R60	60
RCA335/54	RCA335/54-R60	60
RCA335/68	RCA335/68-R50	50
RCA335/97	RCA335/97-R35	35



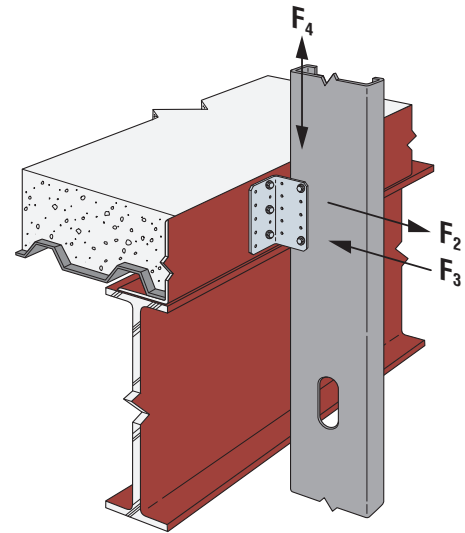
RCA Rigid Connector Angles



Typical RCA225
Installation at Sill/Jamb

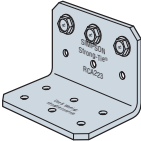
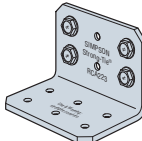
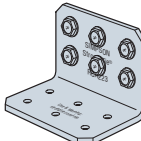
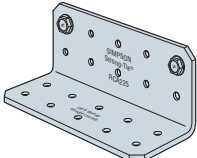
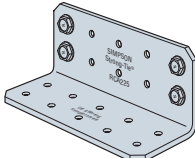
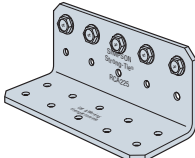
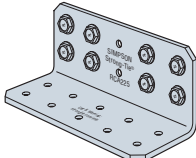
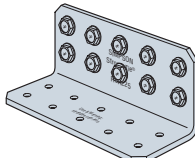
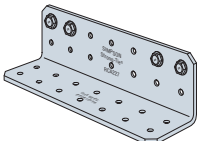
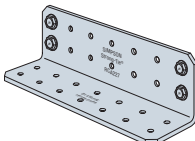
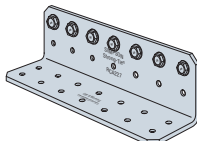
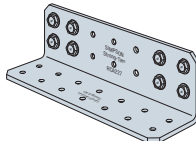
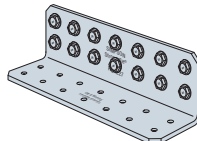
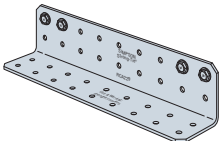
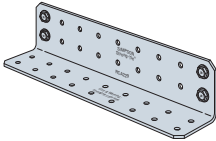
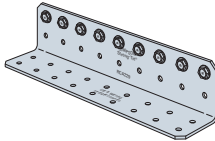
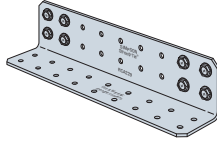
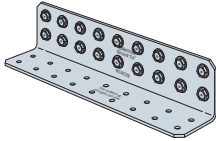
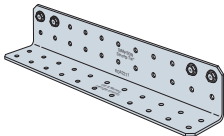
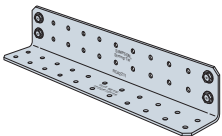
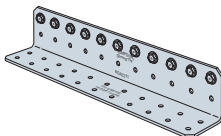
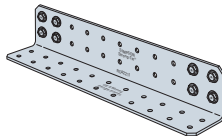
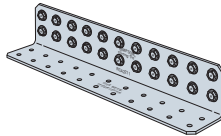


Typical RCA229 Installation
at Joist Connection



Typical RCA335 Installation
at Bypass Framing

Screw Patterns for Rigid Connector Angles

Models	Pattern 3A	Pattern 3B	Pattern 3C	Typical RCA335 Installation at Bypass Framing	
RCA223/54 RCA223/68 RCA223/97 RCA333/54 RCA333/68 RCA333/97					
Models	Pattern 5A	Pattern 5B	Pattern 5C	Pattern 5D	Pattern 5E
RCA225/54 RCA225/68 RCA225/97 RCA335/54 RCA335/68 RCA335/97					
Models	Pattern 7A	Pattern 7B	Pattern 7C	Pattern 7D	Pattern 7E
RCA227/54 RCA227/68 RCA227/97					
Models	Pattern 9A	Pattern 9B	Pattern 9C	Pattern 9D	Pattern 9E
RCA229/54 RCA229/68 RCA229/97					
Models	Pattern 11A	Pattern 11B	Pattern 11C	Pattern 11D	Pattern 11E
RCA2211/54 RCA2211/68 RCA2211/97					

RCA Rigid Connector Angles

RCA Rigid Connector Angles Allowable Loads (lb.)

Model	No. of #10 Screws ^{5,6}	Screw Pattern	Stud Framing Thickness ¹¹								
			33 mil (20 ga.)			43 mil (18 ga.)			54 mil (16 ga.)		
			F ₂	F ₃	F ₄	F ₂	F ₃	F ₄	F ₂	F ₃	F ₄
RCA223/54	3	3A	205	495	200	205	590	310	205	590	620
	4	3B	205	580	390	205	580	605	205	580	1,095
	6	3C	205	865	480	205	865	740	205	865	1,095
RCA223/68	3	3A	310	495	200	310	765	310	310	815	620
	4	3B	310	660	390	310	805	605	310	805	1,210
	6	3C	310	990	480	310	1,205	740	310	1,205	1,350
RCA223/97	3	3A	495	495	200	630	765	310	630	1,415	620
	4	3B	630	660	390	630	1,020	605	630	1,265	1,210
	6	3C	630	990	480	630	1,530	740	630	1,895	1,485
RCA225/54	2	5A	330	330	265	340	390	410	340	390	815
	4	5B	340	580	535	340	580	830	340	580	1,660
	5	5C	340	825	460	340	980	705	340	980	1,310
	8	5D	340	1,155	915	340	1,155	1,420	340	1,155	1,825
	10	5E	340	1,445	1,035	340	1,445	1,600	340	1,445	1,825
RCA225/68	2	5A	330	330	265	510	510	410	520	545	815
	4	5B	520	660	535	520	805	830	520	805	1,660
	5	5C	520	825	460	520	1,275	705	520	1,360	1,415
	8	5D	520	1,320	915	520	1,605	1,420	520	1,605	2,255
	10	5E	520	1,650	1,035	520	2,010	1,600	520	2,010	2,255
RCA225/97	2	5A	330	330	265	510	510	410	1,020	945	815
	4	5B	660	660	535	1,020	1,020	830	1,050	1,265	1,660
	5	5C	825	825	460	1,050	1,275	705	1,050	2,360	1,415
	8	5D	1,050	1,320	915	1,050	2,040	1,420	1,050	2,525	2,835
	10	5E	1,050	1,650	1,035	1,050	2,550	1,600	1,050	3,155	3,200
RCA227/54	4	7A	475	660	545	475	785	840	475	785	1,675
	4	7B	475	580	595	475	580	920	475	580	1,840
	7	7C	475	1,155	765	475	1,280	1,185	475	1,280	1,685
	8	7D	475	1,155	1,120	475	1,155	1,730	475	1,155	2,555
	14	7E	475	2,025	1,685	475	2,025	2,555	475	2,025	2,555
RCA227/68	4	7A	660	660	545	725	1,020	840	725	1,090	1,675
	4	7B	660	660	595	725	805	920	725	805	1,840
	7	7C	725	1,155	765	725	1,780	1,185	725	1,780	2,370
	8	7D	725	1,320	1,120	725	1,605	1,730	725	1,605	3,155
	14	7E	725	2,310	1,685	725	2,810	2,605	725	2,810	3,155
RCA227/97	4	7A	660	660	545	1,020	1,020	840	1,470	1,890	1,675
	4	7B	660	660	595	1,020	1,020	920	1,470	1,265	1,840
	7	7C	1,155	1,155	765	1,470	1,785	1,185	1,470	3,080	2,370
	8	7D	1,320	1,320	1,120	1,470	2,040	1,730	1,470	2,525	3,460
	14	7E	1,470	2,310	1,685	1,470	3,570	2,605	1,470	4,420	4,490
RCA229/54	4	9A	615	660	595	615	1,020	920	615	1,100	1,840
	4	9B	615	660	620	615	815	960	615	815	1,920
	9	9C	615	1,485	1,105	615	2,295	1,705	615	2,475	3,410
	8	9D	615	1,320	1,210	615	1,630	1,865	615	1,630	3,735
	18	9E	615	2,970	2,375	615	3,665	3,670	615	3,665	4,715
RCA229/68	4	9A	660	660	595	935	1,020	920	935	1,525	1,840
	4	9B	660	660	620	935	1,020	960	935	1,130	1,920
	9	9C	935	1,485	1,105	935	2,295	1,705	935	3,435	3,410
	8	9D	935	1,320	1,210	935	2,040	1,865	935	2,260	3,735
	18	9E	935	2,970	2,375	935	4,590	3,670	935	5,090	5,750
RCA229/97	4	9A	660	660	595	1,020	1,020	920	1,890	2,040	1,840
	4	9B	660	660	620	1,020	1,020	960	1,890	1,610	1,920
	9	9C	1,485	1,485	1,105	1,890	2,295	1,705	1,890	4,590	3,410
	8	9D	1,320	1,320	1,210	1,890	2,040	1,865	1,890	3,220	3,735
	18	9E	1,890	2,970	2,375	1,890	4,590	3,670	1,890	7,240	7,340

See footnotes on p. 106.

RCA Rigid Connector Angles

RCA Rigid Connector Angles Allowable Loads (lb.) (cont.)

Model	No. of #10 Screws ^{5,6}	Screw Pattern	Stud Framing Thickness ¹¹								
			33 mil (20 ga.)			43 mil (18 ga.)			54 mil (16 ga.)		
			F ₂	F ₃	F ₄	F ₂	F ₃	F ₄	F ₂	F ₃	F ₄
RCA2211/54	4	11A	660	660	620	700	1,020	960	700	1,100	1,915
	4	11B	625	660	635	625	815	980	625	815	1,960
	11	11C	750	1,815	1,450	750	2,805	2,245	750	3,030	4,490
	8	11D	700	1,320	1,250	700	1,630	1,930	700	1,630	3,865
	22	11E	750	3,630	3,075	750	4,480	4,755	750	4,480	5,765
RCA2211/68	4	11A	660	660	620	1,020	1,020	960	1,140	1,530	1,915
	4	11B	660	660	635	1,020	1,020	980	1,140	1,130	1,960
	11	11C	1,140	1,815	1,450	1,140	2,805	2,245	1,140	4,205	4,490
	8	11D	1,140	1,320	1,250	1,140	2,040	1,930	1,140	2,260	3,865
	22	11E	1,140	3,630	3,075	1,140	5,610	4,755	1,140	6,220	7,030
RCA2211/97	4	11A	660	660	620	1,020	1,020	960	2,040	2,040	1,915
	4	11B	660	660	635	1,020	1,020	980	2,040	1,610	1,960
	11	11C	1,815	1,815	1,450	2,310	2,805	2,245	2,310	5,610	4,490
	8	11D	1,320	1,320	1,250	2,040	2,040	1,930	2,310	3,220	3,865
	22	11E	2,310	3,630	3,075	2,310	5,610	4,755	2,310	8,850	9,510
RCA333/54	3	3A	205	440	130	205	440	195	205	440	395
	4	3B	205	580	325	205	580	505	205	580	1,005
	6	3C	205	865	430	205	865	665	205	865	1,095
RCA333/68	3	3A	310	495	130	310	615	195	310	615	395
	4	3B	310	660	325	310	805	505	310	805	1,005
	6	3C	310	990	430	310	1,205	665	310	1,205	1,335
RCA333/97	3	3A	495	495	130	630	765	195	630	1,065	395
	4	3B	630	660	325	630	1,020	505	630	1,265	1,005
	6	3C	630	990	430	630	1,530	665	630	1,895	1,335
RCA335/54	2	5A	330	295	205	340	295	320	340	295	635
	4	5B	340	580	450	340	580	695	340	580	1,390
	5	5C	340	735	305	340	735	475	340	735	835
	8	5D	340	1,155	755	340	1,155	1,170	340	1,155	1,825
	10	5E	340	1,445	860	340	1,445	1,330	340	1,445	1,825
RCA335/68	2	5A	330	330	205	510	410	320	520	410	635
	4	5B	520	660	450	520	805	695	520	805	1,390
	5	5C	520	825	305	520	1,025	475	520	1,025	945
	8	5D	520	1,320	755	520	1,605	1,170	520	1,605	2,255
	10	5E	520	1,650	860	520	2,010	1,330	520	2,010	2,255
RCA335/97	2	5A	330	330	205	510	510	320	1,020	710	635
	4	5B	660	660	450	1,020	1,020	695	1,050	1,265	1,390
	5	5C	825	825	305	1,050	1,275	475	1,050	1,775	945
	8	5D	1,050	1,320	755	1,050	2,040	1,170	1,050	2,525	2,335
	10	5E	1,050	1,650	860	1,050	2,550	1,330	1,050	3,155	2,660

- As applicable, the tabulated values are calculated based on AISI RP18-4, AISI S100 or generally accepted industry standards.
- The tabulated values do not account for anchorage to the support. Anchor strength must be calculated separately and may reduce the capacity of the connection when compared to the tabulated values.
- Tabulated values do not include shear, web crippling, buckling or other local effects in the member. The designer must check member limit states separately.
- For load combinations that include F₄ and/or F₂ and/or F₃, use an appropriate interaction equation.
- #10–16 screws shall have P_{SS} ≥ 1,620 lb. Calculated values are per AISI S100. Screws must be installed with three (minimum) exposed threads.
- The number of screws is for one clip leg that is attached to the supported stud.
- In addition to calculations of net and gross section tension, F₂ values are also calculated and normally controlled by weak-axis bending of the anchored clip leg with the line of bending at the holes nearest the bend radius of the angle. Moment arm of ¾" is used for F₂ loads. The designer is responsible for calculating pullover, pullout and tension strength of the anchors and this may reduce F₂ strength compared to the tabulated values.
- F₃ strength values are computed using the plate buckling provisions of AISI RP18-4.
- For the F₄ strength values it's assumed that all of the connection eccentricity is taken by the screws in the supported stud. F₄ values are also limited by plate shear buckling per AISI RP18-4. The designer is responsible for calculating the shear capacity of the anchorage, which may reduce F₄ strength compared to the tabulated values.
- In addition to the limit states given in notes 7, 8 and 9, F₂, F₃ and F₄ are also limited by screw shear according to the thinnest connected part of the connector and stud.
- For 50 ksi studs, 68 mil (14 ga.) and thicker, use the tabulated values for 54 mil (16 ga.) — 50 ksi studs.