RCA Rigid Connector Angle



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.

Key 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
- RCA XXX/68 — 68 mil (14 ga.), 50 ksi
- RCAXXX /97 — 97 mil (12 ga.), 50 ksi
  (Note: “XXX” is model number shown below in the Product Information Table)

Finish

- Galvanized (G90)

Installation

- Use all specified anchors/fasteners

Disclaimer

Some specific models of this product might not be covered in the associated code reports. Please verify coverage for the models you wish to use

Product Information Table

Model No.	Thickness (mil)	Ga.	Dimensions (in.)	L (in.)	Coating/Material	Packaging Qty.
RCA2211/54-R45	54	16	2 x 2	11	Zinc Galvanized, G90	45
RCA2211/68-R40	68	14	2 x 2	11	Zinc Galvanized, G90	40
RCA2211/97-R30	97	12	2 x 2	11	Zinc Galvanized, G90	30
RCA223/54-R150	54	16	2 x 2	3	Zinc Galvanized, G90	150
RCA223/68-R125	68	14	2 x 2	3	Zinc Galvanized, G90	125
RCA223/97-R90	97	12	2 x 2	3	Zinc Galvanized, G90	90
RCA225/54-R90	54	16	2 x 2	5	Zinc Galvanized, G90	90
RCA225/68-R75	68	14	2 x 2	5	Zinc Galvanized, G90	75
RCA225/97-R55	97	12	2 x 2	5	Zinc Galvanized, G90	55
RCA227/54-R65	54	16	2 x 2	7	Zinc Galvanized, G90	65
RCA227/68-R55	68	14	2 x 2	7	Zinc Galvanized, G90	55
RCA227/97-R40	97	12	2 x 2	7	Zinc Galvanized, G90	40
RCA229/54-R50	54	16	2 x 2	9	Zinc Galvanized, G90	50
RCA229/68-R50	68	14	2 x 2	9	Zinc Galvanized, G90	50
RCA229/97-R35	97	12	2 x 2	9	Zinc Galvanized, G90	35
RCA333/54-R100	54	16	3 x 3	3	Zinc Galvanized, G90	100
RCA333/68-R85	68	14	3 x 3	3	Zinc Galvanized, G90	85
RCA333/97-R60	97	12	3 x 3	3	Zinc Galvanized, G90	60
RCA335/54-R60	54	16	3 x 3	5	Zinc Galvanized, G90	60
RCA335/68-R50	68	14	3 x 3	5	Zinc Galvanized, G90	50
RCA335/97-R35	97	12	3 x 3	5	Zinc Galvanized, G90	35

Load Tables

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	765	310	205	810	620
	4	3B	205	660	390	205	805	605	205	805	1,210
	6	3C	205	990	480	205	1,210	740	205	1,210	1,485
RCA223/68	3	3A	310	495	200	310	765	310	310	1,125	620
	4	3B	310	660	390	310	1,020	605	310	1,120	1,210
	6	3C	310	990	480	310	1,530	740	310	1,680	1,485
RCA223/97	3	3A	495	495	200	630	765	310	630	1,530	620
	4	3B	630	660	390	630	1,020	605	630	1,610	1,210
	6	3C	630	990	480	630	1,530	740	630	2,415	1,485
RCA225/54	2	5A	330	330	265	340	510	410	340	545	815
	4	5B	340	660	535	340	810	830	340	810	1,660
	5	5C	340	825	460	340	1,275	705	340	1,365	1,415
	8	5D	340	1,320	915	340	1,620	1,420	340	1,620	2,380
	10	5E	340	1,650	1,035	340	2,030	1,600	340	2,030	2,620
RCA225/68	2	5A	330	330	265	510	510	410	520	760	815
	4	5B	520	660	535	520	1,020	830	520	1,125	1,660
	5	5C	520	825	460	520	1,275	705	520	1,895	1,415
	8	5D	520	1,320	915	520	2,040	1,420	520	2,255	2,835
	10	5E	520	1,650	1,035	520	2,550	1,600	520	2,815	3,200
RCA225/97	2	5A	330	330	265	510	510	410	1,020	1,020	815
	4	5B	660	660	535	1,020	1,020	830	1,050	1,610	1,660
	5	5C	825	825	460	1,050	1,275	705	1,050	2,550	1,415
	8	5D	1,050	1,320	915	1,050	2,040	1,420	1,050	3,220	2,835
	10	5E	1,050	1,650	1,035	1,050	2,550	1,600	1,050	4,025	3,200
RCA227/54	4	7A	475	660	545	475	1,020	840	475	1,095	1,675
	4	7B	475	660	595	475	815	920	475	815	1,840
	7	7C	475	1,155	765	475	1,785	1,185	475	1,920	2,370
	8	7D	475	1,320	1,120	475	1,625	1,730	475	1,625	3,045
	14	7E	475	2,310	1,685	475	2,845	2,605	475	2,845	3,670
RCA227/68	4	7A	660	660	545	725	1,020	840	725	1,525	1,675
	4	7B	660	660	595	725	1,020	920	725	1,130	1,840
	7	7C	725	1,155	765	725	1,785	1,185	725	2,665	2,370
	8	7D	725	1,320	1,120	725	2,040	1,730	725	2,260	3,460
	14	7E	725	2,310	1,685	725	3,570	2,605	725	3,955	4,530
RCA227/97	4	7A	660	660	545	1,020	1,020	840	1,470	2,040	1,675
	4	7B	660	660	595	1,020	1,020	920	1,470	1,610	1,840
	7	7C	1,155	1,155	765	1,470	1,785	1,185	1,470	3,570	2,370
	8	7D	1,320	1,320	1,120	1,470	2,040	1,730	1,470	3,220	3,460
	14	7E	1,470	2,310	1,685	1,470	3,570	2,605	1,470	5,635	5,210
RCA229/54	4	9A	615	660	595	615	1,020	920	615	1,100	1,840
	4	9B	575	660	620	575	815	960	575	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

Load Tables

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	1,060	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	495	130	205	600	195	205	600	395
	4	3B	205	660	325	205	805	505	205	805	1,005
	6	3C	205	990	430	205	1,210	665	205	1,210	1,335
RCA333/68	3	3A	310	495	130	310	765	195	310	835	395
	4	3B	310	660	325	310	1,020	505	310	1,120	1,005
	6	3C	310	990	430	310	1,530	665	310	1,680	1,335
RCA333/97	3	3A	495	495	130	630	765	195	630	1,445	395
	4	3B	630	660	325	630	1,020	505	630	1,610	1,005
	6	3C	630	990	430	630	1,530	665	630	2,415	1,335
RCA335/54	2	5A	330	330	205	340	405	320	340	405	635
	4	5B	340	660	450	340	810	695	340	810	1,390
	5	5C	340	825	305	340	1,015	475	340	1,015	945
	8	5D	340	1,320	755	340	1,620	1,170	340	1,620	2,335
	10	5E	340	1,650	860	340	2,030	1,330	340	2,030	2,620
RCA335/68	2	5A	330	330	205	510	510	320	520	565	635
	4	5B	520	660	450	520	1,020	695	520	1,125	1,390
	5	5C	520	825	305	520	1,275	475	520	1,410	945
	8	5D	520	1,320	755	520	2,040	1,170	520	2,255	2,335
	10	5E	520	1,650	860	520	2,550	1,330	520	2,815	2,660
RCA335/97	2	5A	330	330	205	510	510	320	1,020	980	635
	4	5B	660	660	450	1,020	1,020	695	1,050	1,610	1,390
	5	5C	825	825	305	1,050	1,275	475	1,050	2,445	945
	8	5D	1,050	1,320	755	1,050	2,040	1,170	1,050	3,220	2,335
	10	5E	1,050	1,650	860	1,050	2,550	1,330	1,050	4,025	2,660

1. As applicable, the tabulated values are calculated based on AISI RP18-4, AISI S100 or generally accepted industry standards.
2. 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.
3. Tabulated values do not include shear, web crippling, buckling or other local effects in the member. The designer must check member limit states separately.
4. For load combinations that include F_4 and/or F_2 and/or F_3, use an appropriate interaction equation.
5. #10-16 screws shall have $P_{ss} \geq 1{,}620$ lb. Calculated values are per AISI S100. Screws must be installed with 3 (minimum) exposed threads.
6. The number of screws is for one clip leg that is attached to the supported stud.
7. In addition to calculations of net and gross section tension, F_2 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 3/4" is used for F_2 loads. The designer is responsible for calculating pullover, pullout and tension strength of the anchors and this may reduce F_2 strength compared to the tabulated values.
8. F_3 strength values are computed using the plate buckling provisions of AISI RP18-4.
9. For the F_4 strength values it's assumed that all of the connection eccentricity is taken by the screws in the supported stud. F_4 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 F_4 strength compared to the tabulated values.
10. In addition to the limit states given in notes 7, 8 and 9, F_2 , F_3 and F_4 are also limited by screw shear according to the thinnest connected part of the connector and stud.
11. Service load limits for F_3 have not been evaluated since there are no generally accepted industry methods to compute this value. F_2 and F_4 ASD loads are based on AISI Research Report RP18-4, using a safety factor or 1/8" deflection.
12. For 50 ksi studs, 68 mil (14 ga.) and thicker, use the tabulated values for 54 mil (16 ga.) — 50 ksi studs.
13. For screw pattern images, please see the image gallery above.