

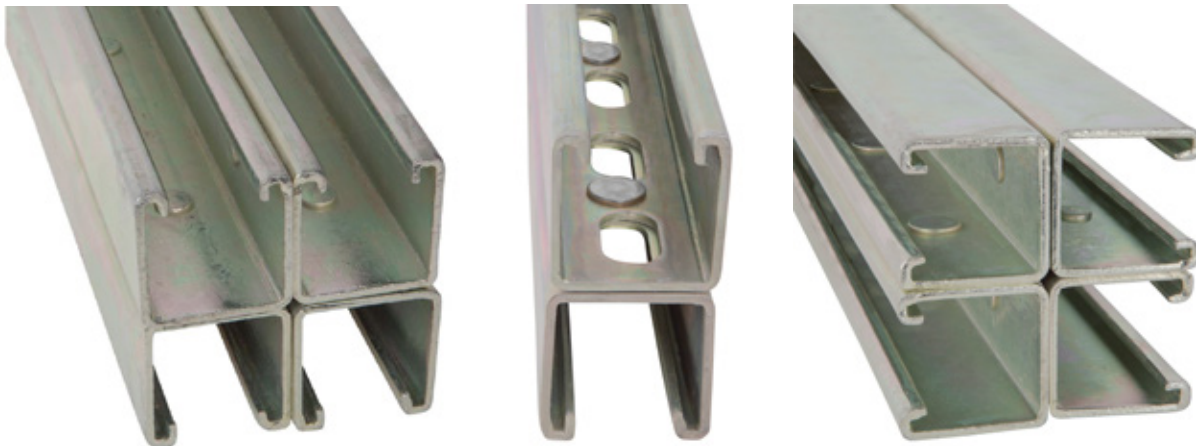
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PRODUCT BROCHURE

# Superstrut® riveted combination channel

Available in back-to-back  
and new quad strut.

**Superstrut®**



# Superstrut® riveted combination channel

New riveting process is more reliable than spot welding and won't damage channel finish.

ABB Installation Products has expanded its Superstrut riveted combination channel product range — ideal for semiconductor manufacturing, data centers and cleanroom applications.

In addition to the current riveted back-to-back Superstrut offering, A1202 (3¼" height) and B1202 (1½" height), we now offer riveted solutions for E1202 (4⅞" height) and H1202 (6½" height) series back-to-back strut and A1204 quad strut. Quad strut consist of four A1200 series solid channels with a rivet connection every 4" through the bottom and sidewall of the channel for a robust connection.

## Features

- **Greater product reliability** — The riveting process used on Superstrut combination channels provides a consistent, high strength, high quality fastening connection that delivers superior reliability compared to spot welded products, which can experience variation in weld strength and difficulty detecting poor quality welds without destructive testing.
- **Improved service life** — Riveted Superstrut combination channels are manufactured so the rivets and strut maintain the integrity of each component's galvanized protection, a significant improvement over the welding process, which removes the protective finish at the weld point.

- **New versatility with quad configuration** — The new Superstrut A1204 combination channel has a quad configuration that provides twice as many mounting options because of its side-by-side rails. This offers more flexibility to installers, particularly in high density applications that need side-by-side piping runs to be mounted to the strut. Additionally, the quad configuration delivers higher load ratings than A1202 back-to-back combination channels in beam or column configurations.

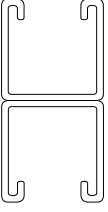
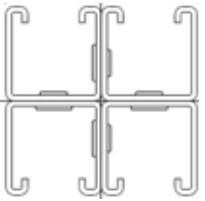
## Products

- 10' and 20' standard lengths
- Back-to-back strut heights from 1⅜" to 6½"
- Solid or half-slot style hole configurations
- New quad channel (solid only)
- Available in the following finishes: GoldGalv®, SilverGalv® (EG), pregalvanized (PG), hot-dipped galvanized (HDG) and green painted (GR)

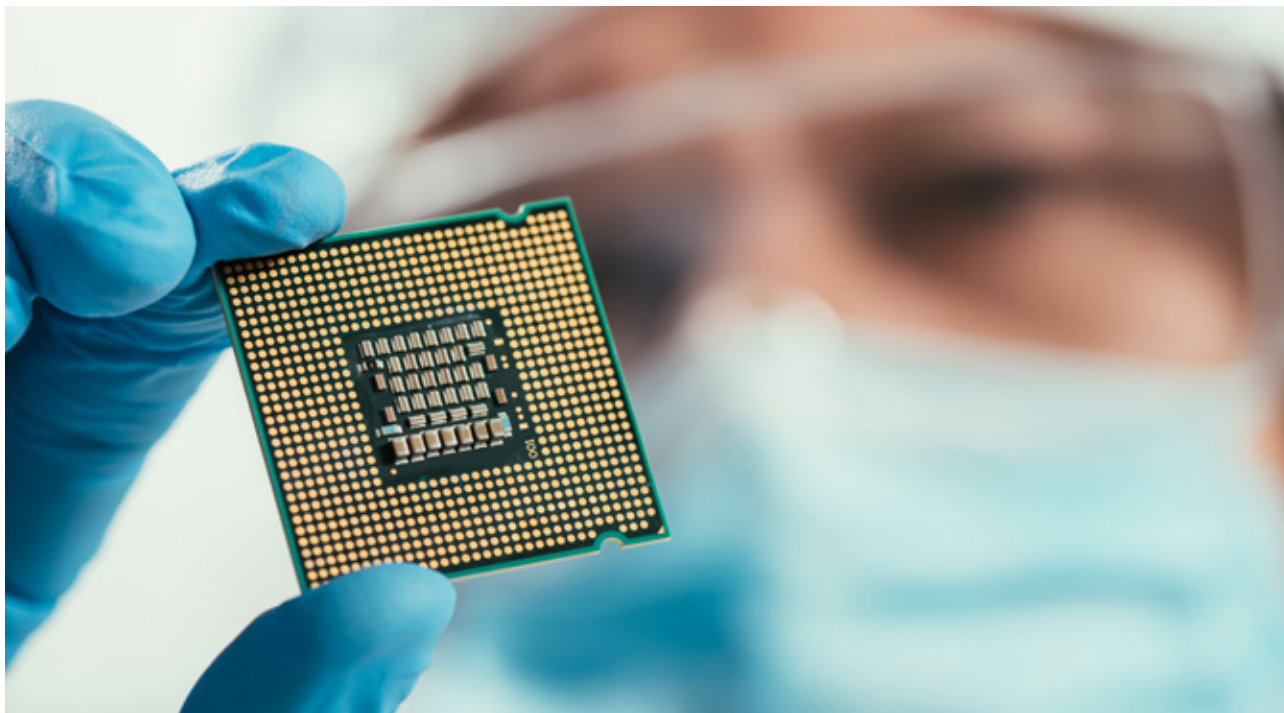
Note: Stainless steel combination channels are still spot welded.



**Superstrut riveted combination channel — 12-gauge steel with GoldGalv finish**

	Cat. no.	Style	Width (in.)	Height (in.)	Length (ft.)
<b>Riveted back-to-back double channel</b>					
	A1202 10	Solid	1 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	10
	A1202 20				20
	A1202HS 10	Half-slot	1 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	10
	A1202HS 20				20
	B1202 10	Solid	1 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	10
	B1202 20				20
	B1202HS 10	Half-slot	1 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	10
	B1202HS 20				20
	C1202 10	Solid	1 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	10
	C1202 20				20
	C1202HS 10	Half-slot	1 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	10
	C1202HS 20				20
	E1202 10	Solid	1 <sup>5</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	10
	E1202 20				20
	E1202HS 10	Half-slot	1 <sup>5</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	10
	E1202HS 20				20
H1202 10	Solid	1 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	10	
H1202 20				20	
H1202HS 10	Half-slot	1 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	10	
H1202HS 20				20	
<b>Riveted quad channel</b>					
	A1204R 10	Solid	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	10
	A1204R 20				20

Note: All catalog numbers listed above are GoldGalv® finish. To order a different finish, add one of the following suffixes to the end of the catalog number: EG = SilverGalv®, HDG = hot-dipped galvanized, PG = pregalvanized, GR = green painted, WH = white painted. Example: Catalog number A1202HS 10PG is riveted back-to-back 1<sup>5</sup>/<sub>8</sub>" x 1<sup>5</sup>/<sub>8</sub>" x 10' half-slot channel in pregalvanized steel.

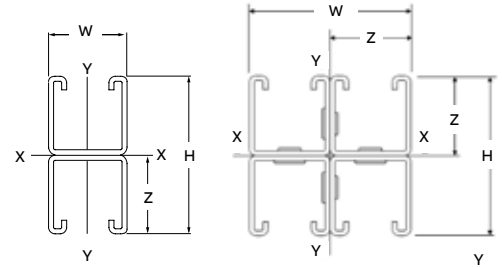


## Design data

### Properties and load ratings

#### Nominal thickness (in.)

Nominal thickness (in.)	Elements of sections
12 ga. = 0.105	I — Moment of inertia
14 ga. = 0.075	S — Section modulus
	r — Radius of gyration
	Z — Neutral axis position
	A — Area



**Table 1 — Properties for design riveted double and quad strut**

Dimensions	x-x axis						y-y axis					
	Cat. no.	H (in.)	W (in.)	A (in. <sup>2</sup> )	I (in. <sup>4</sup> )	S (in. <sup>3</sup> )	r (in.)	Z (in.)	I (in. <sup>4</sup> )	S (in. <sup>3</sup> )	r (in.)	Z (in.)
A1202	3.250	1.625	1.114	0.948	0.583	0.992	1.625	0.474	0.584	0.652	—	—
B1202	1.625	1.625	0.762	0.147	0.181	0.439	0.813	0.274	0.337	0.600	—	—
C1202	2.750	1.625	1.000	0.595	0.433	0.772	1.375	0.409	0.504	0.640	—	—
E1202	4.875	1.625	1.450	2.854	1.171	1.402	2.438	0.672	0.827	0.680	—	—
H1202	6.500	1.625	1.794	6.273	1.930	1.870	3.250	0.871	1.072	0.697	—	—
A1204	3.250	3.250	2.110	1.820	1.118	0.938	1.630	2.304	1.415	1.044	1.630	—

I = Moment of Inertia  
 S = Section of Modulus  
 r = Radius of Gyration  
 Z = Nominal Axis  
 A = Area

**Table 2 — Load ratings for ½" strut nuts used in Superstrut® channel**

Channel no.	Slip resistance (lbs.)	Pull-out strength (lbs.)
A1200	1,200	2,000
B1200	1,000	1,400

Safety factor of 3

If connections will be subjected to dynamic or seismic loading conditions, contact ABB Installation Products Technical Services for design assistance.



## Design data

Design load for channel used as beam or column

### Tables 3–6

#### Beam loads

Table 3 contains simple beam, uniformly distributed loads calculated at 25,000 psi fiber stress. Beam loads are based on channel being loaded across the X-X axis. Loads are also listed at reduced deflections for long spans.

#### Maximum loads at 25,000 psi stress

Maximum allowable deflections and maximum uniform loads for all spans at 25,000 psi fiber stress.

#### Reduced load for all 1/180 span deflection

For moderate deflections on the longer spans, Table 4 contains reduced loads that will produce a deflection equal to 1/180 of the span. When maximum loads do not induce deflections exceeding 1/180 x the span length, reduced loads are not required.

#### Reduced load for 1/360 span deflection

For very slight deflections on the longer spans, Table 5 contains reduced loads that will produce a deflection equal to 1/360 of the span. When maximum loads do not induce deflections exceeding 1/360 x the span length, reduced loads are not required.

#### Concentrated loads

To obtain values for concentrated loads from Table 3, multiply uniform load by 0.5 and deflection by 1.25.

#### Slotted channel

Reduce load rating 5%.

#### Long span deep beams

Support in a manner to prevent rotation at supports and tie between supports to prevent twist.

#### Column loads

Allowable column loads given in Table 6 are for uniform axial loading with pinned ends. For eccentric loading or other end conditions, reduce allowable loads according to standard engineering practice.

#### Dynamic loads

Allowable dynamic loads may be calculated by dividing the static loads shown in Table 3 by 2.08.



## Design data

Design load for channel used as beam or column

Table 3 — Maximum uniform load ratings

Cat. no.	A1202		B1202		C1202		E1202		H1202		A1204	
Depth (in.)	3.25		1.63		2.75		4.88		6.5		3.25	
Span (in.)	Load (lb.)	Deflection (in.)	Load (lb.)	Deflection (in.)	Load (lb.)	Deflection (in.)	Load (lb.)	Deflection (in.)	Load (lb.)	Deflection (in.)	Load (lb.)	Deflection (in.)
12	—	—	3016	0.016	—	—	—	—	—	—	—	—
18	—	—	2011	0.036	4811	0.021	—	—	—	—	—	—
24	4858	0.031	1509	0.064	3609	0.038	—	—	—	—	—	—
30	3886	0.049	1206	0.100	2886	0.059	7288	0.031	—	—	7466	0.048
36	3239	0.071	1005	0.144	2400	0.085	6505	0.048	—	—	6222	0.069
42	2776	0.098	863	0.195	2063	0.115	5576	0.065	9190	0.049	5334	0.094
48	2429	0.128	754	0.255	1804	0.151	4879	0.085	8041	0.064	4666	0.123
54	2159	0.161	670	0.323	1604	0.190	4338	0.108	7149	0.081	4148	0.156
60	1944	0.199	604	0.398	1444	0.235	3904	0.133	6434	0.100	3734	0.192
66	1766	0.240	549	0.481	1313	0.285	3549	0.160	5849	0.120	3394	0.233
72	1620	0.286	503	0.574	1203	0.339	3253	0.191	5361	0.143	3112	0.277
84	1388	0.390	431	0.780	1031	0.461	2788	0.260	4595	0.195	2666	0.377
96	1215	0.509	378	1.019	903	0.603	2440	0.340	4021	0.255	2334	0.492
108	1080	0.644	335	1.290	801	0.763	2169	0.430	3574	0.323	2074	0.623
120	971	0.795	301	1.588	721	0.941	1951	0.531	3216	0.398	1866	0.769
144	810	1.145	—	—	601	1.350	1626	0.764	2680	0.573	1556	1.108
168	694	1.563	—	—	515	1.850	1394	1.040	2298	0.780	1334	1.508
192	—	—	—	—	—	—	1220	1.363	2010	1.019	1166	1.969
216	—	—	—	—	—	—	1084	1.725	1788	1.288	1038	2.492
240	—	—	—	—	—	—	—	—	1609	1.588	934	3.077

Table 4 — Reduced loads for 1/180 span deflection (for loads not shown, use maximum uniform load)

Cat. no.	A1202		B1202		C1202		E1202		H1202		A1204	
Depth (in.)	3.25		1.63		2.75		4.88		6.5		3.25	
Span (in.)	1/180 Span Deflection (in.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)	1/180 Load (lb.)
66	0.367	—	418	—	—	—	—	—	—	—	—	—
72	0.400	—	351	—	—	—	—	—	—	—	—	—
84	0.467	—	258	—	—	—	—	—	—	—	—	—
96	0.533	—	197	—	—	—	—	—	—	—	—	—
108	0.600	—	156	632	—	—	—	—	—	—	1977	—
120	0.667	—	126	512	—	—	—	—	—	—	1618	—
144	0.800	566	88	355	—	—	—	—	—	—	1123	—
168	0.933	415	64	261	1255	—	—	—	—	—	826	—
192	1.07	318	—	200	958	—	—	—	—	—	632	—
216	1.20	252	—	158	757	1664	—	—	—	—	500	—
240	1.33	204	—	128	613	1348	—	—	—	—	405	—

## Design data

Design load for channel used as beam or column

Table 5 — Reduced loads for 1/360 span deflection (for loads not shown, use maximum uniform load)

Cat. no.		A1202	B1202	C1202	E1202	H1202	A1204
Depth (in.)		3.25	1.63	2.75	4.88	6.5	3.25
Span (in.)	1/360 Span Deflection (in.)	1/360 Load (lb.)	1/360 Load (lb.)	1/360 Load (lb.)	1/360 Load (lb.)	1/360 Load (lb.)	1/360 Load (lb.)
36	0.100	—	702	—	—	—	—
42	0.117	—	516	—	—	—	—
48	0.133	—	395	—	—	—	—
54	0.150	—	312	1263	—	—	3988
60	0.167	—	253	1023	—	—	3241
66	0.183	1347	209	846	—	—	2671
72	0.200	1132	176	710	—	—	2247
84	0.233	832	129	522	—	—	1650
96	0.267	637	99	400	1917	—	1265
108	0.300	503	78	316	1515	—	999
120	0.333	408	63	256	1227	—	809
144	0.400	283	44	178	852	1873	562
168	0.467	208	32	130	626	1376	413
192	0.533	159	—	100	479	1053	316
216	0.600	126	—	79	379	832	250
240	0.667	102	—	64	307	674	202

Table 6 — Column load (lb.)

Span (in.)	Cat. no.	A1202	B1202	C1202	E1202	H1202	A1204
		3.25	1.63	2.75	4.88	6.5	3.25
12	—	—	14110	—	—	—	—
18	—	—	13440	18470	—	—	—
24	19974	19974	12670	17890	—	—	—
30	19261	19261	11803	17230	25259	—	38507
36	18470	18470	10840	16500	24316	—	37607
42	17635	17635	9790	15730	23272	29025	36652
48	16730	16730	8640	14890	22170	27700	35643
54	15763	15763	7405	13990	20980	26280	34580
60	14738	14738	6100	13050	19734	24810	33463
66	13646	13646	5055	12030	18415	23230	32291
72	12500	12500	4230	10980	17023	21560	31065
84	9992	9992	3100	8670	13993	17975	28450
96	7675	7675	—	6640	10875	14120	25618
108	6071	6071	—	5250	8599	11160	22568
120	—	—	—	4250	6946	9040	19302

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