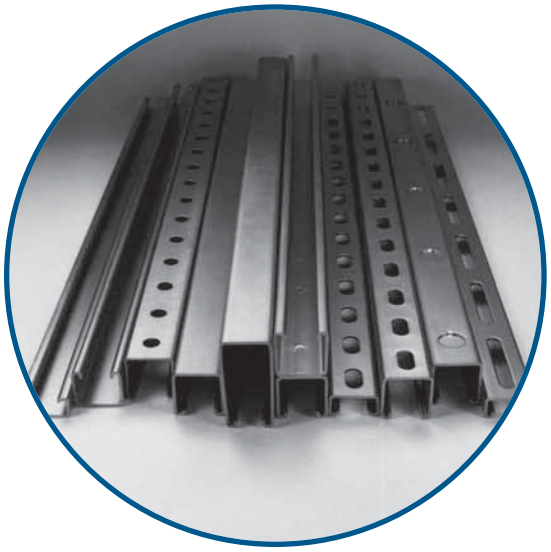
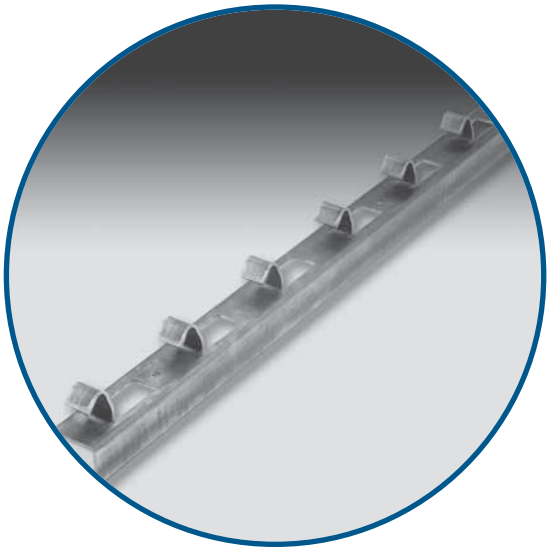
Channels and Concrete Inserts





Channels

Material

Steel channels are cold-roll formed from strip steel. Aluminum and Fiberglass channels are extruded profiles.

Material Thickness

All Series 1200	12 gauge material
All Series 1400	14 gauge material
All Series 1600	16 gauge ribbed material

Standard Lengths

Standard lengths for channels are 10 ft. and 20 ft. with a tolerance of +1/8 in. Special lengths can be requested; however, minimum quantities may apply. Channels are sold per foot.

Warning

Load tables, charts, and design criteria provided in this catalogue are intended as guides only. Selection of proper product, support spacing, erection, and placement are the responsibility of the user.

When improperly used as tools of erection, pipe hanger products have occasionally failed. To avoid an accident, the user is cautioned to use the product only as it was intended.

Concrete Inserts

Material

Superstrut continuous insert channel is manufactured from 12 gauge hot rolled strip steel in two basic sizes as follows:

Cat. No. A302

1-5/8 in. x 1-5/8 in. 7/8 in. slot

Cat. No. C302

1-5/8 in. x 1-3/8 in. 7/8 in. slot

Standard Lengths

Standard lengths are 10 ft. and 20 ft. Product is supplied with foam filler and end caps to prevent concrete from seeping into channel.

Application

For casting into concrete walls, floors or ceilings to provide for attachment anywhere along the continuous slot.

Design Data

Load ratings as shown have a safety factor of 3 in 3000 lb. hard rock concrete. Where sound concrete does not exist, the load ratings shall not apply.

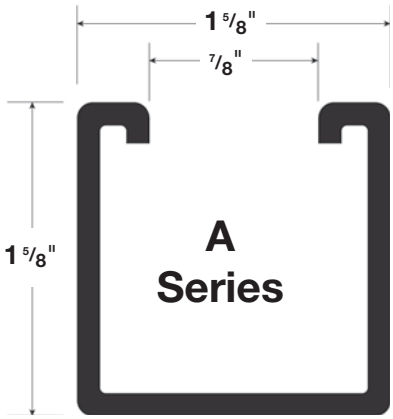
GoldGalv® hardware finish is standard for all Superstrut Concrete insert products. This is a multi-process finish of electro-plated zinc, followed by gold coloured zinc dichromate to give excellent corrosion resistance and a superior paint base.

For more information on load design, see page A57 for Engineering Data and Specifications.

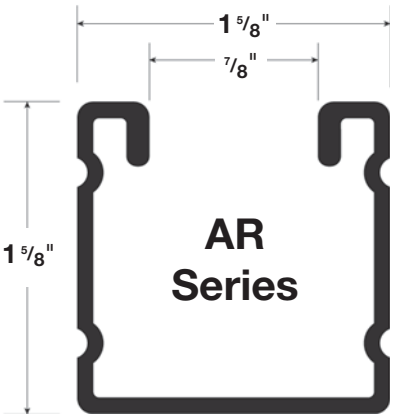
Channels and Concrete Inserts

Channels at Full Scale

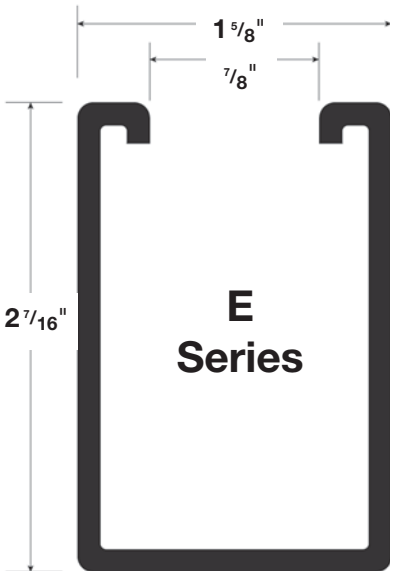
Available in 10 and 20 foot length



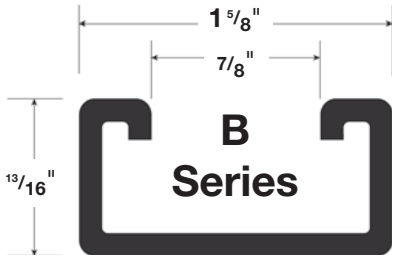
A1200 12 gauge
A1400 14 gauge



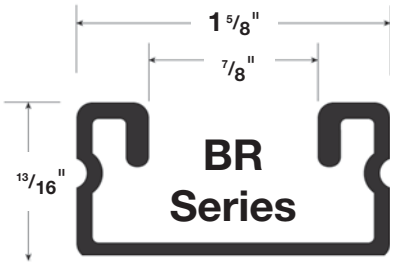
16 gauge only



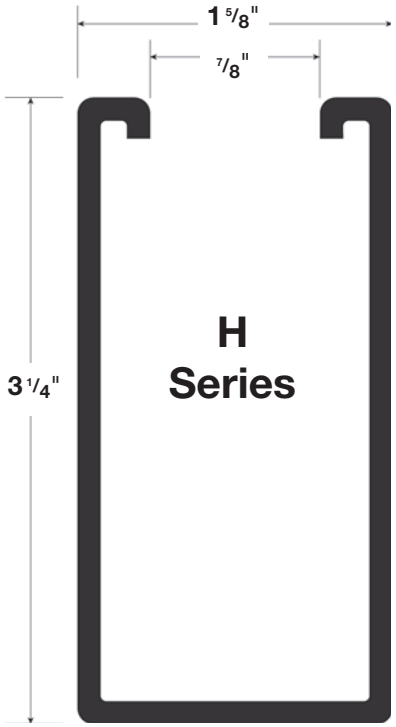
E1200 12 gauge



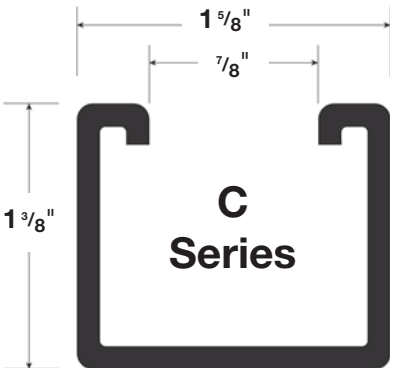
B1200 12 gauge
B1400 14 gauge



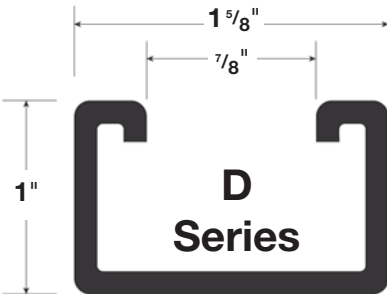
16 gauge only



H1200 12 gauge



C1200 12 gauge



D1200 12 gauge

Channels and Concrete Inserts

Channel Selection Chart

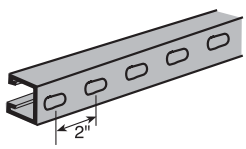
CHANNEL	HOLE CONFIGURATIONS					LENGTH	FINISH ON STEEL						SPECIAL MATERIALS			
Series	HS	S	SW	P	KO	ft.	BC	PG(C)	EG(C)	GoldGalv®	HDG(C)	GR,GY,WH	PV(C)	AL(C)	T316L	SS6(C)
A1200	■	■	■	■	■	10 or 20		■	■	■	■		■	■	■	■
A1400	■	■	■	■	■	10 or 20		■	■	■	■					
AR1600	■	■	■	■	■	10 or 20		■								
B1200	■	■	■	■	■	10 or 20		■	■	■	■			■	■	■
B1400	■	■	■	■		10 or 20		■	■	■	■		■			
BR1600	■	■	■	■		10 or 20		■								
C1200	■	■		■	■	10 or 20		■		■	■					
D1200	■	■	■	■		10 or 20		■			■			■	■	■
E1200	■	■		■	■	10 or 20		■		■	■					
H1200	■	■		■	■	10 or 20		■		■	■					

Legend

EXAMPLES	HOLE CONFIGURATION		FINISH ON STEEL		SPECIAL MATERIALS	
A120010PG Plain channel, 10 ft., pre-galvanized finish	Suffix		Suffix		Suffix	
B1400P10 Punched channel, 10 ft., GoldGalv® finish	blank	Plain, no holes	BC	Bare	AL	Aluminum
E1200HS20HDG Half slot channel, 20 ft. hot dipped galvanized	HS	Half slot	PGC	Pre-galvanized	SS6 (C)	Stainless Steel Type 316
	S	Slotted	EGC	Electrogalvanized	T316L	Stainless Steel Type 316L
	SW	Slotted wide	Blank	GoldGalv®		
	P	Punched	HDGC	Hot dipped galvanized		
	KO	Knockout	GR,GY,WH	Epoxy paint in green (GR), grey (GY), or white (WH)		
	■	Standard offering	■	A minimum order quantity may apply		

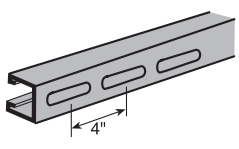
Hole Configuration

Half Slot Channel



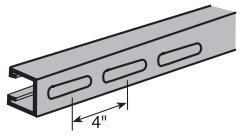
Slots: 9/16 in. X 1-1/8 in.

Slotted Channel



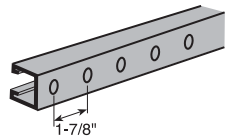
Slots: 7/16 in. X 3 in.

SW "Slotted Wide" Channel



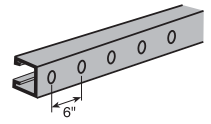
Slots: 9/16 in. X 3 in.

Punched Channel



Holes: 9/16 in.

Channel with Knockouts



KO: 1/2 in.

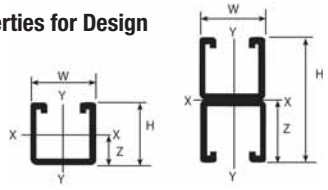
Engineering Data & Specifications

Design Data – Metal Framing Channel

TABLE 1

Elements of Sections

Properties for Design



Single Channels

Double Channels

Nominal Thickness (inches)

12 ga = 0.105

14 ga = 0.075

16 ga = 0.060

LEGEND

I - Moment of inertia
S - Section Modulus
r - Radius of Gyration
Z - Nominal Axis
A - Area

Section Member	WT. lb./ft.	H (in.)	W (in.)	A (in.)²	X-X AXIS I (in.)⁴	X-X AXIS S (in.)³	X-X AXIS r (in.)	X-X AXIS Z (in.)	Y-Y AXIS I (in.)⁴	Y-Y AXIS S (in.)³	Y-Y AXIS r (in.)
Single Channel											
A1200	1.90	1.625	1.625	0.557	0.192	0.212	0.587	0.719	0.237	0.292	0.652
B1200	1.28	0.813	1.625	0.381	0.031	0.063	0.283	0.331	0.137	0.168	0.600
C1200	1.70	1.375	1.625	0.500	0.121	0.155	0.492	0.595	0.205	0.252	0.640
D1200	1.44	1.000	1.625	0.424	0.053	0.092	0.356	0.403	0.159	0.196	0.616
E1200	2.47	2.438	1.625	0.726	0.529	0.399	0.853	1.112	0.335	0.413	0.679
H1200	3.05	3.250	1.625	0.897	1.100	0.635	1.107	1.507	0.436	0.536	0.697
A1400	1.40	1.625	1.625	0.401	0.134	0.146	0.577	0.707	0.184	0.226	0.677
B1400	0.97	0.813	1.625	0.280	0.024	0.051	0.295	0.338	0.103	0.127	0.607
Double Channel											
A1202	3.80	3.250	1.625	1.114	0.948	0.583	0.992	1.625	0.474	0.584	0.652
B1202	2.56	1.626	1.625	0.762	0.147	0.181	0.439	0.813	0.274	0.337	0.600
C1202	3.40	2.750	1.625	1.000	0.595	0.433	0.772	1.375	0.409	0.504	0.640
D1202	2.88	2.000	1.625	0.847	0.257	0.257	0.552	1.090	0.319	0.393	0.616
E1202	4.94	4.876	1.625	1.450	2.854	1.171	1.402	2.438	0.672	0.827	0.680
H1202	6.10	6.500	1.625	1.794	6.273	1.930	1.870	3.250	0.871	1.072	0.697
A1402	2.80	3.250	1.625	0.801	0.668	0.411	0.913	1.625	0.367	0.452	0.677
B1402	1.94	1.626	1.625	0.560	0.112	0.138	0.447	0.813	0.206	0.254	0.607

TABLE 2

Maximum Pullout and Slip Loads for Steel Channel and Channel Nuts

Channel Nuts Size / Thread	Channel	Pull Out Strenght		Slip Resistance		Torque	
	All Series	lb.	kN	lb.	kN	lb.	kN
1/4 - 20	A1200	600	2.7	300	1.3	6	8
5/16 - 18	B1200	800	3.6	500	2.2	11	15
3/8 - 16	C1200	1000	4.4	800	3.6	19	25
1/2 - 14	D1200	2000	8.9	1500	6.7	50	70
5/8 - 11	E1200	2500	11.1	1500	6.7	100	135
3/4 - 10	H1200	2500	11.1	1700	7.6	125	170
1/4 - 20	A1400	600	2.7	300	1.3	6	8
5/16 - 18		800	3.6	400	1.8	11	15
3/8 - 16	B1400	1000	4.4	750	3.3	19	25
1/2 - 14		1400	6.2	1000	4.4	50	70
1/4 - 20	AR1600	600	2.7	300	1.3	6	8
5/16 - 18		800	3.6	400	1.8	11	15
3/8 - 16	BR1600	1000	4.4	750	3.3	19	25
1/2 - 14		1000	4.4	1000	4.4	50	70

For aluminum channel the pull out load is calculated by multiplying the appropriate data by 50%.

For slip resistance multiply by 75%.

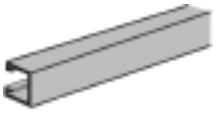
Maximum Pullout and Slip Loads for Fiber Glass Channel and Channel Nuts

Channel Nuts Size / Thread	Channel	Pull Out Strenght		Slip Resistance		Torque	
	All Series	lb.	kN	lb.	kN	lb.	kN
1/4 - 20	-	-	-	-	-	-	-
5/16 - 18	-	-	-	-	-	-	-
3/8 - 16	A1200	300	1.3	150	0.6	200	22.6
1/2 - 13	D1200	300	1.3	150	0.6	200	22.6

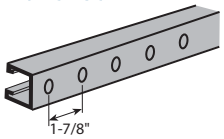
1-5/8 in. x 1-5/8 in. Channel

Superstrut® 1-5/8 in. x 1-5/8 in. - 12 Gauge Channel Type A

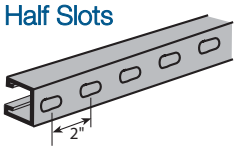
Solid Base



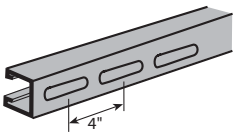
Punched



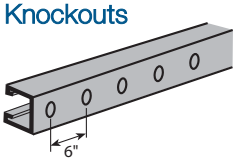
Half Slots



Long Slots



Knockouts



Back to Back

Cat. No.	Description
A1200	Solid base
A1200-P	Punched
A1200-HS	Half slots
A1200-S	Long slots
A1200-KO	Knockouts
A1202	Back to back

Example: A1200HS10ALC, A120020HDGC

Finishes & Materials	
No Suffix	Gold galvanized dichromate finish
ALC	Aluminum
EG	Electrogalvanized
HDGC	Hot dipped galvanized
PGC	Pregalvanized
T316L	Stainless steel Type 316

- Offered in 10 or 20 ft lengths.
- Aluminum, hot dipped galvanized or stainless steel channels are recommended to support aluminum steel or stainless steel cable tray.

Channel Nuts

A100
Regular Spring Nut

AC100
Springless Nut

UC100
Universal Nylon Cone Nut

For all 1-5/8 in. and 1-1/2 in. channels
May be used with ALL Strut Depths.

Cat. No.	Size	
100-1/4EGC	1/4	Standard Finish: Electrogalvanized Stainless steel channel nuts are recommended for aluminum channel and cable tray rungs. Change suffix to SS6(C).
A100-5/16EGC	5/16	
A100-3/8EGC	3/8	
A100-1/2EGC	1/2	
A100-5/8EGC	5/8	
A100-3/4	3/4	
A100-7/8EGC	7/8	
Nut is square over 1/2 in. size.		
AC100-1/4EGC	1/4	Standard Finish: Electrogalvanized Stainless steel channel nuts are recommended for aluminum channel and cable tray rungs. Change suffix to SS6(C).
AC100-3/8EGC	3/8	
AC100-1/2EGC	1/2	
AC100-5/8	5/8	
AC100-3/4	3/4	
Nut is square over 1/2 in. size.		
UC100-1/4	1/4	Not available in stainless steel.
UC100-3/8	3/8	
UC100-1/2	1/2	

Hex. Head Cap Screw

Cat. No.	Size	
E142-1/4x100EG	1/4 x 1	Standard finish Electrogalvanized Available in stainless steel Change suffix to SS6(C)
E142-1/4x150EG	1/4 x 1-1/2	
E142-3/8x100EG	3/8 x 1	
E142-3/8x150EG	3/8 x 1-1/2	
E142-1/2x100EG	1/2 x 1	
E142-1/2x150EG	1/2 x 1-1/2	