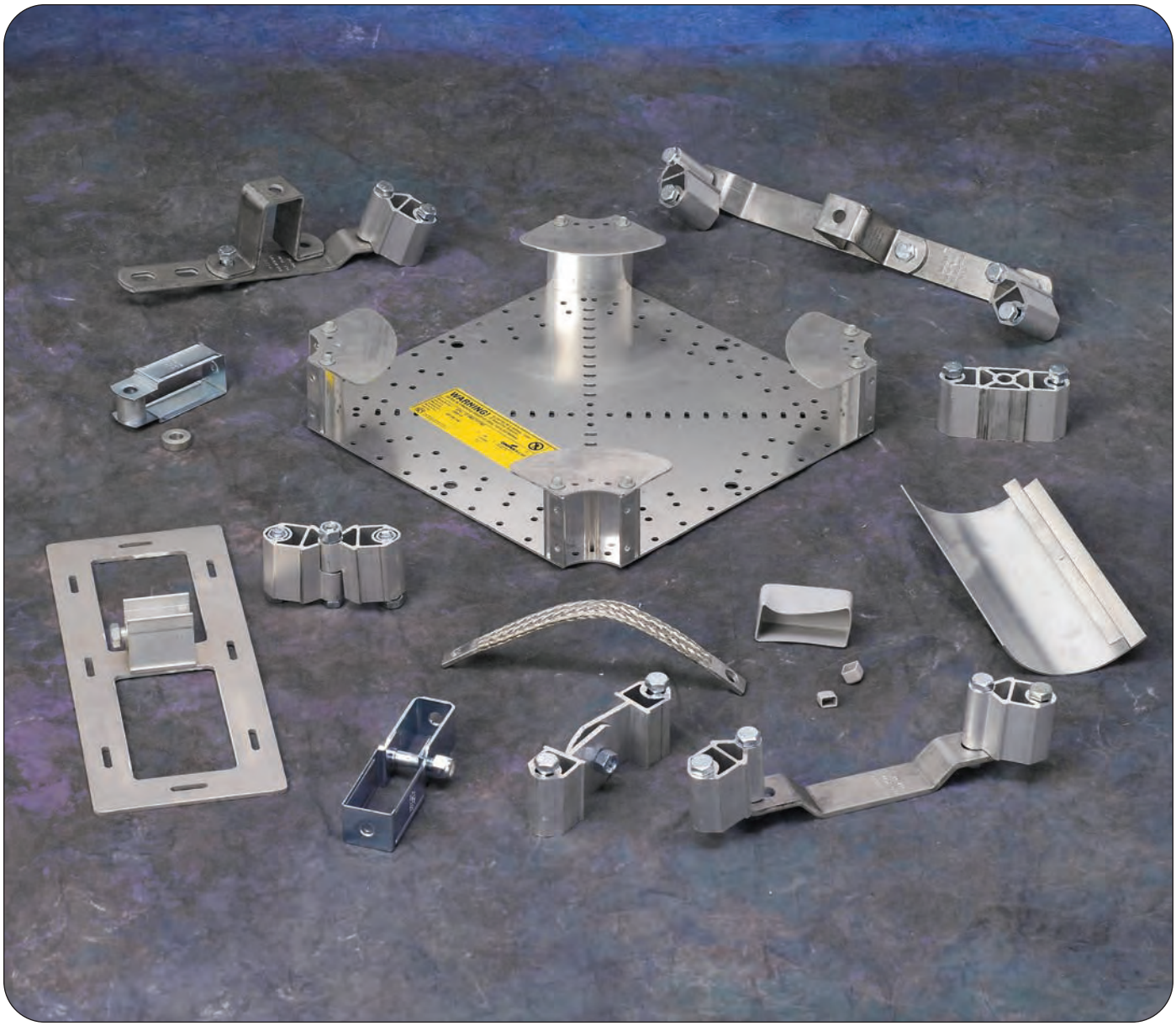


How The Service Advisor Works

Cooper B-Line knows that your time is important! That's why the color-coding system in this catalog is designed to help you select products that fit your service needs. Products are marked to indicate the typical lead time for orders of 50 pieces or less.

Customer: How do I select my straight sections. covers, or fittings so that I get the quickest turnaround?

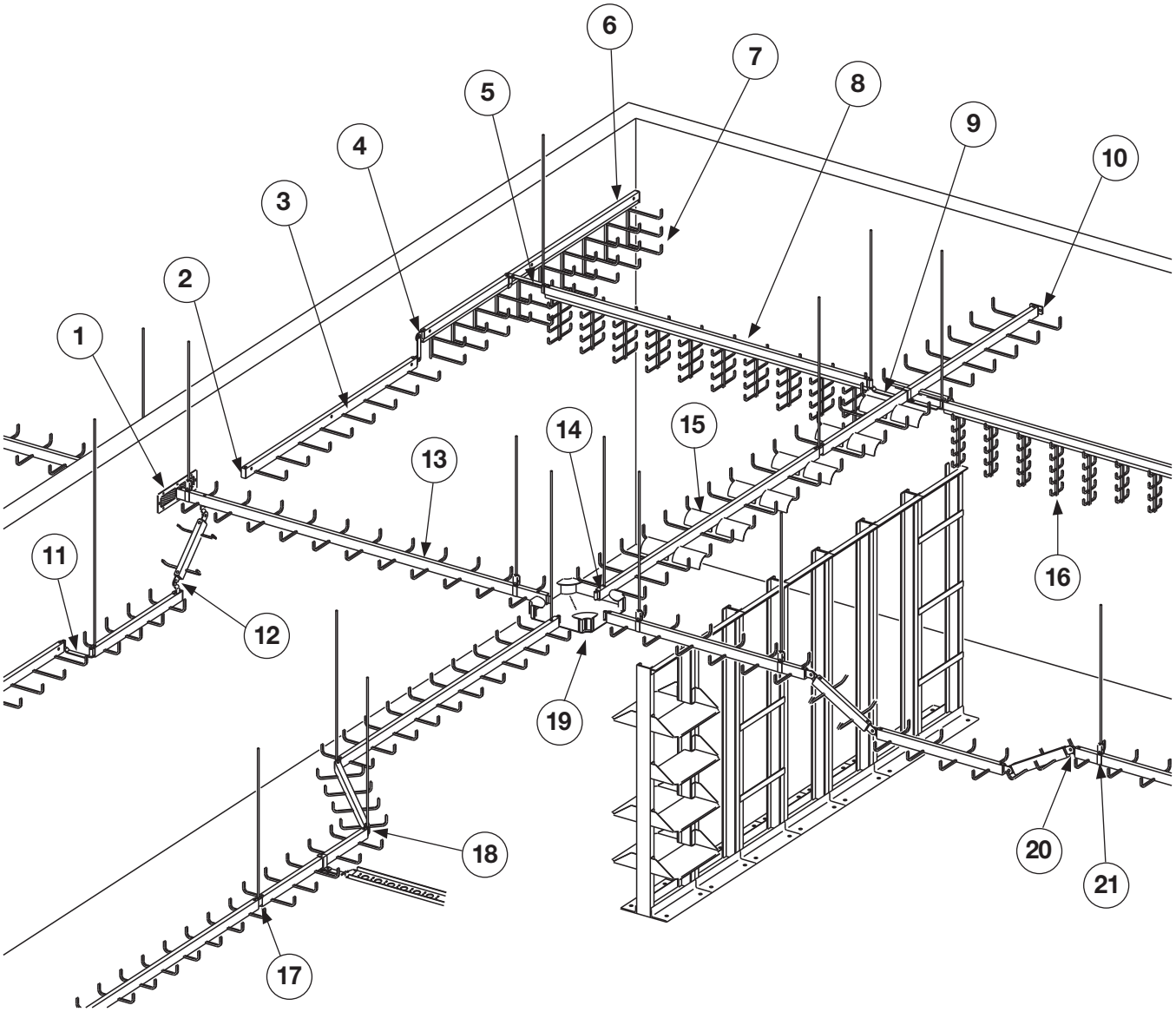
Service Advisor: Each part of our selection chart is shown in colors. If any section of a part number is a different color, the part will typically ship with the longer lead time represented by the colors.

- ● Green = Fastest shipped items
- ● Black = Normal lead-time items
- ● Red = Normally long lead-time items

Example:

C0	A	DB	09	-	12	-	144
●	●	●	●		●		●

Part will have a normal lead time because of the C0 Series.

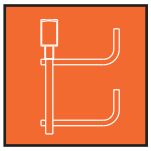


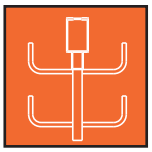
1. Tray-To-Box Connector (pg. 154)
2. Center Rail End Cap (pg. 150)
3. HALF-RACK™ Straight Section (pg. 128)
4. Vertical Offset Coupling (pg. 134)
5. Horizontal Tee Coupling (pgs. 135 & 136)
6. MULTI-TIER HALF-RACK™ Straight Section (pg. 130)
7. MULTI-TIER HALF-RACK Add-A-Rung™ (pg. 130)
8. VERTI-RACK™ Straight Section (pg. 126)
9. Horizontal Cross Coupling (pg. 136)
10. Tray-To-Wall Connector (pg. 153)
11. Horizontal Offset Coupling (pg. 133)
12. Vertical Coupling (pg. 137)
13. DATA-TRACK™ Straight Section (pg. 124)
14. Horizontal Pivot Connector (pg. 139)
15. Cable Drop-Out (pg. 148)
16. VERTI-RACK Add-A-Rung (pg. 126)
17. Qwik-Bolt™ Splice Hanger (pg. 132)
18. Horizontal Adjustable Splice (pg. 134)
19. Universal Hub Fitting (pg. 138)
20. Vertical Adjustable Splice (pg. 137)
21. Clevis Hanger (pg. 140)

WARNING: Do NOT use as a walkway, ladder or support for personnel.

Data-Track™ 

Half-Rack™ 

Verti-Rack™ 

Multi-Tier Half-Rack™ 

Features Common to B-Line Cent-R-Rail™ Systems:

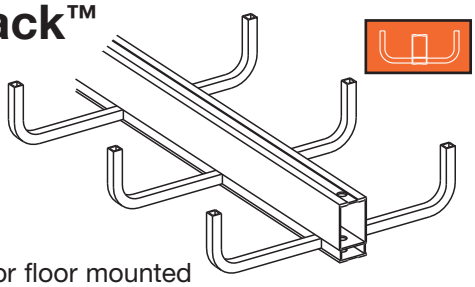
- The fastest cable tray systems to install
- Sides and bottom are open for easy loading and inspection of cables
- Light-weight, high-strength, corrosion-resistant aluminum construction
- Provide the most freedom for cables to enter or exit - perfect for future change
- Cable fill area is free of sharp edges and connection hardware
- The splice can also be used to support the tray
- Qwik-Bolt™ splice maximizes installation speed and minimizes hardware
- Clevis hangers are available for random support locations without drilling center rail
- Systems are designed to install with 1/2" ATR
- Cent-R-Rail engineered to simplify the in-field drilling process and to provide post modification integrity
- All Cent-R-Rail Systems use the same internal connectors
- All Cent-R-Rail Systems are interactive with each other
- Designed to interact with B-Line's Strut System and Strut Raceway System
- Comprehensive accessory options allow for complete installations without traditional cable tray fittings
- Colored rung end caps are available for system labeling
- UL Classified (cross sectional area 0.60 in^2/1000 amps)
- Patent Information

  The indicated patented products in this catalog are protected by one or more of the following patents.

  U.S. Patents 5,618,014; 5,628,481; 5,628,580; 5,634,614; 5,651,518; 5,564,658; 5,720,567; 5,730,400; 5,782,439; 5,816,542; 5,868,361; 6,547,192
  U.K. Patents 2,285,344; 2,317,508; 2,317,509
  Germany Patent 4,447,144
  Canada Patent 2,139,201
  Mexico-Pending

Cent-R-Rail™ Systems

Data-Track™

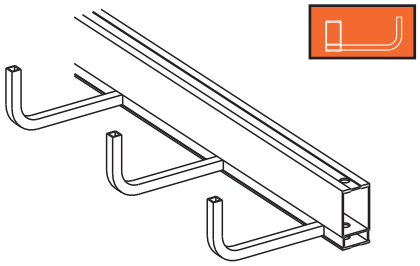


- Ceiling hung or floor mounted
- Low profile
- Built-in barrier
- NEMA 12C load classification
- Seismic restraint systems available (see appendix page 172)
- CSA classified
- Technical information on pages 124 & 125

Sizes Available

Loading depth: 3" (75), 4" (100), 6" (150) and straight rung
Width: 6" (150), 9" (225), 12" (225), 18" (450), 24" (600)
Length: 120" (3m), 144" (4m)
Rung Spacing: 6" (150), 9" (225), 12" (300)

Half-Rack™

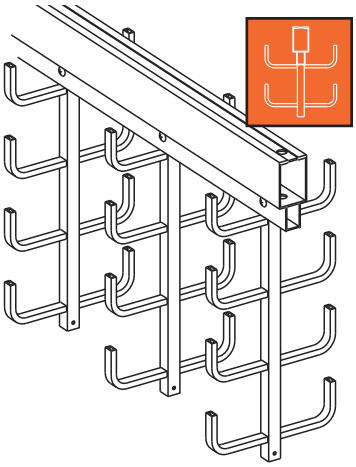


- Supported on wall or other structure
- Low profile
- Flush mounted without spacers or brackets
- Seismic restraint systems available (see appendix page 172)
- CSA classified
- Technical information on pages 128 & 129

Sizes Available

Loading depth: 3" (75), 4" (100), 6" (150) and straight rung
Width: 3" (75), 6" (150), 9" (225), 12" (300)
Length: 120" (3m), 144" (4m)
Rung Spacing: 6" (150), 9" (225), 12" (300)

Verti-Rack™

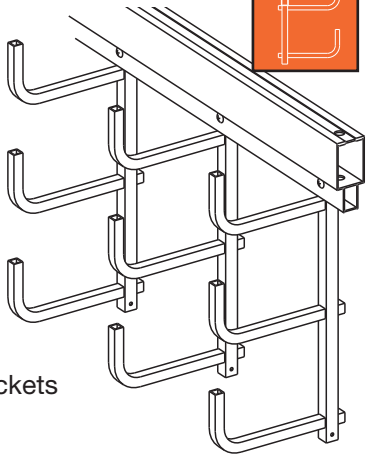


- Ceiling hung
- Multiple tray runs with one center rail
- Installs in narrow spaces
- Provides cable system segregation
- NEMA 12C load classification
- Expandable with ADD-A-RUNG™
- Expanded sizes available (page 173)
- Variable widths available (page 174)
- Inverted design available (page 175)
- Technical information on pages 126 & 127

Sizes Available

Loading depth: Each tier 2" (50) and straight rung
Width: 3" (75), 6" (150), 9" (225), 12" (300)
Number of tiers: 2, 3, 4, 5 & 6
Length: 120" (3m), 144" (4m)
Rung Spacing: 6" (150), 9" (225), 12" (300), specials available

Multi-Tier Half-Rack™



- Supported on wall or other structure
- Multiple tray runs with one center rail
- Installs in narrow spaces
- Provides cable system segregation
- Flush mounted without spacers or brackets
- Expandable with ADD-A-RUNG
- Seismic restraint systems available (see appendix page 172)
- Variable widths available (page 174)
- Technical information on pages 130 & 131

Sizes Available

Loading depth: 3" (75), 4" (100) and straight rung
Width: 3" (75), 6" (150), 9" (225), 12" (300)
Number of tiers: 2, 3 & 4
Length: 120" (3m), 144" (4m)
Rung Spacing: 6" (150), 9" (225), 12" (300), specials available

Dimensions shown in parentheses are in millimeters, unless otherwise specified.

The following guidelines are based on the 1999 National Electrical Code, Article 318.

I) Number of Multiconductor Cables, Rated 2000 Volts or Less, in Data-Track™ and Half-Rack™ (Excluding Straight Rung)

(1) Multiconductor Control and/or Signal Cables Only

A ladder cable tray containing only control and/or signal cables, may have 50% of its total fill area filled with cable. When using continuous bottom pans, the allowable fill is reduced from 50% to 40%.

Example: Cable tray width is obtained as follows:

2/C - #16 AWG instrumentation cable cross sectional area = 0.04 sq. in.
Total Cross Sectional Area for 300 Cables = 12.00 sq. in.
Minimum tray fill area needed = 12.00 x 2 = 24.00 sq. in.; therefore, the tray width required for 4" loading depth tray = 24.00/4 = 6 inches.

(2) 4/0 or Larger Cables

The ladder cable tray must have an inside usable width equal to or greater than the sum of the diameters (Sd) of the cables, which must be installed in a single layer. When using continuous bottom pans, the sum of the cable diameters can not exceed 90% of the usable tray width.

Example: Cable tray width is obtained as follows:

List Cable Sizes	(D) List Cable Outside Diameter	(N) List Number of Cables	Multiply (D) x (N) = Subtotal of the Sum of the Cable Diameters
3/C - #500 kcmil	2.26 inches	1	2.26 inches
3/C - #250 kcmil	1.76 inches	2	3.52 inches
3/C - #4/0 AWG	1.55 inches	4	6.20 inches

The sum of the diameters (Sd) of all cables = 2.26 + 3.52 + 6.20 = 11.98 inches; therefore, a cable tray with a usable width of at least 12 inches is required.

(3) Cables Smaller Than 4/0

The total sum of the cross-sectional areas of all the cables to be installed in the cable tray must be equal to or less than the allowable cable area for the tray width, as indicated in Table 1. When using continuous bottom pans, the allowable cable area is reduced by 22%.

Table 1

Inside Width of Cable Tray inches	Allowable Cable Area square inches
6	7.0
9	10.5
12	14.0
18	21.0
24	28.0

Example: Cable tray width is obtained as follows:

List Cable Sizes	(A) List Cable Cross Sectional Areas	(N) List Number of Cables	Multiply (A) x (N) = Total of the Cross-Sectional Area for Each Size
3/C - #12 AWG	0.167 sq. in.	10	1.67 sq. in.
4/C - #12 AWG	0.190 sq. in.	8	1.52 sq. in.
3/C - # 6 AWG	0.430 sq. in.	6	2.58 sq. in.
3/C - # 2 AWG	0.800 sq. in.	9	7.20 sq. in.

The sum of the totals of the cross-sectional areas = 1.67 + 1.52 + 2.58 + 7.20 = 12.97 inches. Using Table 1, a 12 inch wide tray with an allowable cable area of 14 sq. inches should be used.

Note: Increasing the cable tray loading depth does not permit an increase in cable fill area for power and lighting cables. The maximum allowable fill area for all cable tray with a 3 inch or greater loading depth is limited to the fill area for a 3 inch loading depth.

(4) 4/0 or Larger Cables Installed with Cables Smaller than 4/0

The ladder cable tray needs to be divided into two zones (a barrier or divider is not required, but one can be used if desired) so that the No. 4/0 and larger cables have a dedicated zone, as they must be placed in a single layer.

A direct method for determining the cable tray width is by figuring the cable tray widths that are required for each of the cable combinations, per steps (2) & (3); and then adding these widths together to select the proper cable tray width.

Example: Cable tray width is obtained as follows:

Part A- Width required for #4/0 AWG and larger multiconductor cables

List Cable Sizes	(D) List Cable Outside Diameter	(N) List Number of Cables	Multiply (D) x (N) = Subtotal of the Sum of the Cable Diameters (Sd)
3/C - #500kcmil	2.26 inches	1	2.26 inches
3/C - #4/0 AGW	1.55 inches	2	3.10 inches

Cable tray width required for large cables = 2.26 + 3.10 = 5.36 inches.

Part B- Width required for multiconductor cables smaller than #4/0 AWG

List Cable Sizes	(A) List Cable Cross Sectional Areas	(N) List Number of Cables	Multiply (A) x (N) = Total of the Cross-Sectional Area for Each Size
3/C - #12 AWG	0.167 sq. in.	10	1.67 sq. in.
3/C - #6 AWG	0.430 sq. in.	8	3.44 sq. in.
3/C - #2 AWG	0.800 sq. in.	2	1.60 sq. in.

The sum of the total areas = 1.67 + 3.44 + 1.60 = 6.71 sq. inches.
From Table 1, the cable tray width required for small cables is 6 inches.

The total cable tray width = 5.36 + 6.00 = 11.36 inches; therefore a 12 inch wide cable tray is required.

II) Number of Single Conductor Cables, Rated 2000 Volts or Less, in DATA-TRACK™ and HALF-RACK™ (Excluding Straight Rung)

Single conductor cables installed in cable tray must be 1/0 or larger, and they can not be installed with continuous bottom pans.

(1) 1000 KCMIL or Larger Cables

The sum of the diameters (Sd) of all single conductor cables shall not exceed the cable tray width. See Table 3, page 121.

(2) 250 KCMIL to 1000 KCMIL Cables

The total sum of the cross-sectional areas of all the cables to be installed in the cable tray must be equal to or less than the allowable cable area for the tray width, as indicated in Table 2.

Table 2

Inside Width of Cable Tray inches	Allowable Cable Area square inches
6	6.5
9	9.5
12	13.0
18	19.5
24	26.0

(3) Cables 1/0 through 4/0

These conductors must be installed in a single layer. See Table 3.

Note: It is the opinion of some that this practice may cause problems with unbalanced voltages. To avoid these potential problems, the cables for this type of cable tray wiring system should be bundled with ties. The bundle should contain the circuit's three phase conductors plus the neutral, if one is used. The single conductor cables should be firmly tied to the cable trays at intervals not greater than 6 feet.

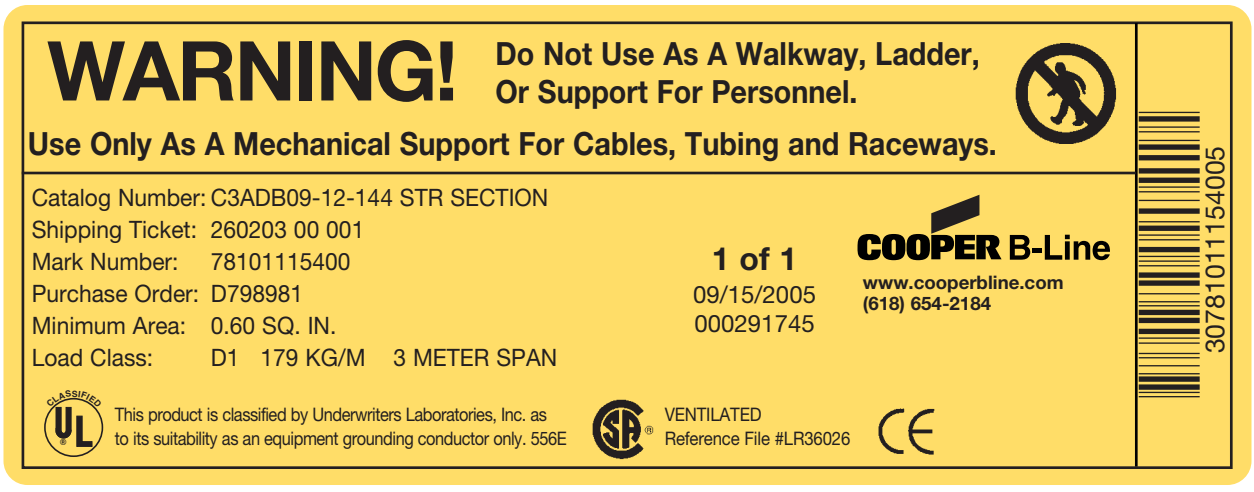
Table 3
Number of 600 Volt Single Conductor Cables that may be Installed in Ladder Cable Tray

Single Conductor Size	Outside Diameter in.	Area sq. in.	Cable Tray Width 6 in.	9 in.	12 in.	18 in.	24 in.
1/0	0.58	-	10	15	20	31	41
2/0	0.62	-	9	14	19	29	38
3/0	0.68	-	8	13	17	26	35
4/0	0.73	-	8	12	16	24	32
250 Kcmil	0.84	.55	11	18	24	35	47
350 Kcmil	0.94	.69	9	14	19	28	38
500 Kcmil	1.07	.90	7	11	14	22	29
750 Kcmil	1.28	1.29	5	8	10	15	20
1000 Kcmil	1.45	-	4	6	8	12	16

Cable diameters used are those for Oknite-Okolon 600 volt single conductor power cables.

III) Sizing Vertl-Rack™ and Multi-Tier Half-Rack™

Due to the unique nature of multiple-tier cable trays, there are no existing guidelines for sizing these types of cable trays. However, the following tables are provided to assist you in comparing the usable widths and fill areas for the different Cent-R-Rail™ trays available.



This cable tray label is attached to each straight section and fitting that is U.L. classified. U.L. assigned cross-sectional area is also stated in the loading charts in this catalog for each system.

Cent-R-Rail™ Sizing Guide

Usable Tray Width & Overall Outside Width:

Data-Track™

Tray Width		Usable Width				Overall Outside Width			
		Bottom Rung		Top Rung		Bottom Rung		Top Rung	
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
6	(150)	6	(150)	6	(150)	8.7	(220)	7.1	(180)
9	(225)	9	(225)	9	(225)	11.7	(295)	10.1	(250)
12	(300)	12	(300)	12	(300)	14.7	(375)	13.1	(335)
18	(450)	16	(400)	18	(450)	19.1	(485)	19.1	(485)
24	(600)	22	(550)	24	(600)	25.1	(630)	25.1	(630)

Verti-Rack™

Tray Width		Total Usable Width										Overall Outside Width	
		2 tier		3 tier		4 tier		5 tier		6 tier			
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
3	(75)	6	(150)	9	(225)	12	(300)	15	(381)	18	(450)	4.4	(110)
6	(150)	12	(300)	18	(450)	24	(600)	30	(750)	36	(900)	7.4	(190)
9	(225)	18	(450)	27	(675)	36	(900)	45	(1125)	54	(1350)	10.4	(265)
12	(300)	24	(600)	36	(900)	48	(1200)	60	(1500)	72	(1800)	13.4	(340)

Half-Rack™

Tray Width		Usable Width		Overall Outside Width	
in.	(mm)	in.	(mm)	in.	(mm)
3	(75)	3	(75)	5.2	(130)
6	(150)	6	(150)	8.2	(210)
9	(225)	9	(225)	11.2	(285)
12	(300)	12	(300)	14.2	(360)

Multi-Tier Half-Rack™

Tray Width		Total Usable Width						Overall Outside Width	
		2 tier		3 tier		4 tier			
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
3	(75)	6	(150)	9	(225)	12	(300)	4.7	(120)
6	(150)	12	(300)	18	(450)	24	(600)	7.7	(195)
9	(225)	18	(450)	27	(675)	36	(900)	10.7	(270)
12	(300)	24	(600)	36	(900)	48	(1200)	13.7	(350)

Tray Fill Area & Overall Outside Height:

Data-Track™

Loading Depth		Tray Width		Fill Area				Overall Outside Height			
				Bottom Rung		Top Rung		Bottom Rung		Top Rung	
in.	(mm)	in.	(mm)	in.²	(cm²)	in.²	(cm²)	in.	(mm)	in.	(mm)
3	(75)	6	(150)	18	(120)	18	(120)	3.7	(95)	6.1	(155)
		9	(225)	27	(180)	27	(180)				
		12	(300)	36	(240)	36	(240)				
		18	(450)	49	(325)	54	(360)				
		24	(600)	67	(450)	72	(480)				
4	(100)	6	(150)	24	(160)	24	(160)	4.7	(120)	7.1	(180)
		9	(225)	36	(240)	36	(240)				
		12	(300)	48	(320)	48	(320)				
		18	(450)	65	(420)	72	(480)				
		24	(600)	89	(575)	96	(640)				
6	(150)	6	(150)	36	(240)	36	(240)	6.7	(170)	9.1	(230)
		9	(225)	54	(360)	54	(360)				
		12	(300)	72	(480)	72	(480)				
		18	(450)	98	((630)	108	(700)				
		24	(600)	134	(865)	144	(930)				

Verti-Rack™

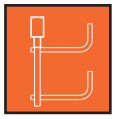
Loading Depth		Tray Width		Fill Area									
				2 tier		3 tier		4 tier		5 tier		6 tier	
in.	(mm)	in.	(mm)	in.²	(cm²)	in.²	(cm²)	in.²	(cm²)	in.²	(cm²)	in.²	(cm²)
2	(50)	3	(75)	12	(80)	18	(120)	24	(160)	30	(200)	36	(240)
		6	(150)	24	(160)	36	(240)	48	(320)	60	(400)	72	(480)
		9	(225)	36	(240)	54	(360)	72	(480)	90	(600)	108	(700)
		12	(300)	48	(320)	72	(480)	96	(640)	120	(800)	144	(930)

Overall Outside Height									
2 tier		3 tier		4 tier		5 tier		6 tier	
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
9.3	(235)	13.3	(340)	17.3	(440)	21.3	(540)	25.3	(645)

Half-Rack™

Loading Depth		Tray Width		Fill Area		Overall Outside Height	
in.	(mm)	in.	(mm)	in.²	(cm²)	in.	(mm)
3	(75)	3	(75)	9	(60)	3.7	(95)
		6	(150)	18	(120)		
		9	(225)	27	(180)		
		12	(300)	36	(240)		
4	(100)	3	(75)	12	(80)	4.7	(120)
		6	(150)	24	(160)		
		9	(225)	36	(240)		
		12	(300)	48	(320)		
6	(150)	3	(75)	18	(120)	6.7	(170)
		6	(150)	36	(240)		
		9	(225)	54	(360)		
		12	(300)	72	(480)		

Multi-Tier Half-Rack™

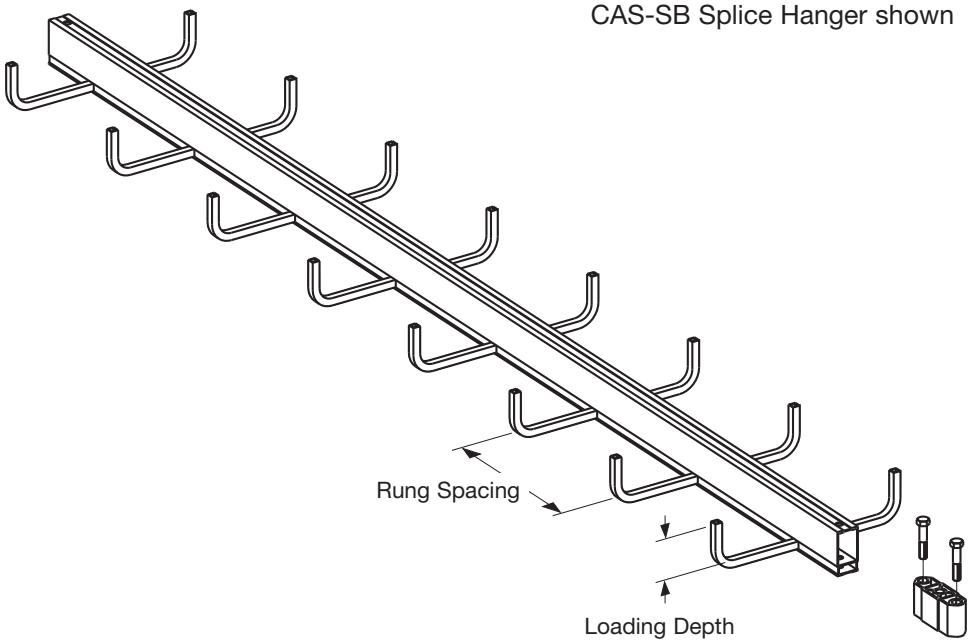


Loading Depth		Tray Width		Fill Area					
				2 tier		3 tier		4 tier	
in.	(mm)	in.	(mm)	in.²	(cm²)	in.²	(cm²)	in.²	(cm²)
3	(75)	3	(75)	18	(120)	27	(180)	36	(240)
		6	(150)	36	(240)	54	(360)	72	(480)
		9	(225)	54	(360)	81	(525)	108	(700)
		12	(300)	72	(480)	108	(700)	144	(930)
4	(100)	3	(75)	24	(160)	36	(240)	48	(320)
		6	(150)	48	(320)	72	(480)	96	(640)
		9	(225)	72	(480)	108	(700)	144	(930)
		12	(300)	96	(640)	144	(930)	192	(1240)

Overall Outside Height					
2 tier		3 tier		4 tier	
in.	(mm)	in.	(mm)	in.	(mm)
11.3	(285)	17.3	(440)	23.3	(590)

Data-Track™

Data-Track Straight Section with
CAS-SB Splice Hanger shown



- One CAS-SB Splice Hanger provided with each straight section
- For overall height and width dimension see pages 122 & 123

Patented (see page 117)

Data-Track Straight Section Part Numbering

C3 A DB 09 - 12 - 144

Series	Material	Type	Rung Spacing	Width	Length*
● C0 = Straight Rung	● A = Aluminum	● DB = Bottom Rung	● 06 = 6"	● 06 = 6"	● 144 = 144"
● C3 = 3" Loading Depth		● DT = Top Rung	● 09 = 9"	● 09 = 9"	● 120 = 120"
● C4 = 4" Loading Depth			● 12 = 12"	● 12 = 12"	
● C6 = 6" Loading Depth				● 18 = 18"	
				● 24 = 24"	

* Actual tray lengths are 142" and 118" to allow for splice hangers

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Data-Track™

Data-Track Load Capacities

Tray Width		Rung Spacing		Support Span ft. (m)										Rung * Deflection Multiplier	Avg. Empty Tray Weight	
				5	(1.5)	6	(1.8)	8	(2.4)	10	(3.0)	12	(3.7)			
in.	(mm)	in.	(mm)	lbs/ft	(kg/m)	lbs/ft	(kg/m)	lbs/ft	(kg/m)	lbs/ft	(kg/m)	lbs/ft	(kg/m)		lbs/ft	(kg/m)
6	(150)	6	(150)	646	(961)	448	(667)	252	(375)	161	(240)	112	(167)	0.00002	1.38	(2.05)
		9	(225)	532	(793)	448	(667)	252	(375)	161	(240)	112	(167)	0.00003	1.25	(1.86)
		12	(300)	400	(595)	400	(595)	252	(375)	161	(240)	112	(167)	0.00004	1.20	(1.79)
9	(225)	6	(150)	532	(793)	448	(667)	252	(375)	161	(240)	112	(167)	0.00005	1.45	(2.16)
		9	(225)	354	(527)	354	(527)	252	(375)	161	(240)	112	(167)	0.00008	1.30	(1.93)
		12	(300)	266	(396)	266	(396)	252	(375)	161	(240)	112	(167)	0.00010	1.24	(1.85)
12	(300)	6	(150)	400	(595)	400	(595)	252	(375)	161	(240)	112	(167)	0.00020	1.53	(2.28)
		9	(225)	266	(396)	266	(396)	252	(375)	161	(240)	112	(167)	0.00020	1.35	(2.01)
		12	(300)	200	(298)	200	(298)	200	(298)	161	(240)	112	(167)	0.00030	1.28	(1.90)
18	(450)	6	(150)	266	(396)	266	(396)	252	(375)	161	(240)	112	(167)	0.00050	1.69	(2.51)
		9	(225)	178	(265)	178	(265)	178	(265)	161	(240)	112	(167)	0.00070	1.46	(2.17)
		12	(300)	134	(199)	134	(199)	134	(199)	134	(199)	112	(167)	0.00090	1.35	(2.01)
24	(600)	6	(150)	200	(298)	200	(298)	200	(298)	161	(240)	112	(167)	0.00110	1.85	(2.75)
		9	(225)	134	(199)	134	(199)	134	(199)	134	(199)	112	(167)	0.00170	1.56	(2.32)
		12	(300)	100	(149)	100	(149)	100	(149)	100	(149)	100	(149)	0.00220	1.43	(2.13)

Safety Factor = 1.5 for load capacities

For unbalanced load information see appendix page 171
For Seismic Restraint Systems see appendix page 172

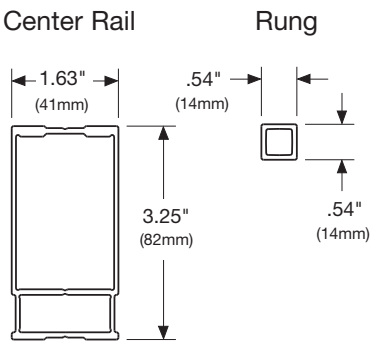
	Support Span (feet)				
	5	6	8	10	12
Center Rail Deflection Multiplier*	0.0012	0.0025	0.0079	0.0192	0.0397

* Deflection multipliers are given for English units. To determine deflection in millimeters, first calculate deflection in inches and then multiply by 25.4.

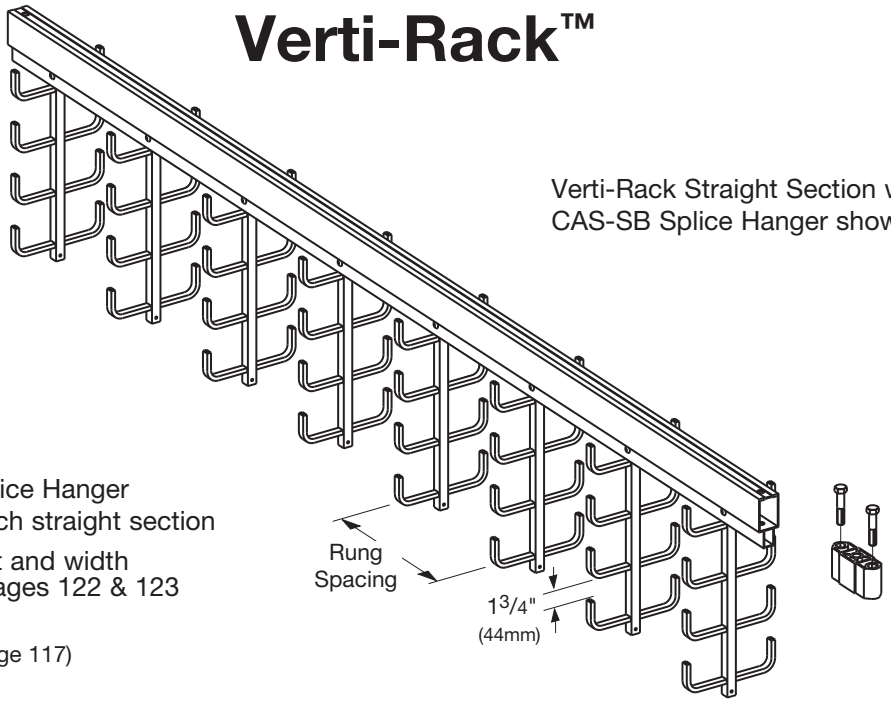
To calculate the center rail simple beam deflection at mid span in inches for a specific support span (ft), multiply the "center rail deflection multiplier" for that span by the load in lbs/ft that will be installed in the cable tray.
Example: The center rail deflection for 50 lbs/ft supported every 12 ft = 50 x .0397 = 2.0 inches.
Note: When trays are used in continuous spans, the deflection is reduced by as much as 50%.

To calculate the rung deflection in inches for a specific tray width (in.) and rung spacing (in.), multiply the rung deflection multiplier for that width and rung spacing by the load in lbs/ft that will be installed in the cable tray.
Example: The rung deflection for 50 lbs/ft in a 12" wide tray with 9" rung spacing = 50 x .0002 = .01 inches.
Note: The rung deflection multiplier is based on a uniformly distributed load.

Section Property		Center Rail	Rungs
Area	in^2	0.88	0.13
	(cm^2)	(5.68)	(0.84)
Sx	in^3	0.70	0.02
	(cm^3)	(11.49)	(0.31)
Ix	in^4	1.17	0.005
	(cm^4)	(48.87)	(0.21)



Verti-Rack™



Verti-Rack Straight Section with CAS-SB Splice Hanger shown

- One CAS-SB Splice Hanger provided with each straight section
- For overall height and width dimension see pages 122 & 123

Patented (see page 117)

Verti-Rack Straight Section Part Numbering

C2 A 4V 12 - 09 - 144

Series	Material	Type†	Rung Spacing	Width†	Length*
● C0 = Straight Rung ● C2 = 2" Loading Depth	● A = Aluminum	● 2V = 2 tier ● 3V = 3 tier ● 4V = 4 tier ● 5V = 5 tier ● 6V = 6 tier	● 06 = 6" ● 09 = 9" ● 12 = 12" ● (Specials available)	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"	● 144 = 144" ● 120 = 120"

* Actual tray lengths are 142" and 118" to allow for splice hangers
† For inverted, multiple or special sizes and widths see appendix pages 173, 174, 175

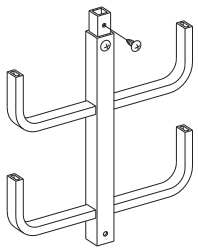
Expand your Verti-Rack system with ADD-A-Rung™

- Attaches to bottom of existing tray
- Shipped with required hardware

ADD-A-Rung Part Numbering

CAR-2 V 2 12

No. of Tiers	Loading Depth	Width
● 1 = 1 tier ● 2 = 2 tier	● 0 = Straight Rung ● 2 = 2" Loading Depth	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"



Note: Not to exceed 100 lbs/ft on 12 ft span, 225 lbs/ft on 8 ft span.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Verti-Rack™

Support Span ft	Support Span (m)	Total System Load Capacities lbs/ft	Total System Load Capacities (kg/m)	Center Rail* Deflection Multiplier
5	(1.5)	300	(450)	0.0010
6	(1.8)	300	(450)	0.0020
8	(2.4)	225	(335)	0.0063
10	(3.0)	144	(214)	0.0155
12	(3.7)	100	(149)	0.0321

Tray Width in.	Tray Width (mm)	Rung Spacing in.	Rung Spacing (mm)	Per Tier Load Capacity lbs/ft	Per Tier Load Capacity (kg/m)	Rung* Deflection Multiplier	Avg. Empty Tray Weight lbs/ft	Avg. Empty Tray Weight (kg/m)
3	(75)	6	(150)	608	(905)	0.00001	2.09	(3.11)
		9	(225)	408	(607)	0.00002	1.72	(2.56)
		12	(300)	304	(452)	0.00002	1.55	(2.31)
6	(150)	6	(150)	304	(452)	0.00010	2.31	(3.44)
		9	(225)	204	(304)	0.00020	1.86	(2.77)
		12	(300)	152	(226)	0.00020	1.66	(2.47)
9	(225)	6	(150)	203	(302)	0.00030	2.53	(3.76)
		9	(225)	136	(202)	0.00040	2.00	(2.98)
		12	(300)	102	(152)	0.00050	1.77	(2.63)
12	(300)	6	(150)	152	(226)	0.00060	2.75	(4.09)
		9	(225)	102	(152)	0.00090	2.14	(3.18)
		12	(300)	76	(113)	0.00120	1.88	(2.80)

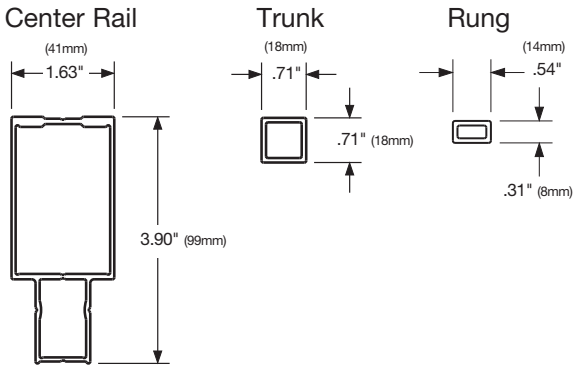
Safety Factor = 1.5 for load capacities

* Deflection multipliers are given for English units. To determine deflection in millimeters, first calculate deflection in inches and then multiply by 25.4.

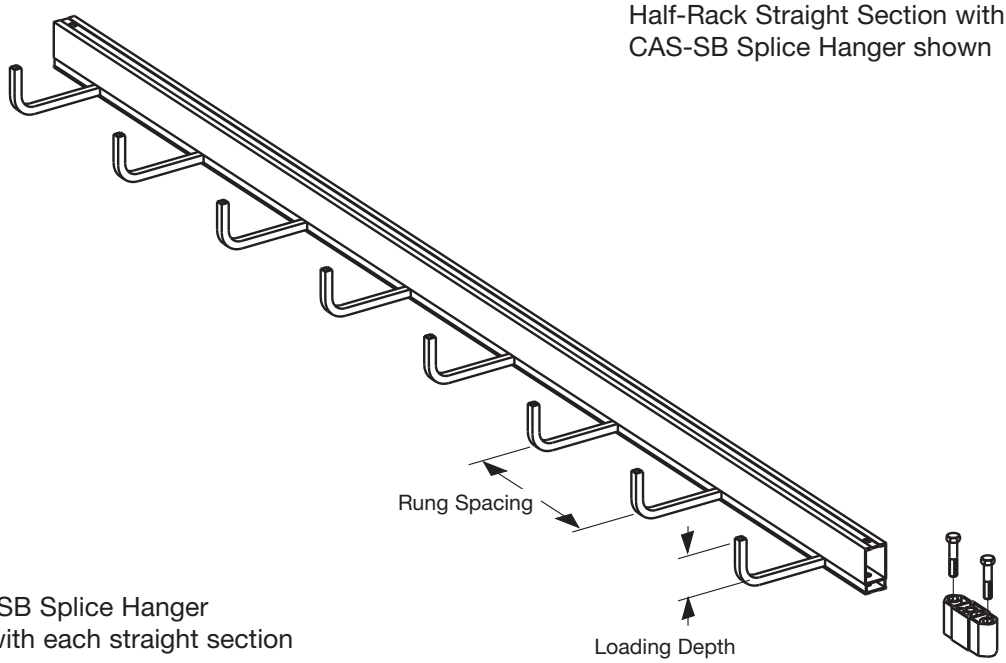
Example: The center rail deflection for 50 lbs/ft supported every 12 ft = 50 x .0321 = 1.6 inches.

Example: The rung deflection for 50 lbs/ft in a 12" wide tray with 9" rung spacing = 50 x .0009 = .05 inches.

Section Property		Center Rail	Rungs	Trunk
Area	in^2	0.88	0.09	0.18
	(cm^2)	(5.68)	(0.61)	(1.16)
Sx	in^3	0.56	0.01	N/A
	(cm^3)	(9.15)	(0.12)	(N/A)
Ix	in^4	1.27	0.001	N/A
	(cm^4)	(52.99)	(0.04)	(N/A)



Half-Rack™



Half-Rack Straight Section with CAS-SB Splice Hanger shown

- One CAS-SB Splice Hanger provided with each straight section
- For overall height and width dimension see pages 122 & 123

Patented (see page 117)

Half-Rack Straight Section Part Numbering

C3 A 1H 09 - 12 - 144

Series	Material	Type	Rung Spacing	Width	Length*
● C0 = Straight Rung	● A = Aluminum	● 1H = 1 tier	● 06 = 6"	● 03 = 3"	● 144 = 144"
● C3 = 3" Loading Depth			● 09 = 9"	● 06 = 6"	● 120 = 120"
● C4 = 4" Loading Depth			● 12 = 12"	● 09 = 9"	
● C6 = 6" Loading Depth				● 12 = 12"	

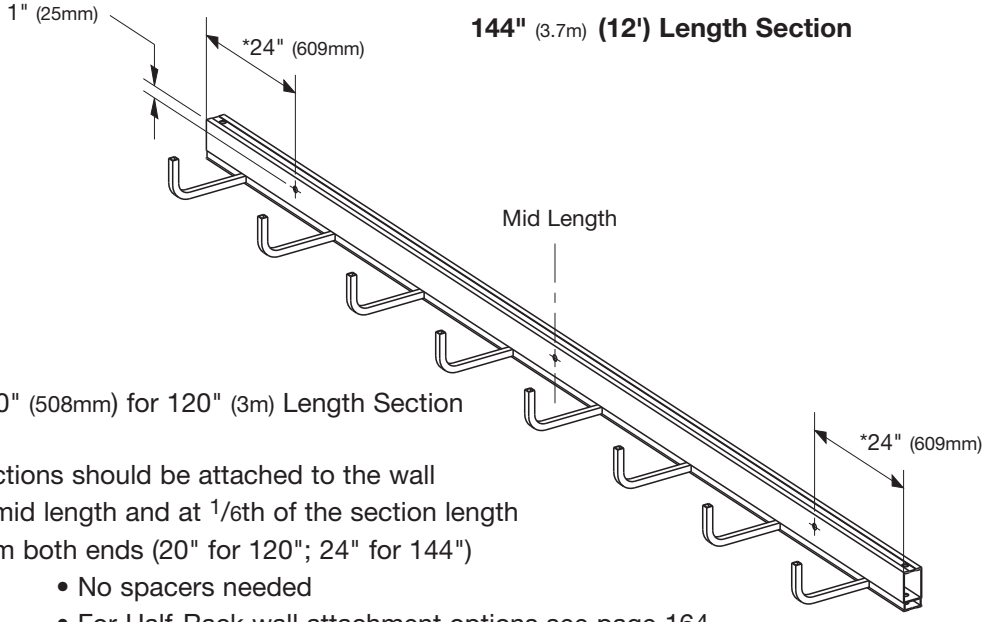
* Actual tray lengths are 142" and 118" to allow for splice hangers

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Half-Rack™

Half-Rack Loading Guidelines

• Support Locations



* = 20" (508mm) for 120" (3m) Length Section

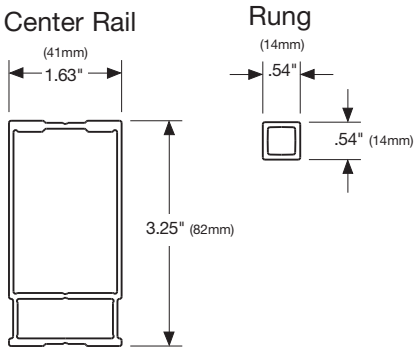
Sections should be attached to the wall at mid length and at 1/6th of the section length from both ends (20" for 120"; 24" for 144")

- No spacers needed
- For Half-Rack wall attachment options see page 164

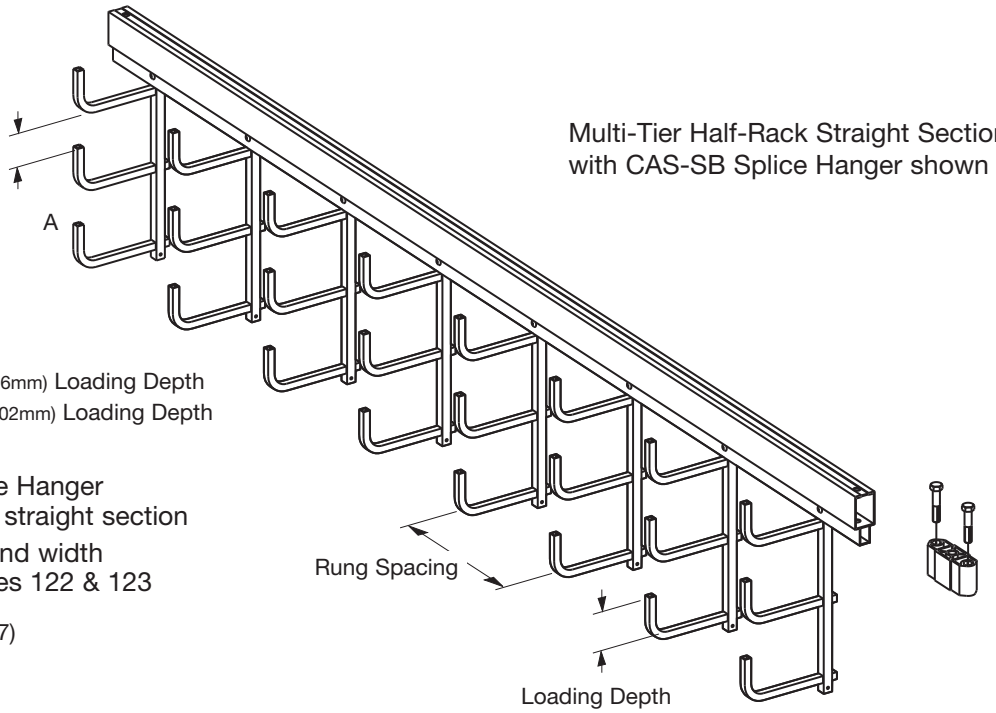
• Loading Recommendations

- CSA classified A-3M
- 50 lbs/ft (74kg/m) maximum based on 3/4" (19mm) rung deflection

Section Property		Center Rail	Rungs
Area	in^2	0.88	0.13
	(cm^2)	(5.68)	(0.84)
Sx	in^3	0.70	0.02
	(cm^3)	(11.49)	(0.31)
Ix	in^4	1.27	0.005
	(cm^4)	(52.99)	(0.21)



Cent-R-Rail™ - Straight Sections



Multi-Tier Half-Rack Straight Section
with CAS-SB Splice Hanger shown

A = 2 5/8" (67mm) for 3" (76mm) Loading Depth
= 1 3/4" (44mm) for 4" (102mm) Loading Depth

- One CAS-SB Splice Hanger provided with each straight section
- For overall height and width dimension see pages 122 & 123

Patented (see page 117)

Multi-Tier Half-Rack Straight Section Part Numbering

C3 A 2M 09 - 12 - 144

Series	Material	Type	Rung Spacing	Width†	Length*
● C0 = Straight Rung	● A = Aluminum	● 2M = 2 tier	● 06 = 6"	● 03 = 3"	● 144 = 144"
● C3 = 3" Loading Depth		● 3M = 3 tier	● 09 = 9"	● 06 = 6"	● 120 = 120"
● C4 = 4" Loading Depth		● 4M = 4 tier	● 12 = 12" (Specials available)	● 09 = 9"	
				● 12 = 12"	

* Actual tray lengths are 142" and 118" to allow for splice hangers
† For multiple widths see appendix pages 173 & 174

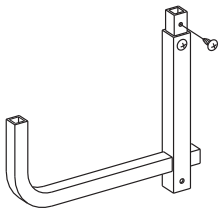
Expand your Multi-Tier Half-Rack system with ADD-A-Rung™

- Attaches to bottom of existing tray
- Shipped with required hardware

ADD-A-Rung Part Numbering

CAR-2 M 3 12

No. of Tiers	Loading Depth	Width
● 1 = 1 tier	● 0 = Straight Rung	● 03 = 3"
● 2 = 2 tier	● 3 = 3" Loading Depth	● 06 = 6"
	● 4 = 4" Loading Depth	● 09 = 9"
		● 12 = 12"



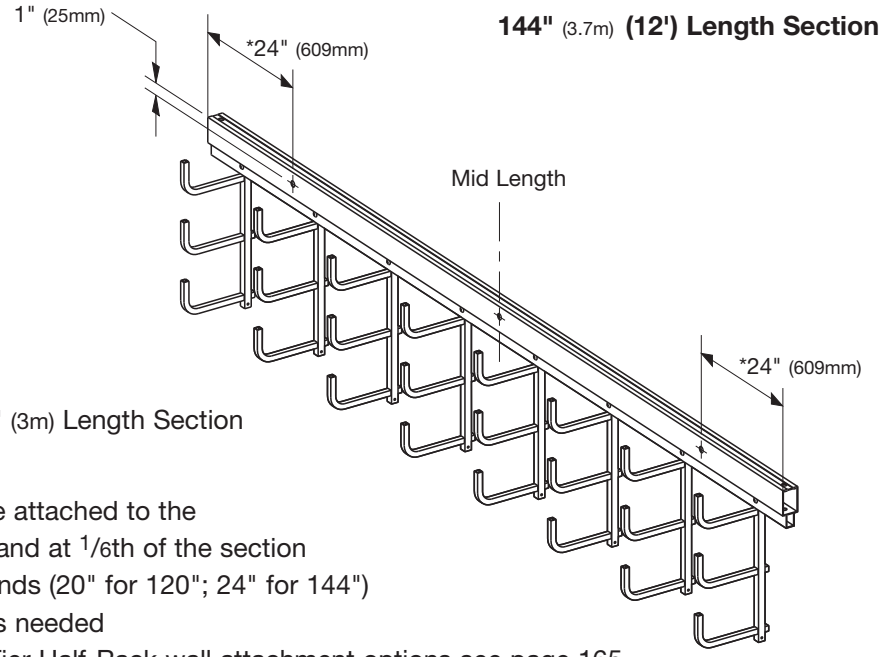
Note: Not to exceed 100 lbs/ft on 12 foot spans and 225 lbs/ft on 8 foot spans

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Multi-Tier Half-Rack™

Multi-Tier Half-Rack Loading Guidelines

• Support Locations



* = 20" (508mm) for 120" (3m) Length Section

Sections should be attached to the wall at mid length and at 1/6th of the section length from both ends (20" for 120"; 24" for 144")

- No spacers needed
- For Multi-Tier Half-Rack wall attachment options see page 165

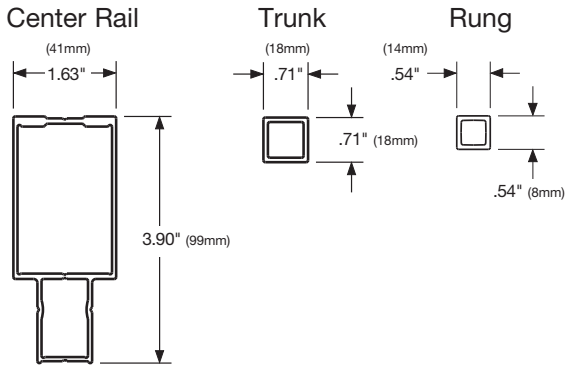
• Loading Recommendations

- 50 lbs/ft (74kg/m) maximum based on 3/4" (19mm) rung deflection

Half-Rack shown

For Seismic Restraint Systems see appendix page 172

Section Property		Center Rail	Rungs	Trunk
Area	in^2	0.88	0.13	0.18
	(cm^2)	(5.68)	(0.84)	(1.16)
Sx	in^3	0.56	0.02	N/A
	(cm^3)	(9.15)	(0.31)	(N/A)
Ix	in^4	1.27	0.005	N/A
	(cm^4)	(52.99)	(0.21)	(N/A)



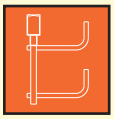
Application System Icons

The parts in the following catalog sections can be used with one or more of the Cent-R-Rail systems. We have provided the following application icons to indicate the systems each item is compatible with.

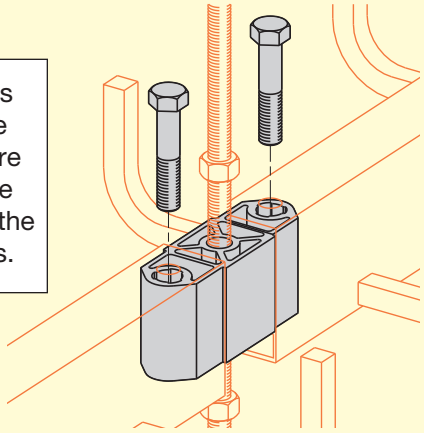

Compatibility with Data-Track™

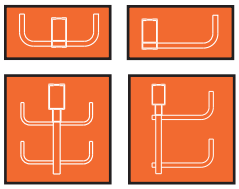

Compatibility with VertI-Rack™


Compatibility with Half-Rack™


Compatibility with Multi-Tier Half-Rack™

Shaded items shown in the illustrations are items that are provided with the part numbers.



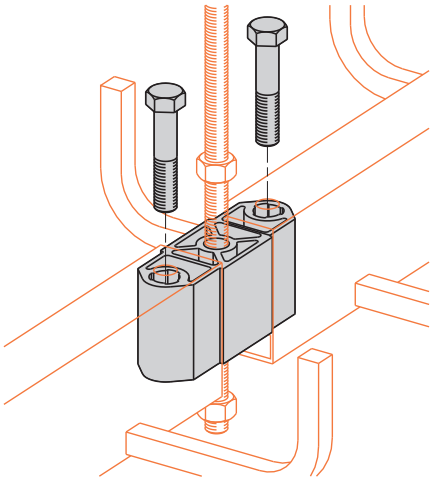


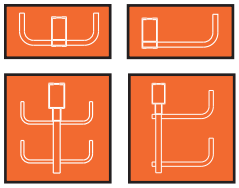
Qwik-Bolt™ Splice Hanger

Cat. No.
● CAS-SB

Patented (see page 117)

- One splice included with each straight section
- Bolts screw directly into splice, minimizing hardware
- Splice protects cables from center rail edges
- Vertical hardware removes hardware from cable fill area
- Shipped assembled with required hardware
- Designed to install with 1/2" ATR
- UL classified for grounding - 1000 amps



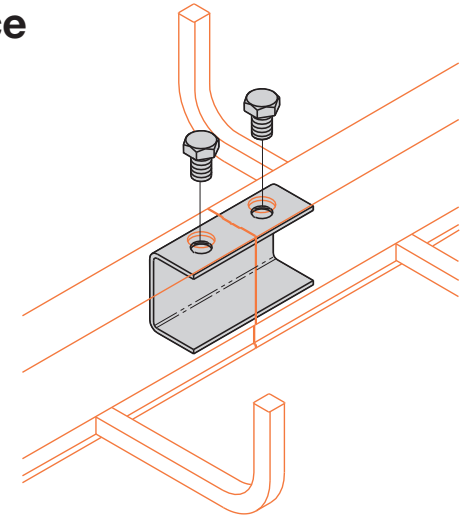


Qwik-Bolt™ No Gap Splice

Cat. No.
● CAS-NG1

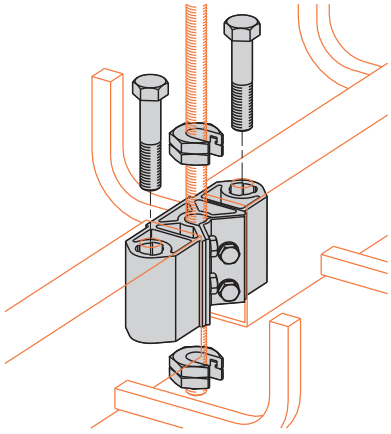
Patented (see page 117)

- A straight splice option
- Bolts screw directly into splice, minimizing hardware
- Vertical hardware removes hardware from cable fill area
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps
- Straight section length (using this splice) is 142 or 118 inches
- For use where ATR is not required through the splice hanger

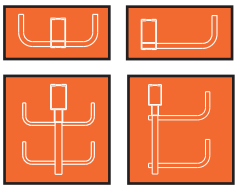


Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



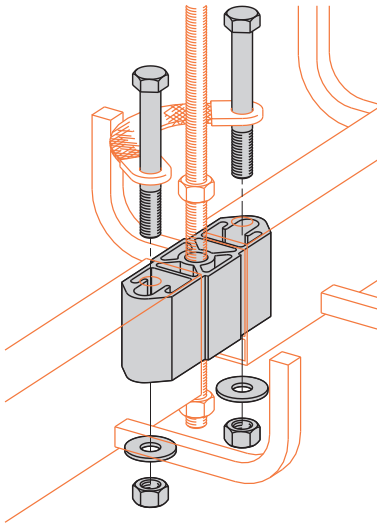
Qwik-Bolt™ Splice Hanger



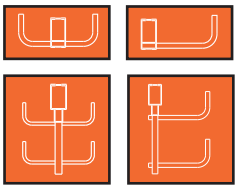
Cat. No.
● CAS-CB

Patented (see page 117)

- Side mounts to existing 1/2" ATR
- Qwik-Bolt design
- Shipped with required hardware
- UL classified for grounding - 1000 amps



Expansion Splice Hanger



Cat. No.	Tray Type
● CAS-EB1	Data-Track™ & Half-Rack™
● CAS-EB2	Verti-Rack™ & Multi-Tier Half-Rack™

Patented (see page 117)

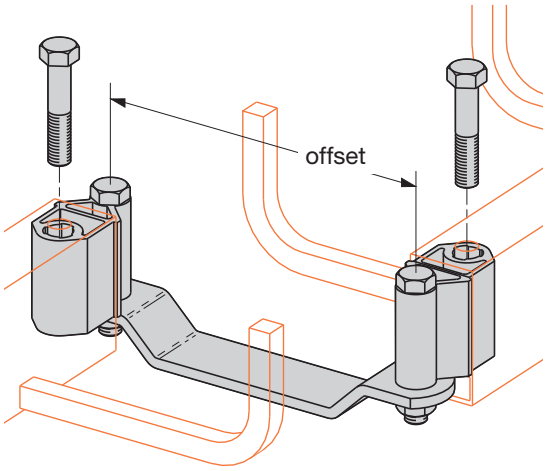
- Allows for 1" (25mm) of tray expansion and contraction
- Shipped with required hardware
- Order grounding jumper CAM-GJ separately (see page 148)

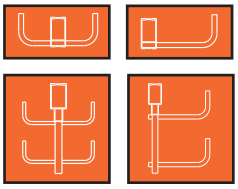
It is important that thermal contraction and expansion be considered when installing cable tray systems. The length of the straight cable tray runs and the temperature differential govern the number of expansion splice plates required (See Table 1).

Table 1
Maximum Spacing Between Expansion Joints that Provide for 1" (25mm) Movement

Temperature Differential °F	(°C)	Aluminum ft	(m)
25	(14)	260	(79)
50	(28)	130	(40)
75	(42)	87	(27)
100	(56)	65	(20)
125	(69)	52	(16)
150	(83)	43	(13)
175	(97)	37	(11)

Horizontal Offset Coupling





Cat. No.	Offset in.	(mm)
● CAC-OH050B	5.0	(125)
● CAC-OH065B	6.5	(165)
● CAC-OH080B	8.0	(200)
● CAC-OH100B	10.0	(250)
● CAC-OH130B	13.0	(330)

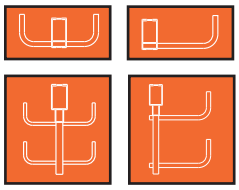
Patented (see page 117)

Refer to tray widths on pg. 122 to determine offset needed

- Designed to provide horizontal offset
- Ideal for connecting Data-Track™ to Half-Rack™
- Pivoting connections
- Qwik-Bolt design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps
- 7/8" (22mm) adjustment on offset

Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

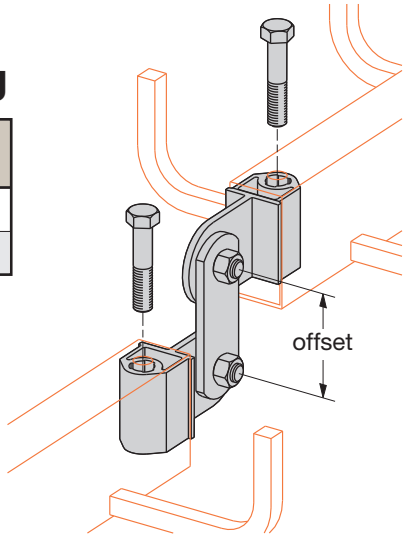
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



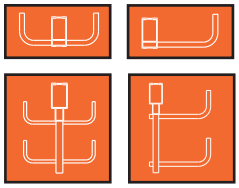
Vertical Offset Coupling

Cat. No.	Offset in.	Offset (mm)
● CAC-OV030B	3.0	(75)
● CAC-OV060B	6.0	(150)

Patented (see page 117)



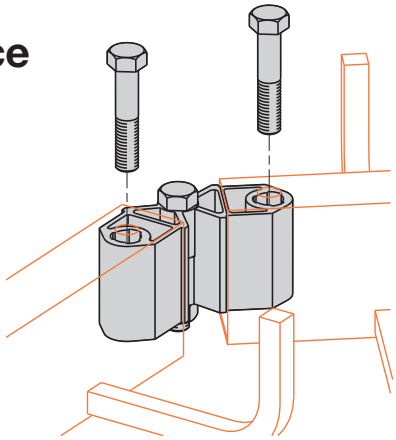
- Designed to provide vertical offset
- Pivoting connections
- Qwik-Bolt™ design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps



Horizontal Adjustable Splice

Cat. No.
● CAS-HB

Patented (see page 117)



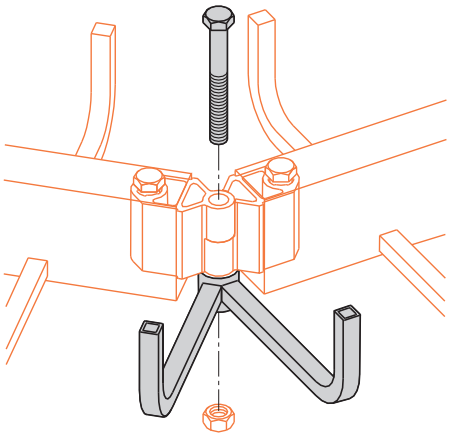
- Allows random angle horizontal bend
- Also can be used to connect straight sections at mid-run locations
- Qwik-Bolt design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps

Horizontal Bend Rung Support

Cat. No.
● CAR-H3-06
● CAR-H3-09
● CAR-H3-12
● CAR-H3-18
● CAR-H3-24
● CAR-H4-06
● CAR-H4-09
● CAR-H4-12
● CAR-H4-18
● CAR-H4-24
● CAR-H6-06
● CAR-H6-09
● CAR-H6-12
● CAR-H6-18
● CAR-H6-24

Cat. No.		
CAR-H3-06		
Loading Depth		Tray Width
3 = 3"		06 = 6"
4 = 4"		09 = 9"
6 = 6"		12 = 12"
		18 = 18"
		24 = 24"

Patented (see page 117)

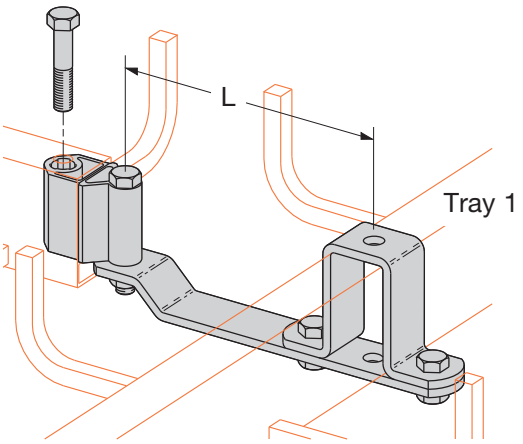


- Use with CAS-HB
- For additional cable support on the outside of bends
- Select fill depth and width required
- Shipped with required hardware (1 pc. HHCS - 1/2" x 4" znplt)
- Rungs set at 45° angle

Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Data-Track™

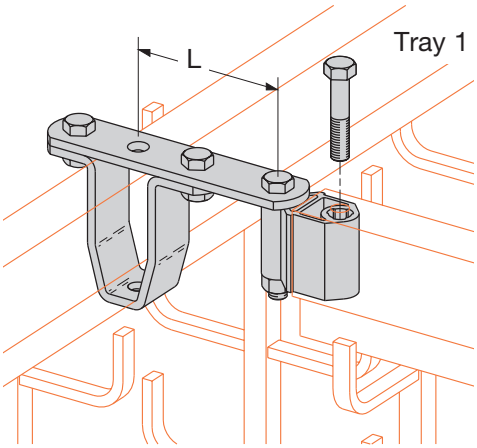


Patented (see page 117)

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
6	(150)	● CAC-HTD06B	5	(125)
9	(225)	● CAC-HTD09B	6 1/2	(165)
12	(300)	● CAC-HTD12B	8	(200)
18	(450)	● CAC-HTD18B	10	(250)
24	(600)	● CAC-HTD24B	13	(330)

- Used to make tee, elbow or wye
- Allows random attachment to center rail without drilling
- Pivoting connection
- Qwik-Bolt™ Design
- Shipped assembled with required hardware
- 9/16" (14mm) hole provided for optional support ATR
- 7/16" (11mm) adjustment slot
- UL classified for grounding - 1000 amps

Verti-Rack™ Horizontal Tee Coupling

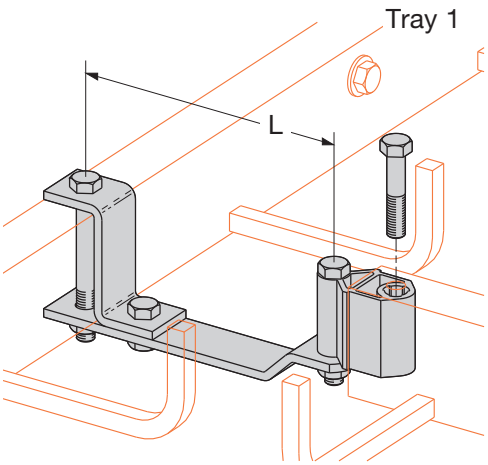


Patented (see page 117)

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
3	(75)	● CAC-HTV03B	3	(75)
6	(150)	● CAC-HTV06B	4 1/2	(115)
9	(225)	● CAC-HTV09B	6	(150)
12	(300)	● CAC-HTV12B	7 1/2	(190)

- Used to make tee, elbow or wye
- Allows random attachment to center rail without drilling
- Pivoting connection
- Qwik-Bolt design
- Shipped assembled with required hardware
- 7/16" (11mm) adjustment slot
- UL classified for grounding - 1000 amps

Half-Rack™ Horizontal Tee Coupling



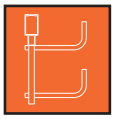
Patented (see page 117)

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
3	(75)	● CAC-HTH03B	5	(125)
6	(150)	● CAC-HTH06B	8	(200)
9	(225)	● CAC-HTH09B	11	(275)
12	(300)	● CAC-HTH12B	14	(355)

- Used to make tee, elbow or wye
- Allows random attachment to center rail
- Pivoting connection
- Qwik-Bolt design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps

Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

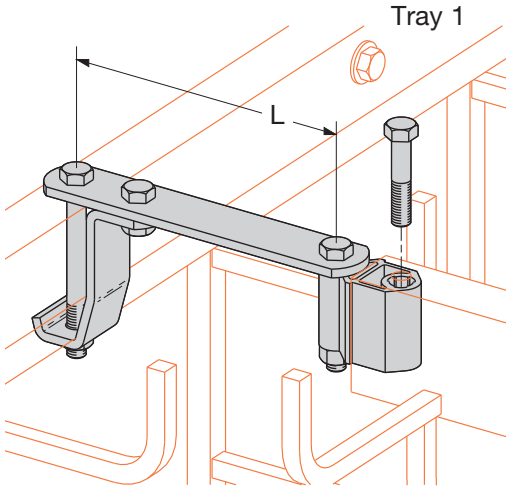
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Multi-Tier Half-Rack™ Horizontal Tee Coupling

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
3	(75)	● CAC-HTM03B	5	(125)
6	(150)	● CAC-HTM06B	8	(200)
9	(225)	● CAC-HTM09B	11	(275)
12	(300)	● CAC-HTM12B	14	(355)

- Used to make tee, elbow or wye
- Allows random attachment to center rail
- Pivoting connection
- Qwik-Bolt™ design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps

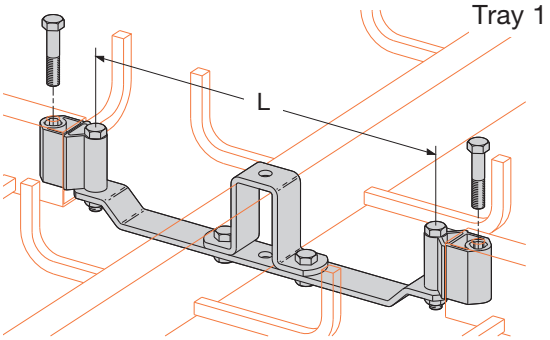


Patented (see page 117)

Data-Track™ Horizontal Cross Coupling

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
6	(150)	● CAC-HXD06B	10	(250)
9	(225)	● CAC-HXD09B	13	(330)
12	(300)	● CAC-HXD12B	16	(400)
18	(450)	● CAC-HXD18B	20	(500)
24	(600)	● CAC-HXD24B	26	(650)

- Allows random attachment to center rail without drilling
- Pivoting connections
- Qwik-Bolt design
- Shipped assembled with required hardware
- 9/16" (14mm) hole provided for optional support ATR
- UL classified for grounding - 1000 amps

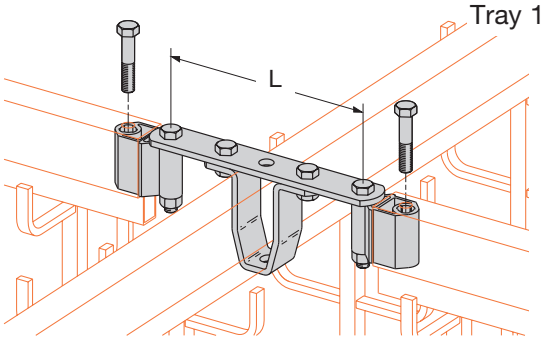


Patented (see page 117)

Verti-Rack™ Horizontal Cross Coupling

Tray 1 Width in.	(mm)	Cat. No.	L in.	(mm)
3	(75)	● CAC-HXV03B	3	(75)
6	(150)	● CAC-HXV06B	9	(225)
9	(225)	● CAC-HXV09B	12	(300)
12	(300)	● CAC-HXV12B	15	(375)

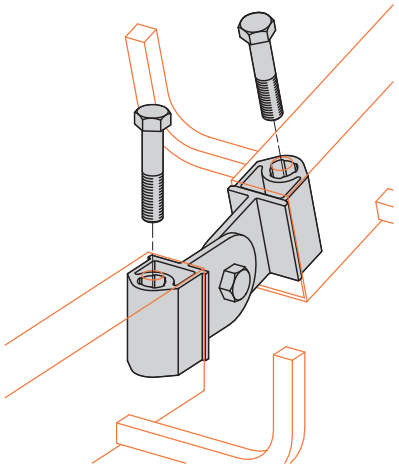
- Allows random attachment to center rail without drilling
- Pivoting connections
- Qwik-Bolt design
- Shipped assembled with required hardware
- 9/16" (14mm) hole provided for optional support ATR
- UL classified for grounding - 1000 amps



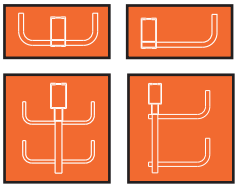
Patented (see page 117)

Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



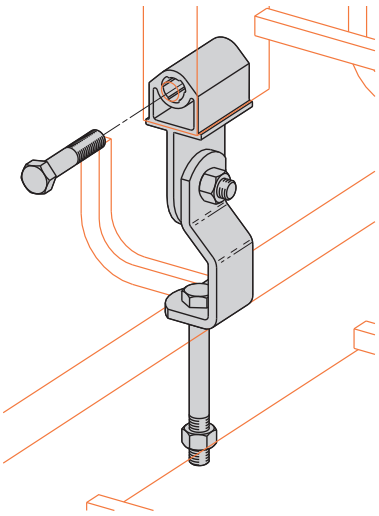
Vertical Adjustable Splice



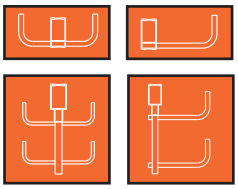
Cat. No.
● CAS-VB

Patented (see page 117)

- Ideal for random angle vertical bends
- Qwik-Bolt™ design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps



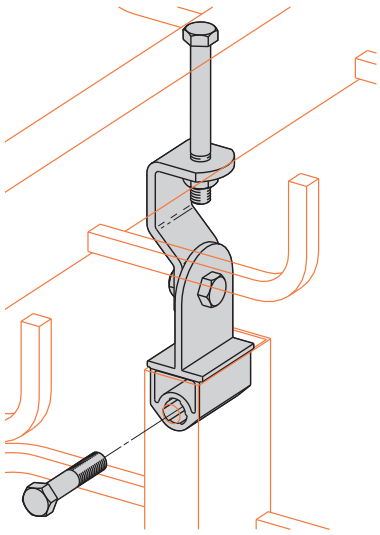
Vertical Coupling



Cat. No.
● CAC-VB

Patented (see page 117)

- Use one piece to create vertical tees.
- Use two pieces to create vertical crosses.
- Pivoting connections
- Qwik-Bolt design
- Shipped assembled with required hardware
- UL classified for grounding - 1000 amps



Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

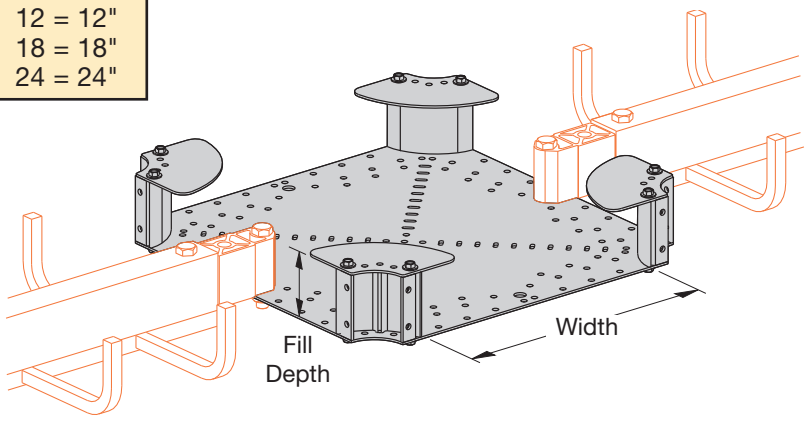
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Universal Hub Fittings

Cat. No.
● U2A-06
● U2A-09
● U2A-12
● U2A-18
● U2A-24
● U3A-06
● U3A-09
● U3A-12
● U3A-18
● U3A-24
● U4A-06
● U4A-09
● U4A-12
● U4A-18
● U4A-24
● U6A-06
● U6A-09
● U6A-12
● U6A-18
● U6A-24

Cat. No.		
U4A-12		
Fill Depth	Width	
2 = 2"	06 = 6"	
3 = 3"	09 = 9"	
4 = 4"	12 = 12"	
6 = 6"	18 = 18"	
	24 = 24"	

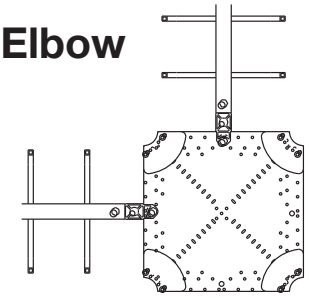
Patented (see page 117)



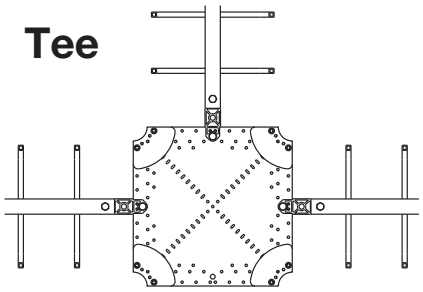
- Connects up to 4 trays in random directions
- Provides an area free of center rails for cable transitions
- Ideal for easy system expansion
- Slots provided for cable tie down
- Order one CAC-UFB pivot connector per tray connection (see page 139)
- Positive cable retention for cables routed around corner post
- UL classified for grounding - 1000 amps

Typical applications for universal hub fittings:

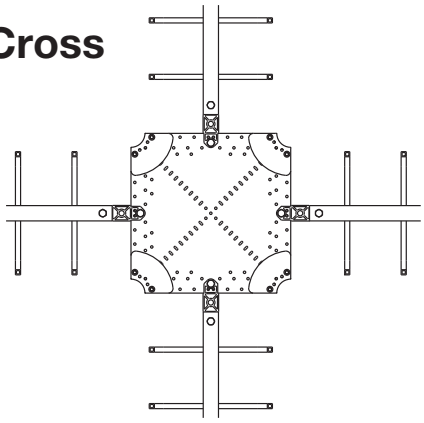
Elbow



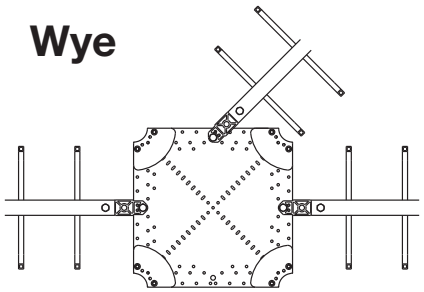
Tee



Cross

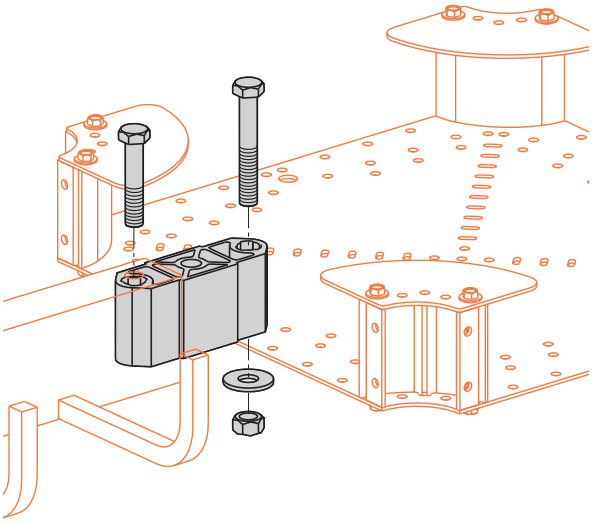


Wye



Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

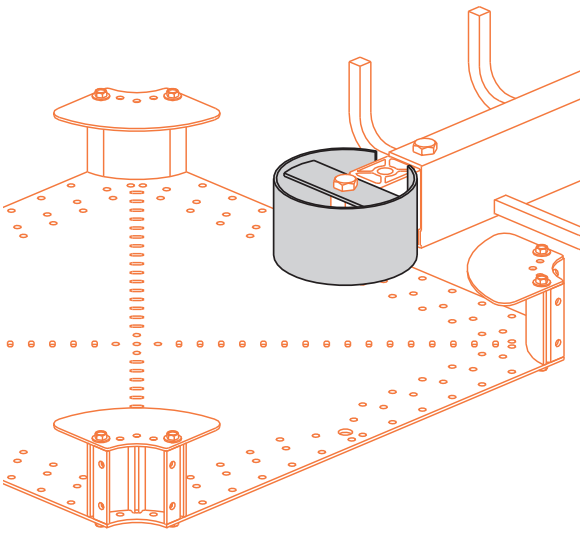


Pivot Connector For Universal Hub
Horizontal Application

Cat. No.
● CAC-UFB

Patented (see page 117)

- Qwik-Bolt™ design
- Shipped with required hardware
- UL classified for grounding - 1000 amps



Category 5 Cable Radius Protector

Cat. No.	Tray Depth
● CAM-PR253	3
● CAM-PR254	4
● CAM-PR256	6

- Designed to provide a 2 1/2" cable bend radius
- Mounts directly over the horizontal pivot connector using the existing hardware
- Made from aluminum

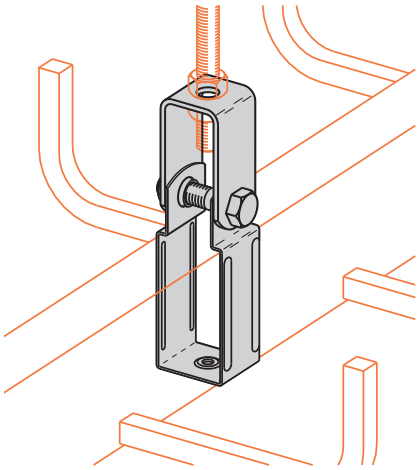
Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Data-Track™ Standard Clevis Hanger

Cat. No.	Rod Size
● CZNH-CD	1/2"
● CZNH-CD-5/8	5/8"

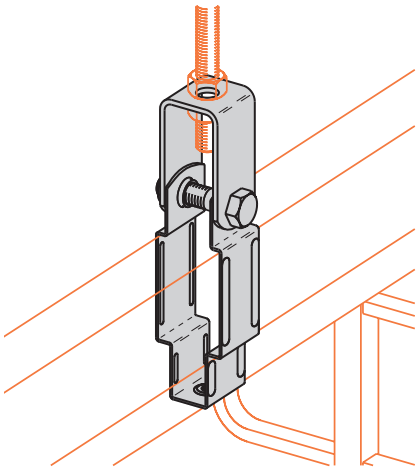
- Allows random support without drilling
- Zinc plated steel construction
- If seismic restraints required, see Seismic Restraints Cent-R-Rail Supplement brochure (SRSCR1)



Verti-Rack™ Standard Clevis Hanger

Cat. No.	Rod Size
● CZNH-CV	1/2"
● CZNH-CV-5/8	5/8"

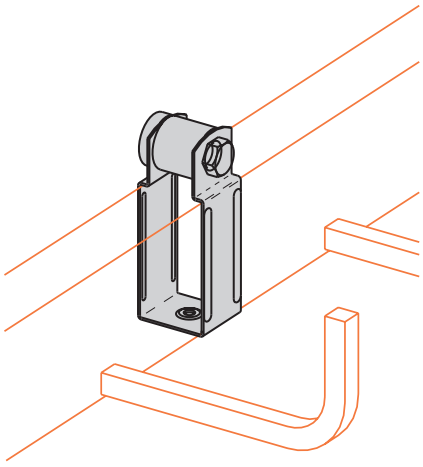
- Allows random support without drilling
- Zinc plated steel construction



Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

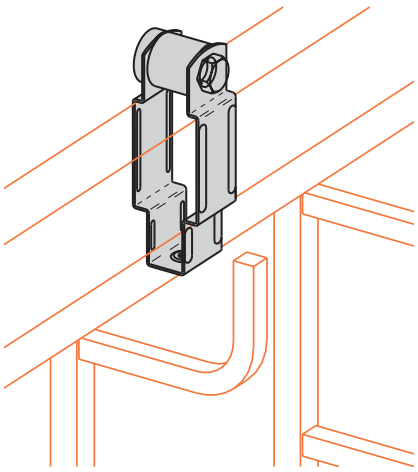
Wall Hanger Half Rack™



Cat. No.
● CZNH-WH

- Simplifies bolt to anchor alignment.
- Center rail drilling eliminated.
- Hanger bottom snaps over center rail.
- Smooth edge design in wire fill areas.
- Zinc plated steel construction
- Sized for up to a 1/2" bolt.

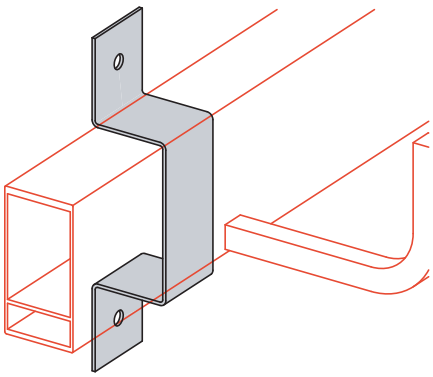
Wall Hanger Multi-Tier Half Rack™



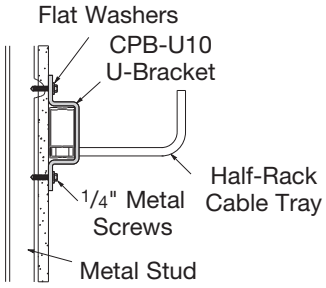
Cat. No.
● CZNH-WM

- Simplifies bolt to anchor alignment.
- Center rail drilling eliminated.
- Hanger bottom snaps over center rail.
- Smooth edge design in wire fill areas.
- Zinc plated steel construction
- Sized for up to a 1/2" bolt.

U-Bracket: In Drywall & Metal Stud Wall



Cat. No.	Tray Type
● CPB-U10	Half-Rack
● CPB-CV1	Multi-Tier Half-Rack

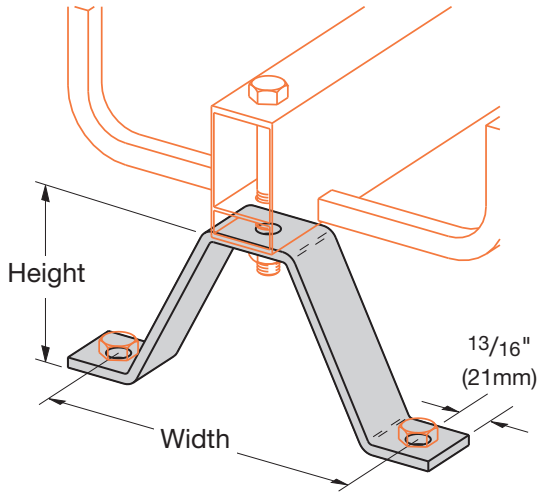


Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Floor Stands

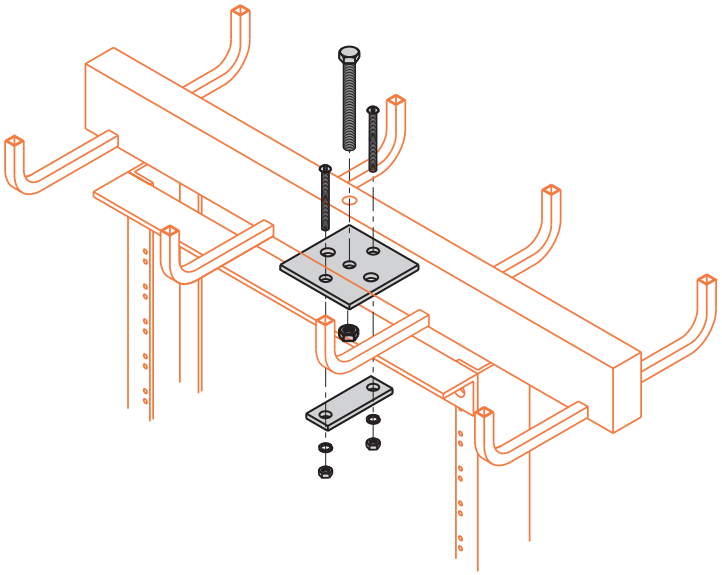
Cat. No.	Height in.	Height (mm)	Width in.	Width (mm)
● B381	2 3/8	(60.3)	6	(152.4)
● B382	4 3/8	(111.1)	8	(203.2)
● B383	6 3/8	(161.9)	10	(254.0)
● B384	8 3/8	(212.7)	12	(304.8)
● B385	10 3/8	(263.5)	14	(355.6)



- Zinc plated steel construction
- 9/16" (14mm) holes

Relay Rack Mounting Bracket

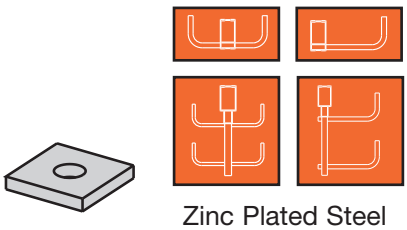
Cat. No.
● SB-2133-CR



- ASTM A36 Steel
- Yellow zinc dichromate
- Includes: Mounting plates
  1 - 1/2" x 4 1/2" HHCS
  1- 1/2" hex nut
  2 - 5/16" x 3" SRHMS
  2 - 5/16" hex nuts
  2 - 5/16" lockwashers

Note: All connectors are aluminum material and sized for 1/2" zinc plated steel hardware, unless otherwise specified.

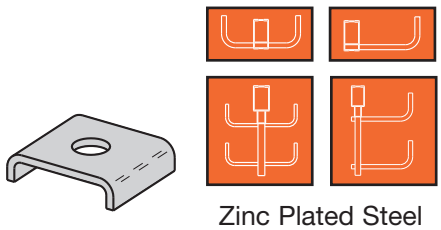
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



Zinc Plated Steel

Square Washer

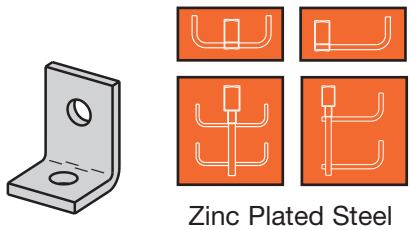
Cat. No.
● B202



Zinc Plated Steel

"U" Washer

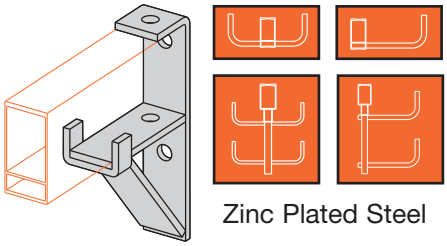
Cat. No.
● B450



Zinc Plated Steel

90° Angle Fitting

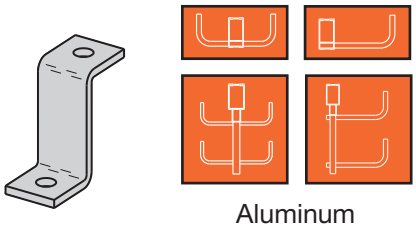
Cat. No.
● B101



Zinc Plated Steel

Wall Bracket

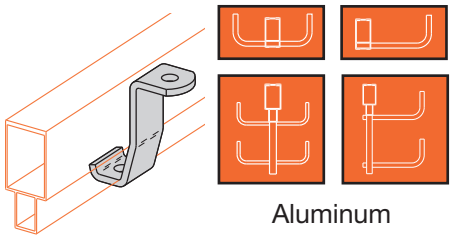
Cat. No.
● B370



Aluminum

"Z" Bracket

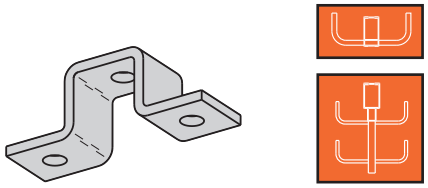
Cat. No.
● B110AL



Aluminum

"Z" Bracket

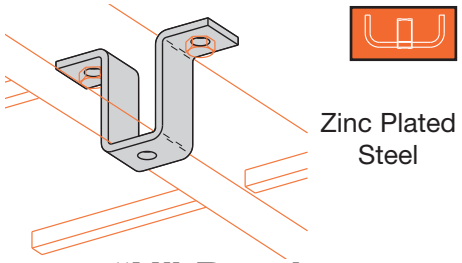
Cat. No.
● CAB-U25



Zinc Plated Steel

"U" Bracket

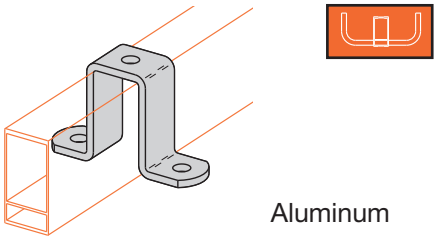
Cat. No.
● B107



Zinc Plated Steel

"U" Bracket

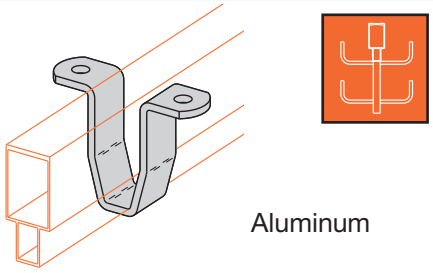
Cat. No.
● B107-22A



Aluminum

"U" Bracket

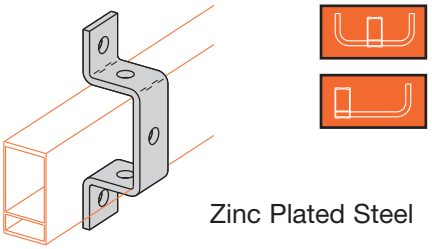
Cat. No.
● CAB-U10



Aluminum

"U" Bracket

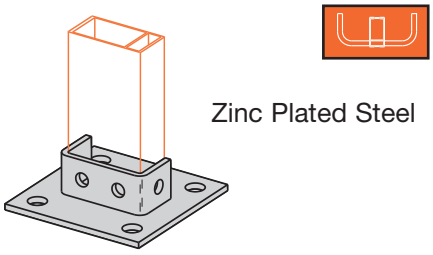
Cat. No.
● CAB-U20



Zinc Plated Steel

"U" Bracket

Cat. No.
● B594



Zinc Plated Steel

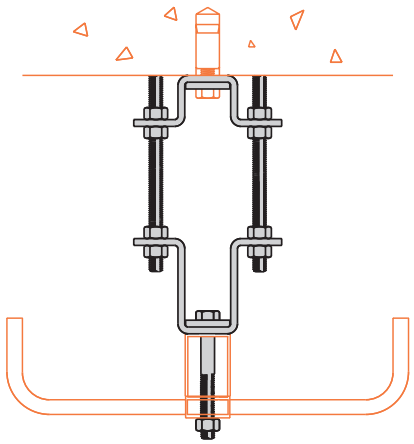
Post Base

Cat. No.
● B281ASQ

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Non-Uniform Loading Bracket

Cat. No.	ATR Length
● CZN-DRS-36	36
● CZN-DRS-60	60
● CZN-DRS-72	72



- Hardware included
- ATR included
- Zinc plated
- See Seismic Restraints Cent-R-Rail Supplement brochure (SRSCR1)
- Note: Refer to unbalance section in the appendix (pg. 171)

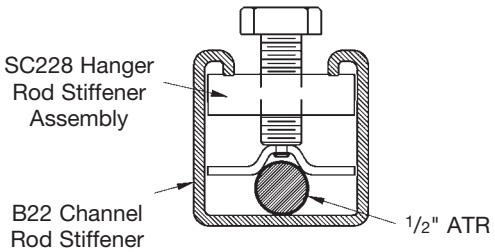
Includes:
- 1 - B107 Znplt U Support
- 1 - B107-22A Znplt U Support
- 9 - 1/2" Hex Nuts, Znplt
- 2 - ATR 1/2" x Length, Znplt
- 1 - HHC Screw 1/2" x 4 1/2", Znplt
- 2 - B202 Znplt sq washers

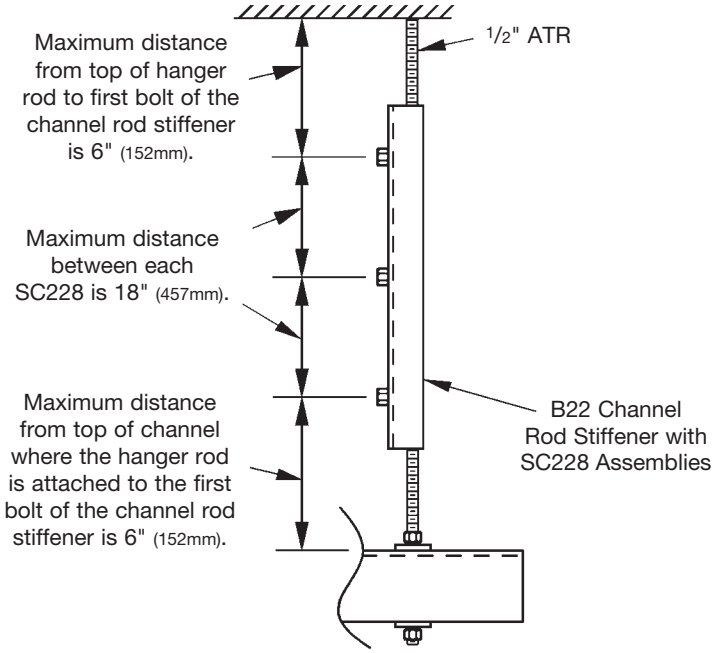
All Threaded Rod Stiffener

- See Seismic Restraints Cent-R-Rail Supplement brochure (SRSCR1)
- Note: Minimum of (2) - SC228 or SC-UB are required per rod.

Cat. No.
● SC228

SC228 Hanger Rod Stiffener Assembly
For 3/8" thru 5/8" ATR
(Order B22 Channel Separately)



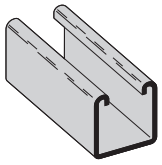


● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Channel Sizes and Hole Patterns Selections Chart

Channel Type	Channel Dimensions Height in.	Height (mm)	Width in.	Width (mm)	Material & Thickness 1 Steel	2 Alum.	3 304 S.S.	4 316 S.S.	Channel Hole Patterns SH	S	H17/8	TH
● B11	3 1/4	(82.5)	1 5/8	(41.3)	12Ga.	--	--	--	1	1	1	--
● B22A	3 1/4	(82.5)	1 5/8	(41.3)	12Ga.	.105	12Ga.	12Ga.	1,2,3,4	1	1,2,3,4	--
● B22	1 5/8	(41.3)	1 5/8	(41.3)	12Ga.	.105	12Ga.	12Ga.	1,2,3,4	1	1,2,3,4	1
● B54	15/16	(20.6)	1 5/8	(41.3)	14Ga.	.080	14Ga.	14Ga.	1,2,3,4	1	1,2,3,4	--

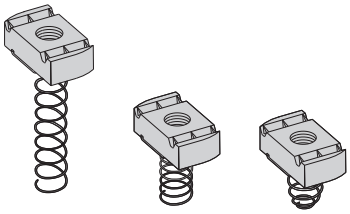
Available Finishes on Steel: Dura-Green Epoxy, Pre-Galvanized and Hot Dip Galvanized are standard.
Material types available for various hole patterns are defined by numbers 1 thru 4 as follows:



1= Steel
2= Aluminum
3= Type 304 Stainless Steel
4= Type 316 Stainless Steel

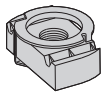
Channel Nuts

With Spring B11 B12	With Spring B22 B24 B32	With Spring B42 B52 B54	Without Spring B11, B22 B12, B24 B32	Without Spring B42 B52 B54	Twirl Nut B11, B22 B12, B24 B32	Twirl Nut B42 B52 B54	Thread Size	Thickness
N725 ●	N225 ●	N525 ●	N225WO ●	N525WO ●	TN225 ●	TN525 ●	1/2"-13	1/2"(12.7 mm) for N725,N225,N225WO,TN225 3/8"(9.5 mm) for N525,N525WO,TN525
N755 ●	N255 ●	N555 ●	N255WO ●	N555WO ●	--	--	5/8"-11	1/2"(12.7 mm) for N755,N255,N255WO 3/8"(9.5 mm) for N555,N555WO



Channel Nut With Spring

Channel Nut Without Spring

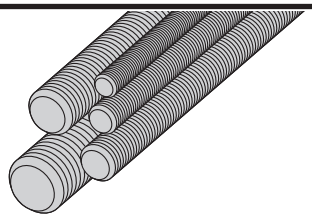


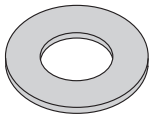
Twirl Nut

Cat. No. & Size	Threads Per Inch	*Recommended Load lbs	(kN)
● ATR 1/2"	13	1130	(5.02)
● ATR 5/8"	11	1810	(8.05)

*Safety Factor = 5
• Specify length in inches: 36", 72", 120", 144"

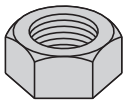
All Threaded Rod (ATR)





Flat Washers

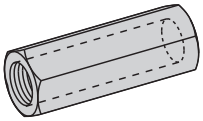
Cat. No. & Size
● FW 1/2"
● FW 5/8"



Hex Nut

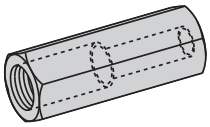
Cat. No. & Size
● HN 1/2"
● HN 5/8"

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



Rod Coupling

Cat. No.	Size	Length in.	Length (mm)	Recommended Load in.	Recommended Load (mm)
● B655-1/2	1/2"-13	1 3/4"	(44.4)	1130	(5.02)
● B655-5/8	5/8"-11	2 1/8"	(54.0)	1610	(8.05)

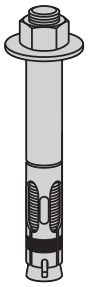


Reducer Rod Coupling

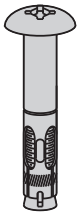
Catalog Number	Size	Length in.	Length (mm)	Recommended Load in.	Recommended Load (mm)
● B656-1/2 x 3/8	1/2"-13 & 3/8"-16	1 1/4"	(31.7)	610	(2.71)
● B656-5/8 x 3/8	5/8"-11 & 1/2"-13	1 1/4"	(31.7)	1130	(5.02)
● B656-3/4 x 5/8	3/4"-10 & 5/8"-11	1 1/2"	(38.1)	1810	(8.05)

Sleeve Anchors

Type	Catalog Number	Size in.	Size (mm)	Bolt Diameter in.	Bolt Diameter (mm)	Hole Diameter in.	Hole Diameter (mm)
Hex Nut	● ASA-50-225HN	1/2 x 2 1/4	(12.7 x 57.1)	3/8	(9.5)	1/2	(12.7)
	● ASA-50-400HN	1/2 x 4	(12.7 x 101.6)	3/8	(9.5)	1/2	(12.7)
	● ASA-62-225HN	5/8 x 2 1/4	(15.9 x 57.1)	1/2	(12.7)	5/8	(15.9)
	● ASA-62-425HN	5/8 x 4 1/4	(15.9 x 107.9)	1/2	(12.7)	5/8	(15.9)
Round Quadrex	● ASA-37-250RQ	3/8 x 2 1/2	(9.5 x 63.5)	5/16	(7.9)	3/8	(9.5)
	● ASA-37-375RQ	3/8 x 3 3/4	(9.5 x 95.2)	5/16	(7.9)	3/8	(9.5)
	● ASA-37-475RQ	3/8 x 4 3/4	(9.5 x 120.6)	5/16	(7.9)	3/8	(9.5)



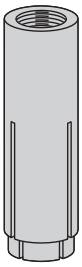
Hex Nut



Round Quadrex

Catalog Number	Minimum Embedment in.	Minimum Embedment (mm)	Allowable Pull-Out Load* lbs	Allowable Pull-Out Load* (kN)	Allowable Shear Load* lbs	Allowable Shear Load* (kN)
● ASA-50-225HN	1 1/2	(38.1)	1100	(4.8)	1100	(4.8)
● ASA-50-400HN	1 1/2	(38.1)	1100	(4.8)	1100	(4.8)
● ASA-62-225HN	2	(50.8)	1545	(6.8)	1790	(7.8)
● ASA-62-425HN	2	(50.8)	1545	(6.8)	1790	(7.8)
● ASA-37-250RQ	1 1/4	(31.7)	675	(2.9)	550	(2.5)
● ASA-37-375RQ	1 1/4	(31.7)	675	(2.9)	550	(2.5)
● ASA-37-475RQ	1 1/4	(31.7)	675	(2.9)	550	(2.5)

* Tested in 3500 PSI (24.0 MPa) concrete. S.F. = 4.0



Drop-In Anchors

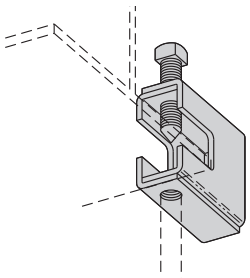
Catalog Number	Anchor Size Diameter in.	Anchor Size Diameter (mm)	Anchor Size Length in.	Anchor Size Length (mm)	Thread Hole Depth in.	Thread Hole Depth (mm)	Thread Hole Diameter in.	Thread Hole Diameter (mm)
● ADI-50	1/2	(12.7)	2	(50.8)	13/16	(20.6)	5/8	(15.9)
● ADI-62	5/8	(15.9)	2 1/2	(63.5)	1 3/16	(30.2)	7/8	(22.2)

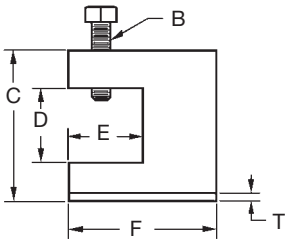
Catalog Number	Anchor Length in.	Anchor Length (mm)	Allowable Pull-Out Load* lbs	Allowable Pull-Out Load* (kN)	Allowable Shear Load* lbs	Allowable Shear Load* (kN)	Setting Tool Cat. No.
● ADI-50	2	(50.8)	1883	(8.2)	1903	(8.3)	ADI-50T
● ADI-62	2 1/2	(63.5)	2473	(10.8)	3403	(14.9)	ADI-62T

* Tested in 4800 PSI (33.5 MPa) concrete. S.F. = 4.0

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Beam Clamps





Cat. No.	Rod Size	B	C in.	C (mm)	D in.	D (mm)
● B307	1/2"-13	1/2"-13	2 7/16"	(61.9)	7/8"	(22.2)
● B308	1/2"-13	1/2"-13	2 9/16"	(65.1)	7/8"	(22.2)
● B321-2	1/2"-13	1/2"-13	3 9/16"	(90.5)	1 11/16"	(42.8)

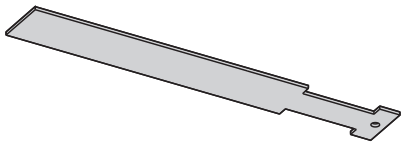
Cat. No.	E in.	E (mm)	F in.	F (mm)	T in.	T (mm)	Design Load lbs.	Design Load (kN)
● B307	1 1/8"	(28.6)	2 1/2"	(63.5)	7Ga.	(4.5)	1100	(4.89)
● B308	1 1/8"	(28.6)	2 1/2"	(63.5)	1/4"	(6.3)	1500	(7.11)
● B321-2	1 5/8"	(41.3)	3 1/4"	(82.5)	1/4"	(6.3)	1400	(6.23)

- Design Load Safety Factor = 5
- Setscrew included

Anchor Strap

Cat. No.	Flange Width in.	Flange Width (mm)
● B312-6	Up to 6"	(Up to 152.4)
● B312-9	6"-9"	(152.4-228.6)
● B312-12	9"-12"	(228.6-304.8)

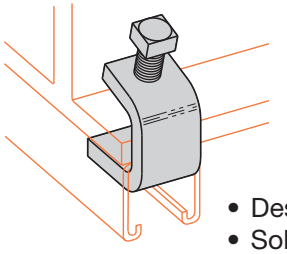
Used with B307, B308 and B321-2 beam clamps



Beam Clamp

Part Number	Design Load* lbs	Design Load* (kN)	Max. Flange Thick in.	Max. Flange Thick (mm)	Mat'l Thickness in.	Mat'l Thickness (mm)
● B212-3/8	1000	(4.45)	1 1/8	(28.6)	3/8	(9.5)

*when used in pairs



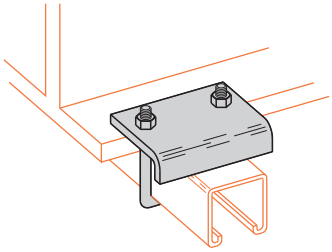
- Design Load Safety Factor = 5
- Sold in pieces
- Setscrew included

Beam Clamp

Cat. No.	Design Load* lbs	Design Load* (kN)	'A' Dimension in.	'A' Dimension (mm)
● B441-22	1200	(15.34)	3 3/8	(85.7)
● B441-22A	1200	(15.34)	5	(127.0)
● B441Z-22	N/A	(N/A)	3 3/8	(85.7)

*when used in pairs

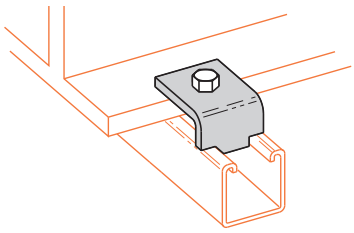
- Design Load Safety Factor = 5
- Sold in pieces



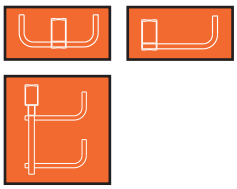
Beam Clamps

Cat. No.
● B355

- Design Load 1200 lbs (5.34kN) when used in pairs
- Design Load Safety Factor = 5
- Sold in pieces
- Order HHCS & channel nuts separately

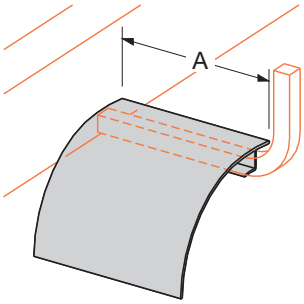


● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



Cable Drop-Out

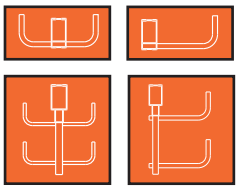
- Provides 3.25" (82mm) bend radius
- Attaches to horizontal section of rung
- Self-drilling screw included
- Part number for one side only



Cat. No.	A in.
● CAM-DO-1	1
● CAM-DO-2	2
● CAM-DO-2.5	2.5
● CAM-DO-3	3
● CAM-DO-4	4
● CAM-DO-5	5
● CAM-DO-5.5	5.5
● CAM-DO-7	7
● CAM-DO-8	8
● CAM-DO-10	10
● CAM-DO-11	11

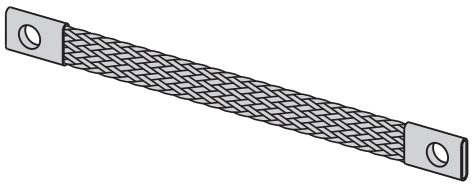
Tray Width in.	Recommended Drop-out Width A*				
	DATA-TRACK™ Bottom Rung	DATA-TRACK™ Top Rung	Half-Rack™	Multi-Tier Half-Rack™	Verti-Rack™
3	N/A	N/A	2	2	1
6	2	1	5	5	2.5
9	3	2	8	8	4
12	5	4	11	11	5.5
18	7	7	N/A	N/A	N/A
24	10	10	N/A	N/A	N/A

* Indicates widest Drop-out that will fit in tray



Grounding Jumper

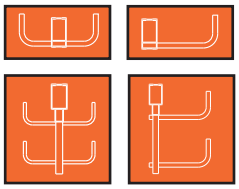
Cat. No.
● CAM-GJ



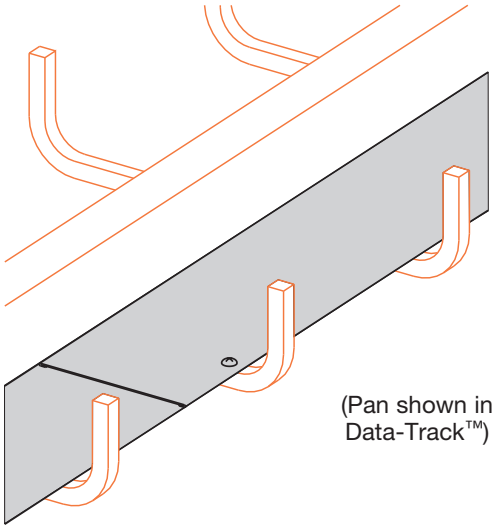
- Tin plated copper
- 1000 Amps maximum fuse amperage rating
- 12" (305mm) overall length
- Provides electrical continuity between trays
- Required with expansion splice hangers and when trays are discontinuous
- For up to 1/2" hardware - not provided

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Pan



- Solid floor system with the flexibility of a center rail system
- Side remains open for cable exit/entry
- Available in aluminum or pre-galvanized steel
- Shipped with self-drilling screws for easy field installation



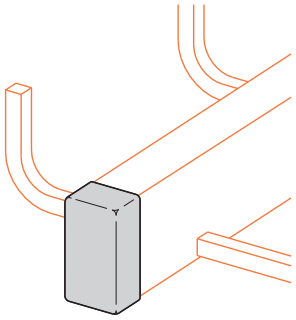
(Pan shown in Data-Track™)

Tray Width in.	Pan Catalog Number				
	Data-Track™ Bottom Rung (one side only) ●	Data-Track™ Top Rung (one side only) ●	Verti-Rack™ (one side - one tier only) ●	Half-Rack™ ●	Multi-Tier Half-Rack™ (one tier only) ●
3	N/A	N/A	C(*)P-008-(†)	C(*)P-020-(†)	C(*)P-020-(†)
6	C(*)P-020-(†)	C(*)P-012-(†)	C(*)P-023-(†)	C(*)P-050-(†)	C(*)P-050-(†)
9	C(*)P-035-(†)	C(*)P-027-(†)	C(*)P-038-(†)	C(*)P-080-(†)	C(*)P-080-(†)
12	C(*)P-050-(†)	C(*)P-042-(†)	C(*)P-053-(†)	C(*)P-110-(†)	C(*)P-110-(†)
18	C(*)P-072-(†)	C(*)P-072-(†)	N/A	N/A	N/A
24	C(*)P-102-(†)	C(*)P-102-(†)	N/A	N/A	N/A

(*) Material- Insert “A” for .040 aluminum or “P” for 20 Ga. pre-galvanized steel.
(†) Length- Insert 060 for 60", 072 for 72", 120 for 120", or 144 for 144".
Ordering information - Example: CAP-035-144
Aluminum pan for 9" wide bottom rung Data-Track in a 12 foot section.

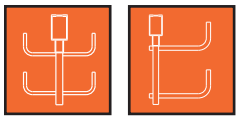
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Plastic Center Rail End Cap

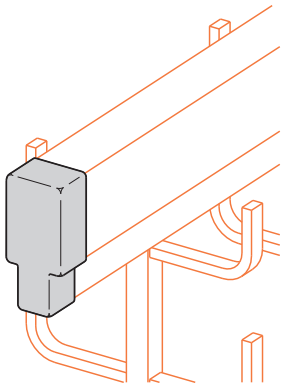


Cat. No.
● CPLM-EC10-Gray

- Fits over end of center rail
- Gray PVC material
- Field installation

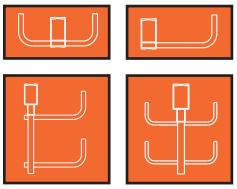


Plastic Center Rail End Cap



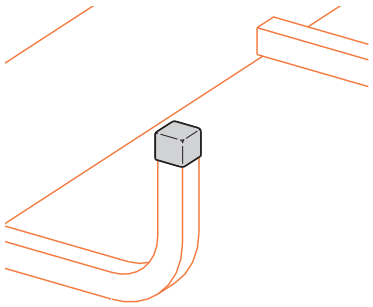
Cat. No.
● CPLM-EC20-Gray

- Fits over end of center rail
- Gray PVC material
- Field installation



4” Deep only

Plastic Rung End Cap



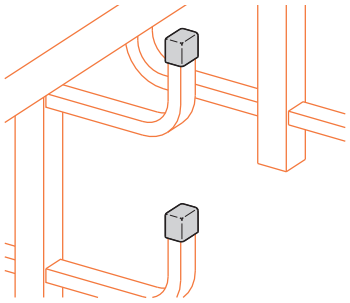
Cat. No.
● CPLM-EC30-*

* Insert color:
Gray is standard
Optional- red, white, purple, blue, yellow, orange, black

- Fits over end of rungs
- Used for cable identification
- PVC material
- Field installation

Up to 2” Deep only

Plastic Rung End Cap

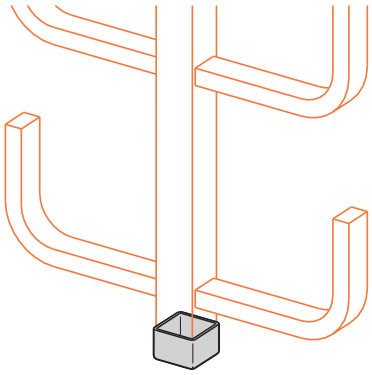


Cat. No.
● CPLM-EC40-*

* Insert color:
Gray is standard
Optional- red, white, purple, blue, yellow, orange, black

- Fits over end of rungs
- Used for cable identification
- PVC material
- Field installation

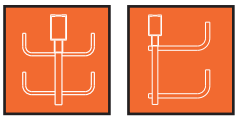
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

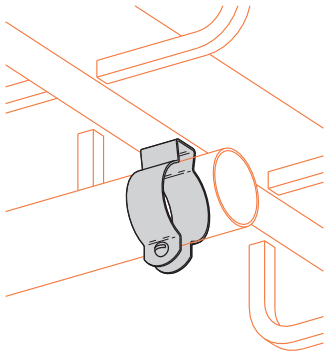


Plastic Trunk End Cap

Cat. No.
● CPLM-EC50-Gray

- Fits over end of vertical trunk
- Gray PVC Material
- Field installation

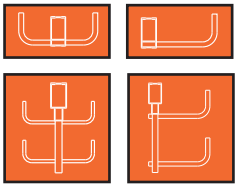


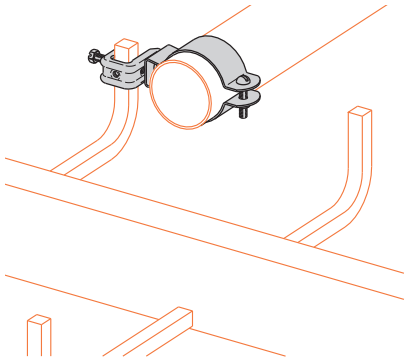


Conduit Adapter

Cat. No.	Conduit Size		Mounting Hardware Size	
	in.	(mm)	in.	(mm)
● BL1400	1/2	(15)	1/4	(6)
● BL1410	3/4	(20)	1/4	(6)
● BL1420	1	(25)	1/4	(6)
● BL1430	1 1/4	(32)	1/4	(6)
● BL1440	1 1/2	(40)	5/16	(8)
● BL1450	2	(50)	5/16	(8)
● BL1460	2 1/2	(65)	5/16	(8)
● BL1470	3	(80)	5/16	(8)
● BL1480	3 1/2	(90)	5/16	(8)
● BL1490	4	(100)	5/16	(8)

- Designed to support or suspend light-duty stationary conduit runs
- Zinc plated steel
- Attaches to tray center rail (mounting hardware not included)

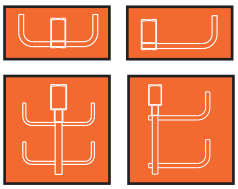




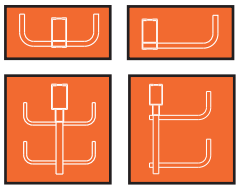
Conduit Adapter

Cat. No.	Conduit Size	
	in.	(mm)
● BL1400-C442	1/2	(15)
● BL1410-C442	3/4	(20)
● BL1420-C442	1	(25)
● BL1430-C442	1 1/4	(32)
● BL1440-C442	1 1/2	(40)
● BL1450-C442	2	(50)

- Connects conduit to Cent-R-Rail®
- Easy one rung installation
- Positions conduit between rungs
- Shipped assembled with hardware



● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



Conduit Adapter

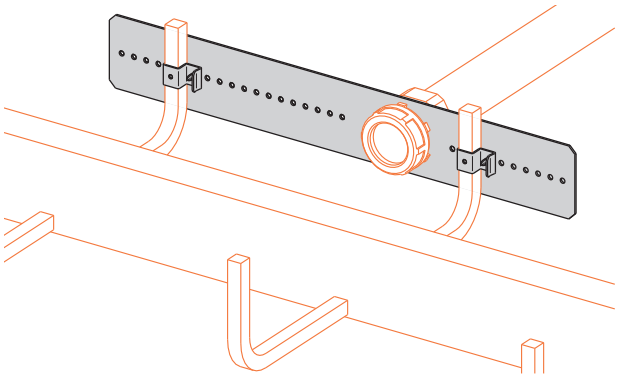
6" (152mm) thru 12" (305mm) rung spacing		
Cat. No.	Conduit Size Punched in.	(mm)
● CAM-CA1S-1/2	1/2	(15)
● CAM-CA1S-3/4	3/4	(20)
● CAM-CA1S-1	1	(25)
● CAM-CA1S-1 1/4	1 1/4	(32)
● CAM-CA2S-1 1/2	1 1/2	(40)
● CAM-CA2S-2	2	(50)
● CAM-CA2S-2 1/2	2 1/2	(65)
● CAM-CA3S-3	3	(80)
● CAM-CA3S-3 1/2	3 1/2	(90)
● CAM-CA3S-4	4	(100)

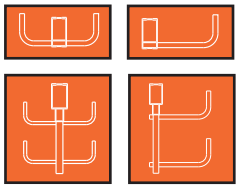
18" (457mm) thru 24" (609mm) rung spacing		
Cat. No.	Conduit Size Punched in.	(mm)
● CAM-CA1L-1/2	1/2	(15)
● CAM-CA1L-3/4	3/4	(20)
● CAM-CA1L-1	1	(25)
● CAM-CA1L-1 1/4	1 1/4	(32)
● CAM-CA2L-1 1/2	1 1/2	(40)
● CAM-CA2L-2	2	(50)
● CAM-CA2L-2 1/2	2 1/2	(65)
● CAM-CA3L-3	3	(80)
● CAM-CA3L-3 1/2	3 1/2	(90)
● CAM-CA3L-4	4	(100)

6" (152mm) thru 12" (305mm) rung spacing		
Cat. No.	Conduit Size Unpunched in.	(mm)
● CAM-CA1S	1/2 thru 1 1/4	(15) thru (32)
● CAM-CA2S	1 1/2 thru 2 1/2	(40) thru (65)
● CAM-CA3S	3 thru 4	(80) thru (100)

18" (457mm) thru 24" (609mm) rung spacing		
Cat. No.	Conduit Size Unpunched in.	(mm)
● CAM-CA1L	1/2 thru 1 1/4	(15) thru (32)
● CAM-CA2L	1 1/2 thru 2 1/2	(40) thru (65)
● CAM-CA3L	3 thru 4	(80) thru (100)

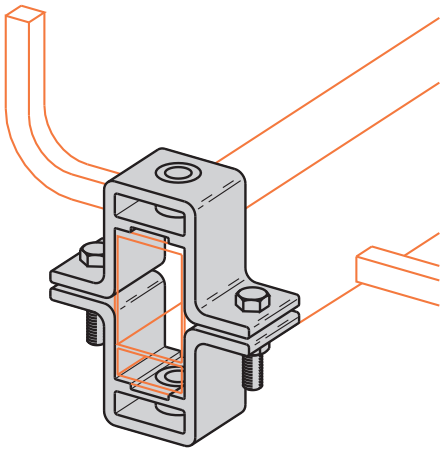
- Connects conduit to Cent-R-Rail™
- Supported by two rungs for stability
- Allows variable positioning between rungs
- Items included:
  -mounting body
  -2 rung attachment clips with #10 self-drilling screws





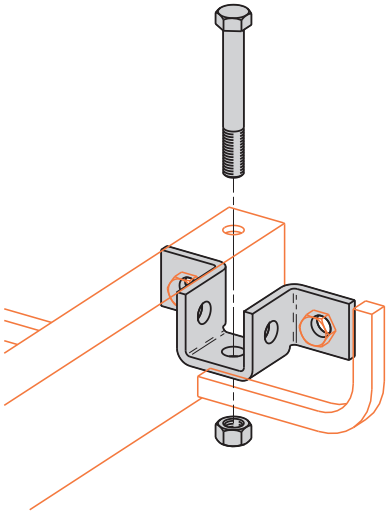
Drill Fixture

Cat. No.
● CAM-DF



- Locates splice holes to be drilled in field cut trays
- Used to mark cut lines square
- Requires 9/16" diameter drill bit (not included)

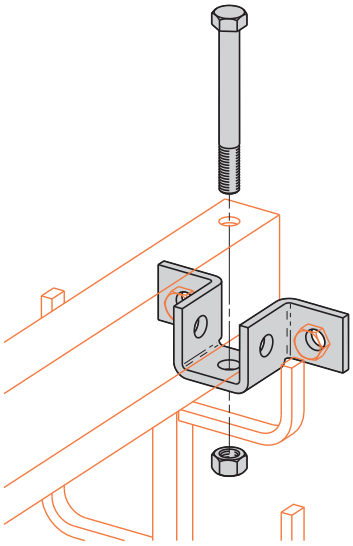
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items



Data-Track™ Tray-to-Wall Connector

Cat. No.
● CZNT-WB1

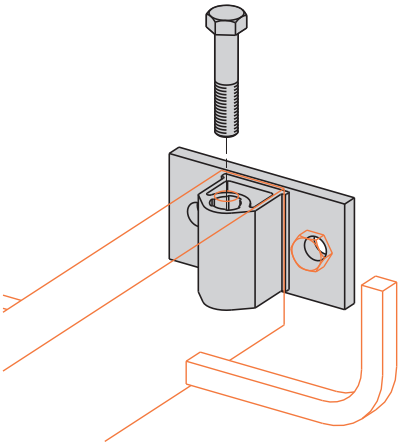
- Easy to install
- Strong - 1/4" (6mm) steel
- Zinc plated - ASTM B633
- Designed for up to 1/2" diameter wall attachment hardware (not included)
- Cent-R-Rail™ nut and bolt connector provided



Verti-rack™ Tray-to-Wall Connector

Cat. No.
● CZNT-WB2

- Easy to install
- Strong - 1/4" (6mm) steel
- Zinc plated - ASTM B633
- Designed for up to 1/2" diameter wall attachment hardware (not included)
- Cent-R-Rail nut and bolt connector provided



Tray-to-Wall Connector

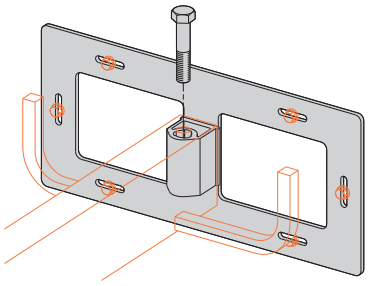
Cat. No.
● CAT-WB

Patented (see page 117)

- Connects tray end to wall for termination and support
- Qwik-Bolt™ design
- Shipped with one bolt for tray connection (order 1/2" diameter wall mounting hardware separately)

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Data-Track™ Tray-To-Box Connector



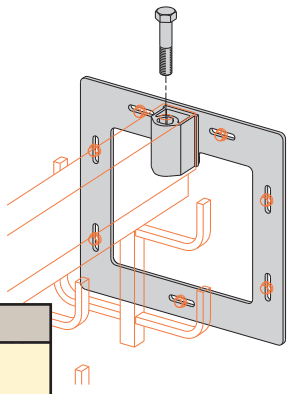
Cat. No.
CAT-BD B 3 12 B

Rung Type	Loading Depth	Tray Width
● B=Bottom rung	● 3=3"	● 06= 6"
● T=Top rung	● 4=4"	● 09= 9"
	● 6=6"	● 12=12"
		● 18=18"
		● 24=24"

Patented (see page 117)

- Connects tray to opening in enclosures
- Qwik-Bolt™ design
- Shipped with one bolt for tray connection (order 1/4" diameter wall mounting hardware separately)

Verti-Rack™ Tray-To-Box Connector



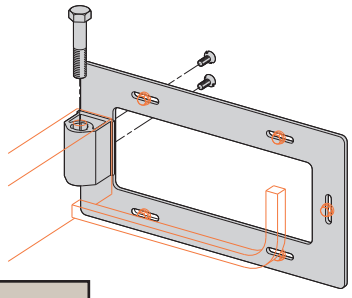
Cat. No.
CAT-B 4 V 06 B

Number of Tiers	Tray Width
● 2 = 2 tiers	● 03 = 3"
● 3 = 3 tiers	● 06 = 6"
● 4 = 4 tiers	● 09 = 9"
● 5 = 5 tiers	● 12 = 12"
● 6 = 6 tiers	

Patented (see page 117)

- Connects tray to opening in enclosures
- Qwik-Bolt design
- Shipped with one bolt for tray connection (order 1/4" diameter wall mounting hardware separately)

Half-Rack™ Tray-To-Box Connector



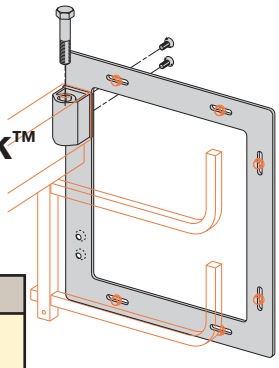
Cat. No.
CAT-B1H 3 03 B

Loading Depth	Tray Width
● 3 = 3”	● 03 = 3"
● 4 = 4”	● 06 = 6"
● 6 = 6”	● 09 = 9"
	● 12 = 12"

Patented (see page 117)

- Connects tray to opening in enclosures
- Qwik-Bolt design
- Shipped with one bolt for tray connection (order 1/4" diameter wall mounting hardware separately)

Multi-Tier Half-Rack™ Tray-To-Box Connector



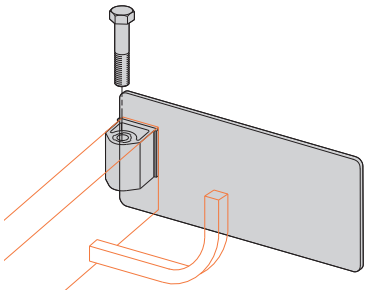
Cat. No.
CAT-B 2 M 03 B

Number of Tiers	Tray Width
● 2 = 2 tiers	● 03 = 3"
● 3 = 3 tiers	● 06 = 6"
● 4 = 4 tiers	● 09 = 9"
	● 12 = 12"

Patented (see page 117)

- Connects tray to opening in enclosures
- Qwik-Bolt design
- Shipped with one bolt for tray connection (order 1/4" diameter wall mounting hardware separately)
- Designed for 3” and 4” fill

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

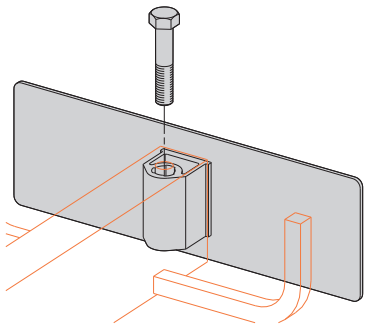


Half-Rack™ Blind End

Cat. No.	Rung Type	Loading Depth	Tray Width
CAM-BE1 B 3 12 B	B = Bottom rung T = Top rung	3 = 3" 4 = 4" 6 = 6"	06 = 6" 09 = 9" 12 = 12" 18 = 18" 24 = 24"

Patented (see page 117)

- Terminates cable tray run
- Qwik-Bolt™ design
- Shipped with one bolt for tray connections

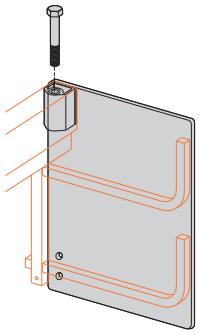


Data-Track™ Blind End

Cat. No.	Rung Type	Loading Depth	Tray Width
CAM-BED B 3 12 B	B = Bottom rung T = Top rung	3 = 3" 4 = 4" 6 = 6"	06 = 6" 09 = 9" 12 = 12" 18 = 18" 24 = 24"

Patented (see page 117)

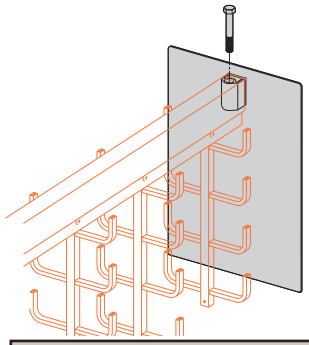
- Terminates cable tray run
- Qwik-Bolt design
- Shipped with one bolt for tray connections



Cat. No.	Tier	Rung Type	Tray Width
CAM-BE 2 M 12 B	2 = 2 Tier 3 = 3 Tier 4 = 4 Tier	M = Multi-Tier Half Rack®	03 = 3" 06 = 6" 09 = 9" 12 = 12"

Patented (see page 117)

- Terminates cable tray run
- Qwik-Bolt design
- Shipped with one bolt for tray connections
- Designed for 3” and 4” fill



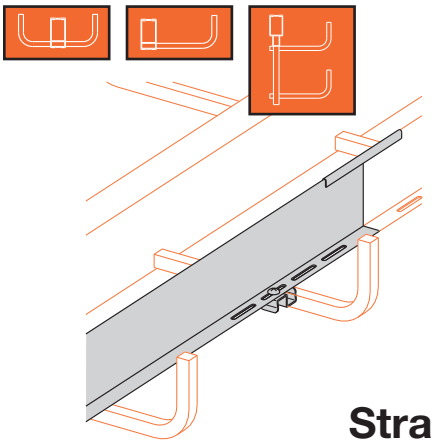
Cat. No.	Tier	Rung Type	Tray Width
CAM-BE 2 V 09 B	2 = 2 Tier 3 = 3 Tier 4 = 4 Tier	V = Verti-Rack®	03 = 3" 06 = 6" 09 = 9" 12 = 12"

Patented (see page 117)

- Terminates cable tray run
- Qwik-Bolt design
- Shipped with one bolt for tray connections
- Designed for straight rung and 2” fill

Green = Fastest shipped items Black = Normal lead-time items Red = Normally long lead-time items

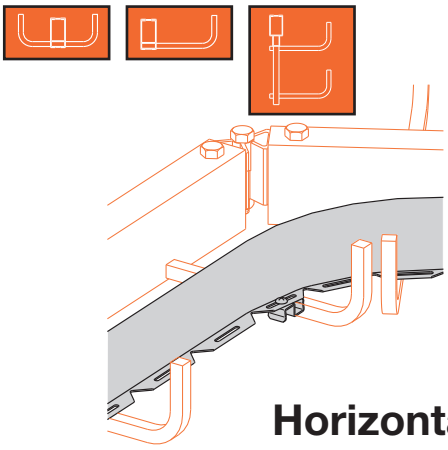
Cent-R-Rail™ - Accessories



Straight Section Barriers

Cat. No.	Tray Loading Depth	Length
● C73A-144	3" (76.2mm)	144" (3.66m)
● C74A-144	4" (101.6mm)	144" (3.66m)
● C76A-144	6" (152.4mm)	144" (3.66m)
● C73A-120	3" (76.2mm)	120" (3.05m)
● C74A-120	4" (101.6mm)	120" (3.05m)
● C76A-120	6" (152.4mm)	120" (3.05m)

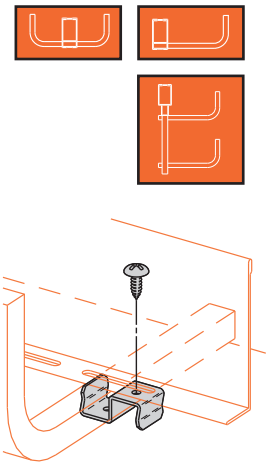
- Separates cable randomly in straight tray
- Furnished with 4 rung attachment clips, hardware and one splice



Horizontal Bend Barriers

Cat. No.	Tray Loading Depth
● C73A-90HBFL	3" (76.2mm)
● C74A-90HBFL	4" (101.6mm)
● C76A-90HBFL	6" (152.4mm)

- Separates cable randomly
- Standard Length: 72" (6 ft.) (1.8m)
- Horizontal bend barriers are flexible in order to conform to any horizontal bend
- Furnished with 3 rung attachment clips, hardware and one splice



Rung Attachment

Cat. No.
● CZNM-RC

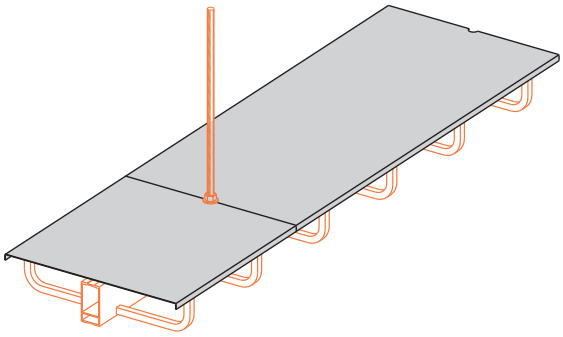
- Used to attach barrier strips without screwing into rungs
- One #10 x 1/2" self-drilling screw included

Cover

Bottom Rung Data-Track™		
Cat. No.	Overall Width in.	(mm)
● C(*)K1F-DB-06-(length)	9.000	(228.6)
● C(*)K1F-DB-09-(length)	12.000	(304.8)
● C(*)K1F-DB-12-(length)	15.000	(381.0)
● C(*)K1F-DB-18-(length)	19.375	(492.1)
● C(*)K1F-DB-24-(length)	25.375	(644.5)

Top Rung Data-Track		
Cat. No.	Overall Width in.	(mm)
● C(*)K1F-DT-06-(length)	7.375	(187.3)
● C(*)K1F-DT-09-(length)	10.375	(263.5)
● C(*)K1F-DT-12-(length)	13.375	(339.7)
● C(*)K1F-DT-18-(length)	19.375	(492.1)
● C(*)K1F-DT-24-(length)	25.375	(644.5)

(*) Insert "A" for .040" aluminum or "P" for 20 Ga. pre-galvanized steel.



- Available in .040 (1mm) aluminum
- Available in 20 (.9mm) gauge pre-galvanized steel.
- Notched for 1/2" ATR (hardware not included).
- Full 1/2" flange.
- Available in 10 ft. (120") (3.0m) and 12 ft. (144") (3.7m) sections.

Length Suffix	Cover Length
● -120	120" (10 ft.) (3.05m)
● -144	144" (12 ft.) (3.66m)

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Section 1- Acceptable Manufacturers

1.01 Manufacturer: Subject to compliance with these specifications, cable tray system shall be as manufactured by Cooper B-Line, Inc.

Section 2- Cable Tray Sections and Components

2.01 General: Except as otherwise indicated, provide metal cable trays, of types, classes and sizes indicated with splice hangers and all other necessary accessories. Provide cable trays with rounded edges and smooth surfaces in compliance with applicable standards, and with the following additional construction features.

2.02 Materials and Finish: Aluminum: Center rails and rungs shall be extruded from Aluminum Association Alloy 6063. All fabricated parts shall be made from Aluminum Association Alloy 5052 and all cast parts from Aluminum Association Alloy 319. All hardware and fasteners shall be zinc plated steel in accordance with ASTM B633.

2.03 Cable trays shall be constructed of a center rail 1.625" x 3.250" with minimum section properties of Sx = 0.701 in^3 and Ix = 1.174 in^4. Rungs shall be a single continuous square tube 0.54" x 0.54" with radiused corners and minimum section properties of Sx = 0.019 in^3 and Ix = 0.005 in^4. Rungs shall be mechanically connected to the center rail in at least two places, symmetrical about the center rail, with ends finished to protect installers and cables.

2.04 Rungs shall be spaced every [6] [9] [12] inches.

2.05 Straight sections shall be supplied in [10] [12] foot lengths.

2.06 Cable tray width shall be [6] [9] [12] [18] [24] inches.

2.07 Splice hangers must also be capable of acting as the support points for all thread rod.

2.08 Cable tray loading depth shall be [3] [4] [6] inches.

2.09 All splices and connectors must protect cables from the edges of the center rail and act as a barrier to prevent the center rail from transmitting hazardous gases or smoke; hardware must be installed vertically, so as not to interfere with the cables in the cable fill area.

2.10 Where required, expansion splices shall allow for 1" of thermal expansion and contraction.

2.11 When required, and to provide an area free of center rails for cable transitions, contractor shall install a universal hub fitting. The universal hub fitting must be a cast aluminum structural member, B-Line CAU Series (flat sheets of steel or aluminum are not acceptable), which can be used with cable ties and allows the center rails to be connected so they may be pivoted at connection points.

Section 3- Loading Capacities and Testing

3.01 Cable tray shall meet the loading requirements of NEMA 12C.

3.02 Upon request, manufacturer shall provide test reports in accordance with the latest revision of NEMA VE-1 or CSA C22.2 No. 126-M91.

3.03 UL Compliance: Provide products which are UL classified and labeled.

Section 1- Acceptable Manufacturers

1.01 Manufacturer: Subject to compliance with these specifications, cable tray systems shall be as manufactured by Cooper B-Line, Inc.

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2.03 Cable trays shall be constructed of a center rail 1.625" x 3.900" with minimum section properties of Sx = 0.558 in^3 and Ix = 1.272 in^4. Rungs shall be a single continuous rectangular tube 0.54" x 0.31" with radiused corners and minimum section properties of Sx = 0.007 in^3 and Ix = 0.001 in^4. Rungs shall be mechanically connected to square trunks 0.71" x 0.71", symmetrical about the trunk, with ends finished to protect installers and cables. Trunks shall be mechanically connected to the center rail.

2.04 Rungs shall be spaced every [6] [9] [12] inches.

2.05 Straight sections shall be supplied in [10] [12] foot lengths.

2.06 Cable tray width shall be [3] [6] [9] [12] inches.

2.07 Splice hangers must also be capable of acting as the support points for all thread rod.

2.08 Cable tray loading depth shall be 2 inches.

2.09 Cable tray shall have [2] [3] [4] [5] [6] tiers.

2.10 All splices and connectors must protect cables from the edges of the center rail and act as a barrier to prevent the center rail from transmitting hazardous gases or smoke; hardware must be installed vertically, so as not to interfere with the cables in the cable fill area.

2.11 Where required, expansion splices shall allow for 1" of thermal expansion and contraction.

2.12 When required, cable tray system shall be expandable after installation, up to two additional tiers.

Section 3- Loading Capacities and Testing

3.01 Cable tray shall meet the loading requirements of NEMA 12C.

3.02 Upon request, manufacturer shall provide test reports in accordance with the latest revision of NEMA VE-1 or CSA C22.2 No. 126-M91.

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Section 1- Acceptable Manufacturers

1.01 Manufacturer: Subject to compliance with these specifications, cable tray systems shall be as manufactured by Cooper B-Line, Inc.

Section 2- Cable Tray Sections and Components

2.01 General: Except as otherwise indicated, provide metal cable trays, of types, classes and sizes indicated with splice hangers and all other necessary accessories. Provide cable tray with rounded edges and smooth surfaces in compliance with applicable standards, and with the following additional construction features.

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2.03 Cable trays shall be constructed of a center rail 1.625" x 3.250" with minimum section properties of Sx = 0.701 in^3 and Ix = 1.174 in^4. Rungs shall be a single continuous square tube 0.54" x 0.54" with radiused corners and minimum section properties of Sx = 0.019 in^3 and Ix = 0.005 in^4. Rungs shall be mechanically connected to the center rail in at least two places, with ends finished to protect installers and cables.

2.04 Rungs shall be spaced every [6] [9] [12] inches.

2.05 Straight sections shall be supplied in [10] [12] foot lengths.

2.06 Cable tray width shall be [3] [6] [9] [12] inches.

2.07 Splice hangers must also be capable of acting as the support points for all thread rod.

2.08 Cable tray loading depth shall be [3] [4] [6] inches.

2.09 All splices and connectors must protect cables from the edges of the center rail and act as a barrier to prevent the center rail from transmitting hazardous gases or smoke; hardware must be installed vertically, so as not to interfere with the cables in the cable fill area.

2.10 Cable tray shall be capable of being installed flush against a flat surface without the use of spacers or brackets.

2.11 Where required, expansion splices shall allow for 1" of thermal expansion and contraction.

Section 3- Loading Capacities and Testing

3.01 Upon request, manufacturer shall provide test reports in accordance with the latest revision of NEMA VE-1 / CSA C22.2 No. 126.1-98.

3.02 UL Classified: Provide products which are UL classified and labeled.

Section 1- Acceptable Manufacturers

1.01 Manufacturer: Subject to compliance with these specifications, cable tray systems shall be as manufactured by Cooper B-Line, Inc.

Section 2- Cable Tray Sections and Components

2.01 General: Except as otherwise indicated, provide metal cable trays, of types, classes and sizes indicated with splice hangers and all other necessary accessories. Provide cable tray with rounded edges and smooth surfaces in compliance with applicable standards, and with the following additional construction features.

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2.04 Rungs shall be spaced every [6] [9] [12] inches.

2.05 Straight sections shall be supplied in [10] [12] foot lengths.

2.06 Cable tray width shall be [3] [6] [9] [12] inches.

2.07 Splice hangers must also be capable of acting as the support points for all thread rod.

2.08 Cable tray loading depth shall be [3] [4] inches.

2.09 Cable tray shall have [2] [3] [4] tiers.

2.10 All splices and connectors must protect cables from the edges of the center rail and act as a barrier to prevent the center rail from transmitting hazardous gases or smoke; hardware must be installed vertically, so as not to interfere with the cables in the cable fill area.

2.11 Cable tray shall be capable of being installed flush against a flat surface without the use of spacers or brackets.

2.12 Where required, expansion splices shall allow for 1" of thermal expansion and contraction.

2.13 When required, cable tray system shall be expandable after installation, up to two additional tiers.

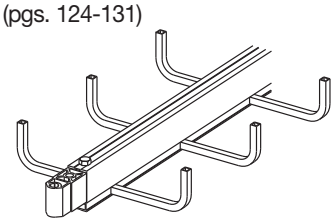
Section 3- Loading Capacities and Testing

3.01 Upon request, manufacturer shall provide test reports in accordance with the latest revision of NEMA VE-1 / CSA C22.2 No. 126.1-98.

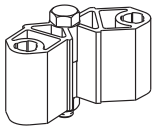
3.02 UL Compliance: Provide products which are UL classified and labeled.

Common Items Required:

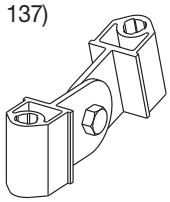
- 10 ft (3.0m) or 12 ft (3.7m) Straight Sections with Standard Splice Hangers. (pgs. 124-131)



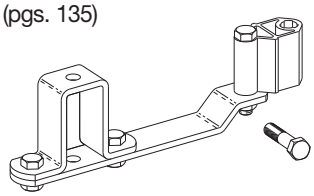
- Horizontal Adjustable Splices (pg. 134)



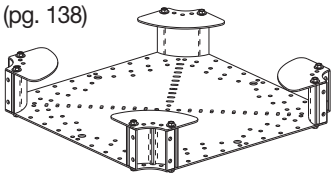
- Vertical Adjustable Splices (pg. 137)



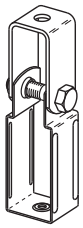
- Horizontal Elbow & Tee Coupling (pgs. 135)



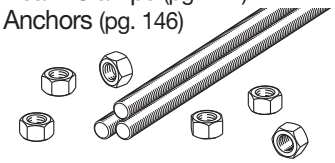
- Universal Hub Fittings with Pivot Connectors (pg. 138)



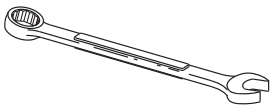
- Clevis Hangers (pgs. 140 & 141)



- 1/2" ATR & Hex Nuts (pg. 145)
- Beam Clamps (pg. 147)
- Anchors (pg. 146)



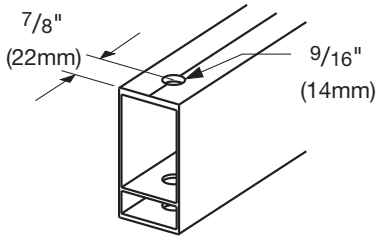
- Two 3/4" Combination Wrenches



Guidelines for Common Items:

- When field cutting is required, use drill fixture (pg. 152) to cut ends square and locate new splice holes, or drill one 9/16" (14mm) hole 7/8" (22mm) on center from end of the tray through center rail.

IMPORTANT: Tube end must be cut square when field cutting.

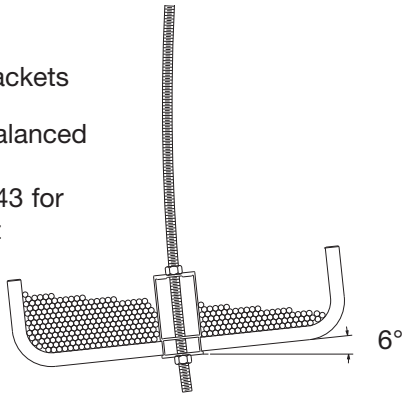


- When hanging ATR, leave slightly loose until after tray is installed to ease alignment with splice hanger holes.

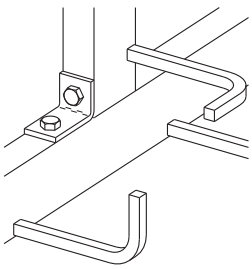
- When attaching the tray system to the ATR, extend the ATR approximately 1" past the hex nut to allow for the use of B655 rod couplings (pg. 146) for future expansion.

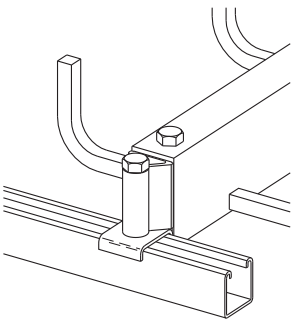
- **To address unbalanced loading.**
  When tray stabilization is required for non-uniform loading, use brackets with ATR as shown: (pg. 144)

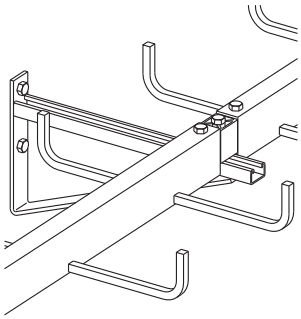
  - Page 171 - unbalanced loading study.
  - Refer to page 143 for auxiliary support



- CENT-R-RAIL™ tray was designed to be interactive with Cooper B-Line's strut systems, allowing multiple options for miscellaneous supports. Refer to Cooper B-Line's Strut Systems catalog and seismic brochure for a complete listing of items available. A few examples are shown below:

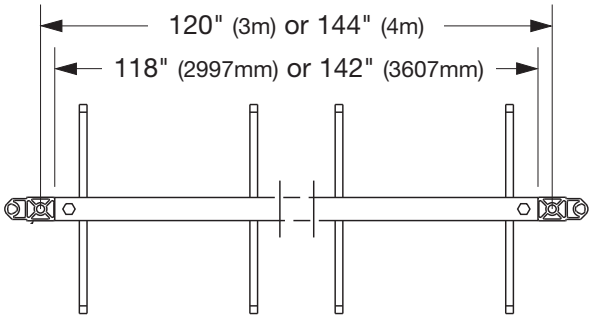




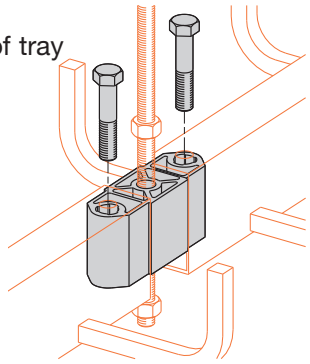


Guidelines for Common Items:

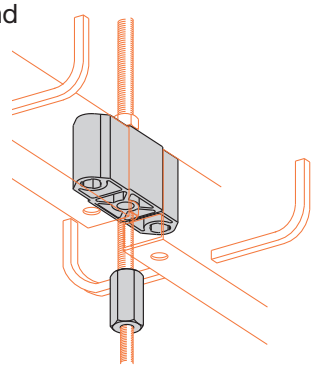
- **When installing straight sections:**
  - Hang 1/2" ATR on 10 ft or 12 ft centers (depending on tray lengths) with one hex nut threaded approximately 4 inches onto ATR.
  - Attach splice hanger and tray onto ATR through center hole of splice hanger.
  - Install one hex nut on ATR under tray and thread up to set elevation of tray.
  - Tighten upper hex nut against top of splice hanger.
  - For wall attachment options see Seismic Restraints Cent-R-Rail® Supplement.



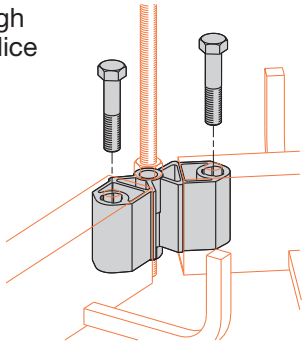
- **When using Qwik-Bolt™ Splice Hangers:**
  - Insert splice into ends of tray with non-threaded side toward bolt head.
  - Insert bolts and tighten securely.



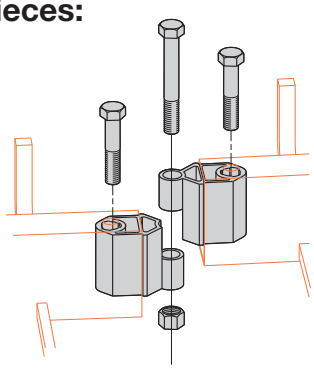
- **Allow for future expansion**
  - When possible, extend ATR 1" past bottom hex nut to provide for later expansion by using an ATR coupling (pg. 146).



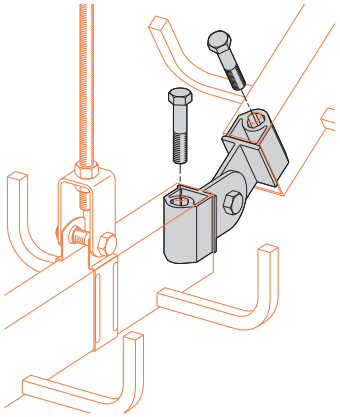
- **When using Horizontal Adjustable Splices:**
  - Install with ATR through center hole, adjust splice to required angle and tighten ATR nuts. (May also install with the included 3" bolt and nut and support tray using a clevis hanger within 2 ft of splice.)
  - For optional outside bend cable support, horizontal bend rung support (pg. 134).



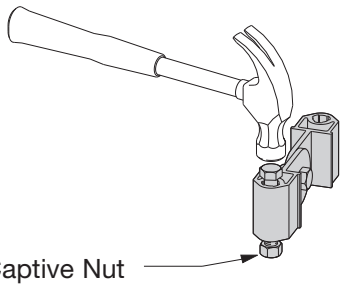
- **For connecting two mid-run straight pieces:**
  - Use Horizontal Adjustable Splices to join two straight sections at mid-run, where short of space for connection.



- **When using Vertical Adjustable Splices:**
  - Attach splice to trays and install a clevis hanger within 2 ft of splice to support tray. (May also install using ATR as support by first removing captive nut.)
  - Tighten pivot bolt & nut.

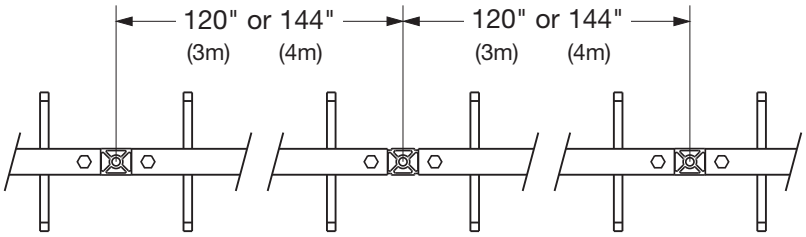


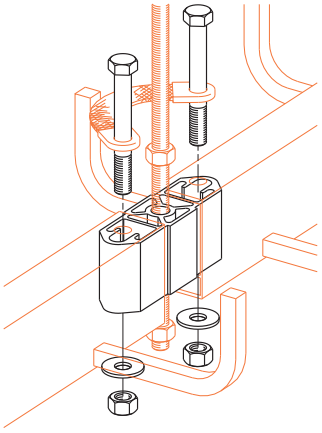
- **Removing the captive nut**



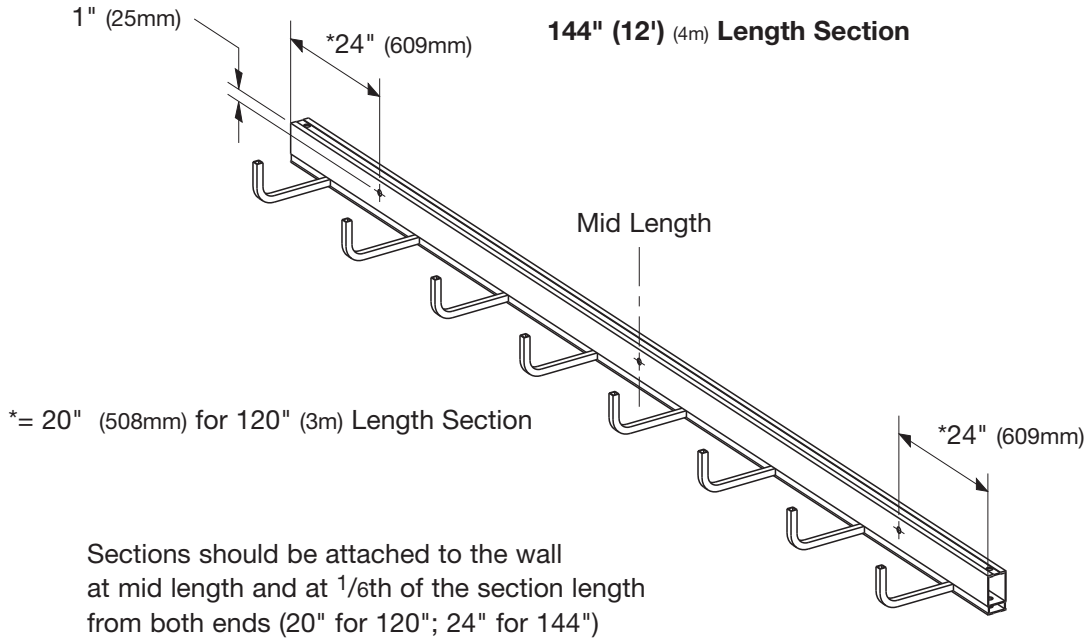
Guidelines for Common Items:

- **When using Expansion Splice Hangers:**
  - Both splices adjacent to expansion splice hangers must be installed 120" or 144" (depending on the tray length) on centers from expansion splice to allow full expansion and contraction.
  - Grounding jumper must be installed with expansion splice.





Half-Rack™ and Multi-Tier Half-Rack™ Support Locations



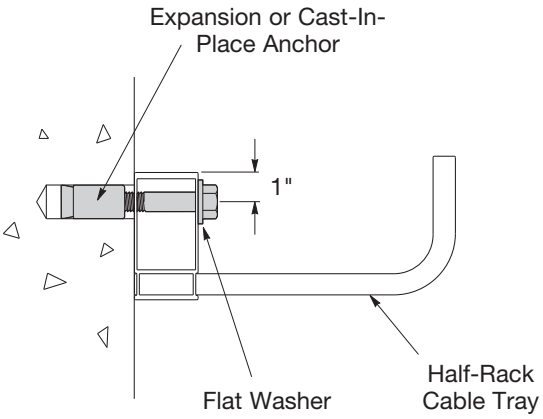
Sections should be attached to the wall at mid length and at 1/6th of the section length from both ends (20" for 120"; 24" for 144")

- **When wall-mounting tray:**
  - Attach tray and splice to wall by bolting through center rail to wall. (May also be installed using other methods, such as brackets.)

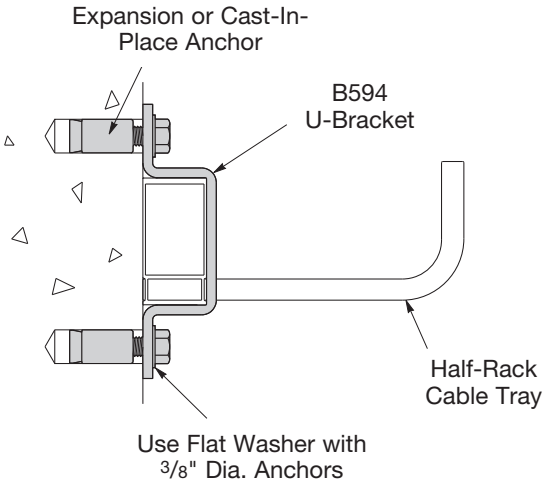
Guidelines for Common Items:

Half-Rack™ Mounting Details:

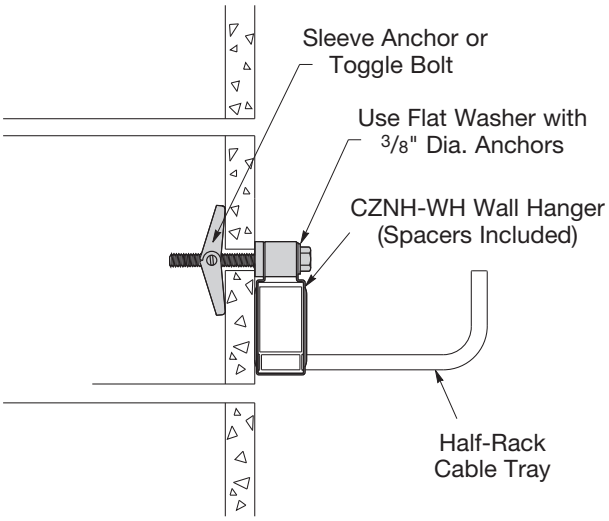
- **Drill Through Method: In Concrete Slab**



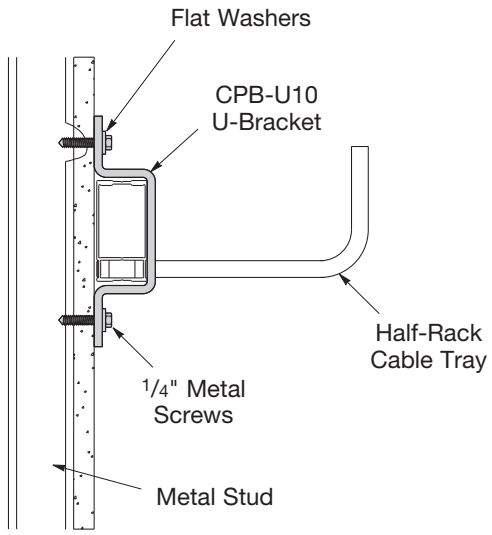
- **B594 Clevis U-Bracket: In Concrete Slab**



- **CZNH-WH Wall Hanger: In Hollow CMU Wall**



- **CPB-U10 U-Bracket: In Drywall & Metal Stud Wall**
- **CPB-CV1 For Multi-Tier Half-Rack**

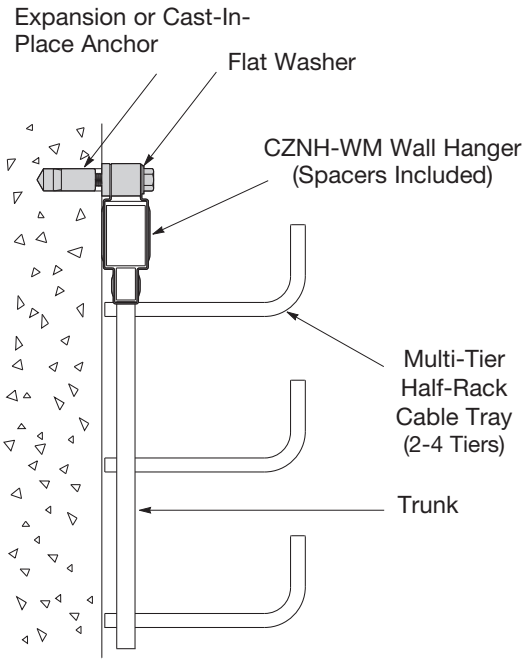


Note: These mounting details serve as a vertical support, and can serve as seismic bracing. See the Cent-R-Rail Seismic Restraints brochure for details.

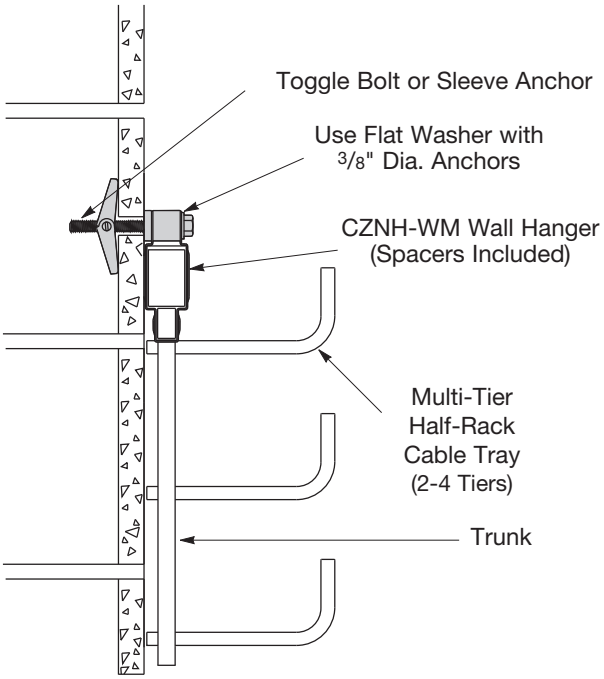
Guidelines for Common Items:

Multi-Tier Half-Rack™ Mounting Details:

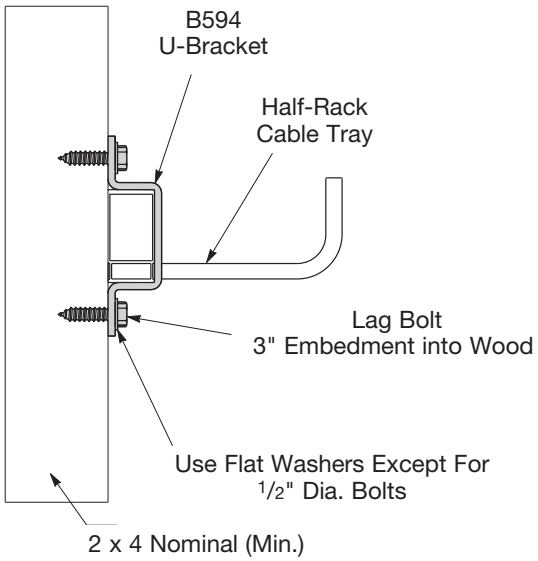
- **CZNH-WM Wall Hanger: In Concrete Slab**



- **CZNH-WM Wall Hanger: In Hollow CMU Wall**



- **B594 Clevis U-Bracket: In Wood Stud Wall**



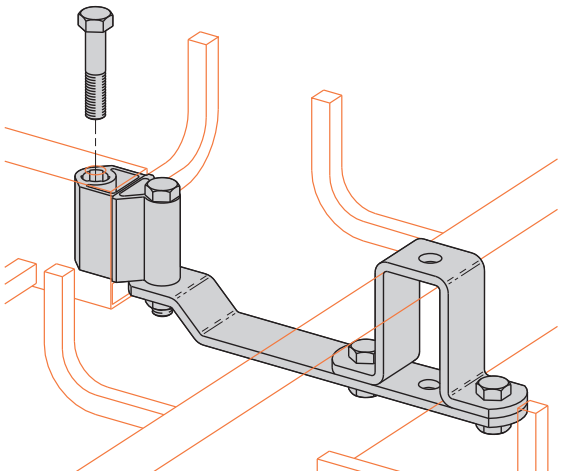
Guidelines (cont.):

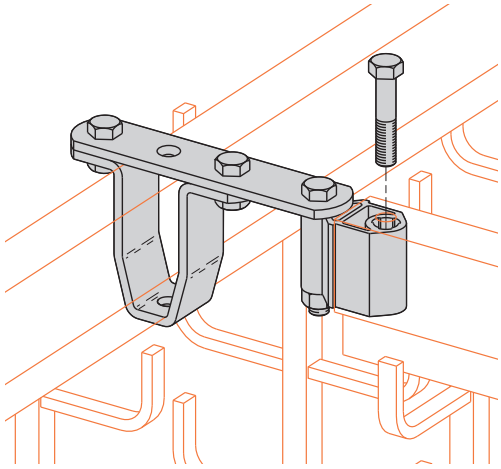
- **When using Horizontal Elbow and Tee Couplings:**

  - Bolt "U" bracket around tray center rail with coupling bar on bottom of center rail for Data-Track™ & Half-Rack™, and top of center rail for Verti-Rack™ & Multi-Tier Half-Rack™.

  - Attach pivot connector to branch tray using included bolt, and support tray with clevis hanger within 2 ft of coupling. (May also attach to ATR by first removing captive nut.)

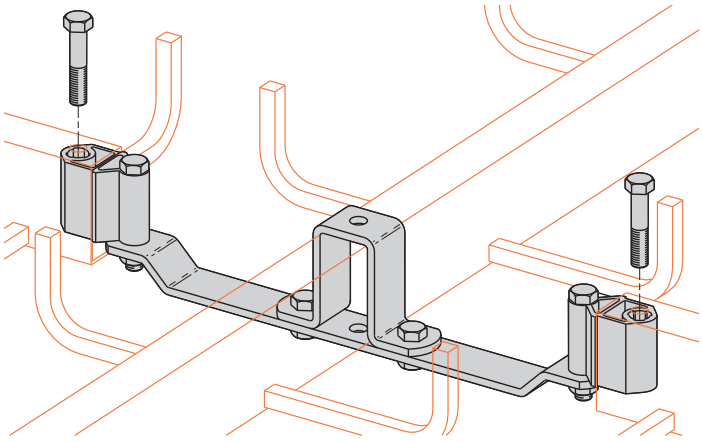
  - Adjust pivot connector to desired position and tighten all hardware.

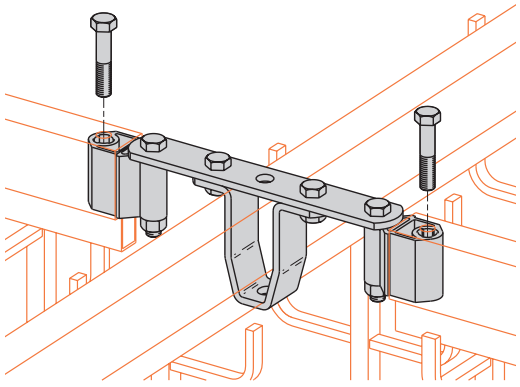




- **When using Horizontal Cross Couplings:**

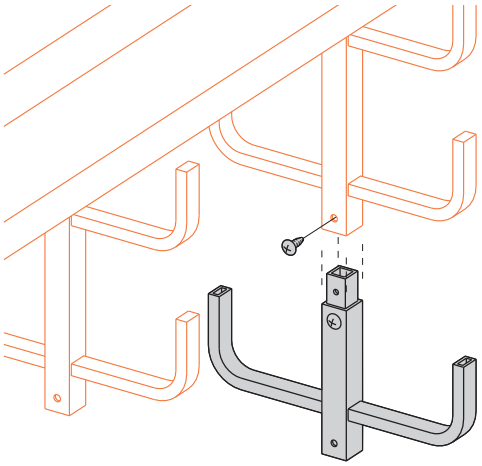
  - Installation is similar to elbow and tee coupling, except with two branch trays instead of one.
  - Support ATR may be located through existing "U" bracket holes, by using clevis hangers within 2 ft of coupling. (May also attach to ATR by first removing captive nut.)



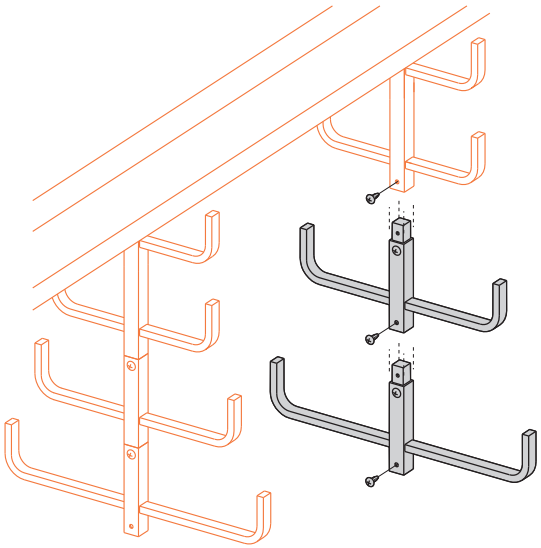


Guidelines (cont.):

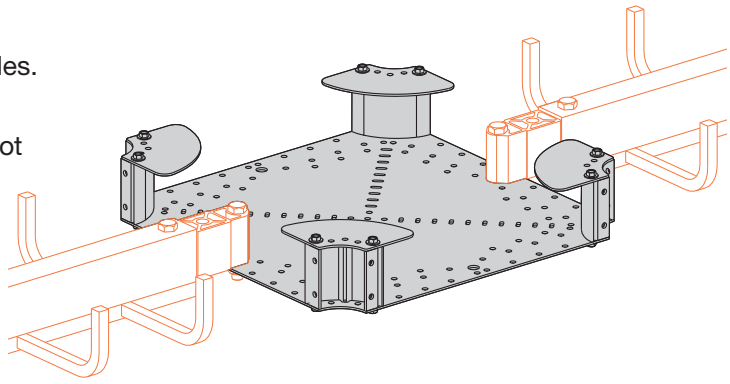
- **When using Add-A-Rung™ with Verti-Rack™ or Multi-Tier Half-Rack™:**
  - See loading data for maximum center rail load capacity to determine the maximum number of tiers allowed.
  - Insert Add-A-Rung™ into end of vertical trunk.
  - Install included screw through pilot hole in trunk.



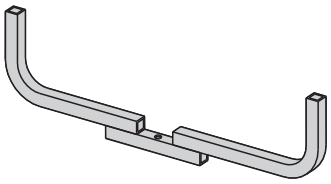
- **When using Add-A-Rung with Verti-Rack or Multi-Tier Half Rack in Different Widths:**
  - See loading data for maximum center rail load capacity to determine the maximum number of tiers in different widths allowed.
  - 3", 6", 9" and 12" wide tiers.
  - Insert Add-A-Rung into end of vertical trunk.
  - Install included screw through pilot hole in trunk.
  - See page 126 for part number.



- **When using Universal Hub Fittings:**
  - Position hubs with rounded edges toward cables.
  - Attach pivot connectors to cable support surface using ATR, or bolt and nut through pivot hole. (If bolt and nut are used, tray must be supported using clevis hangers within 2 ft of pivot connectors.)
  - Connect tray ends to pivot connectors.
  - Position pivot connectors as desired and tighten hardware.
  - **Warning: Do not use as a support for personnel!**



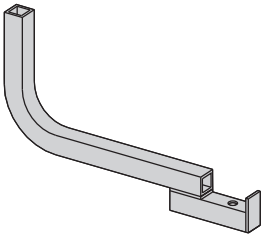
Data-Track™ Bottom Rung Replacement



- #10 self-drilling attachments included.
- This product can act as a Rail-Riser™ for Data-Track.

Cat. No.
C3ADB-06-RK
C3ADB-09-RK
C3ADB-12-RK
C3ADB-18-RK
C3ADB-24-RK
C4ADB-06-RK
C4ADB-09-RK
C4ADB-12-RK
C4ADB-18-RK
C4ADB-24-RK
C6ADB-06-RK
C6ADB-09-RK
C6ADB-12-RK
C6ADB-18-RK
C6ADB-24-RK

Half-Rack™ Rung Replacement

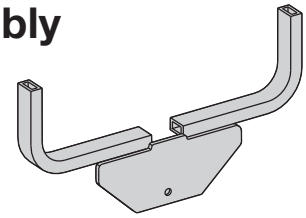


- #10 self-drilling attachments included.

Cat. No.
C3A1H-03-RK
C3A1H-06-RK
C3A1H-09-RK
C3A1H-12-RK
C4A1H-03-RK
C4A1H-06-RK
C4A1H-09-RK
C4A1H-12-RK
C6A1H-03-RK
C6A1H-06-RK
C6A1H-09-RK
C6A1H-12-RK

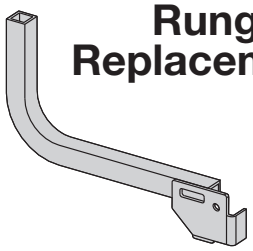
Verti-rack™ Rung Replacement Assembly

Cat. No.
C2AV-03-RK
C2AV-06-RK
C2AV-09-RK
C2AV-12-RK



- #10 self-drilling attachments included.

Multi-Tier Half-Rack™ Rung Replacement

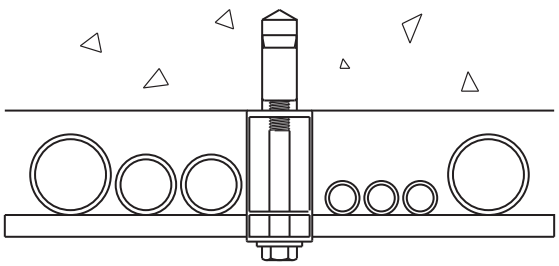


Cat. No.
C3AM-03-RK
C3AM-06-RK
C3AM-09-RK
C3AM-12-RK
C4AM-03-RK
C4AM-06-RK
C4AM-09-RK
C4AM-12-RK

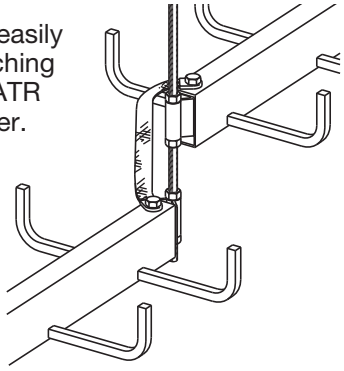
- #10 self-drilling attachments included.

Helpful Hints

- When installing cables near a ceiling, use straight rung DATA-TRACK and bolt to ceiling through splice holes or use “U” brackets (pg. 143).



- Vertical offsets can be easily field fabricated by attaching two trays to the same ATR with one above the other.



Note: Bonding jumper is required to maintain electrical continuity. (pg. 148)

Green = Fastest shipped items Black = Normal lead-time items Red = Normally long lead-time items

Cable Tray Fill

The National Electrical Code allows for 50% fill of ventilated cable tray for control or signal wiring (Article 318-9(b)). This rule requires that all the individual cable cross-sectional areas added up may not exceed one half the cable tray area. The cable tray area is equal to the width times the load depth.

In actual practice with Category 5 cables, however, the cable tray is completely full in order to reach the “50% cable fill”. See the picture below. The tray is completely full, but the sum of the cable area is only 50% of the tray area, due to the empty spaces between the cables.

Picture shows 12" wide Cent-R-Rail cable tray with 3" load depth.
The tray contains 520 4 UTP Category 5 cables (.21" OD).

This being the case, there is a practical limit to the amount of cables that can be installed in the tray, based on the trays’ width and load depth. The following chart shows the approximate cable weight that can be installed without exceeding the 50% fill rule:

Cable Tray Width	Cable Tray Fill Depth		
	3"	4"	6"
6"	7 lbs/ft Group 1	9 lbs/ft	13.5 lbs/ft
9"	10 lbs/ft	13.5 lbs/ft	20 lbs/ft
12"	13.5 lbs/ft	18 lbs/ft	27 lbs/ft
18"	20 lbs/ft	27 lbs/ft Group 2	41 lbs/ft
24"	27 lbs/ft	36 lbs/ft	50 lbs/ft

This chart was based on 50% fill of 4 UTP Category 5 cable (O.D. = .21", .026 lbs/ft).

This is not a maximum load rating for the tray, rather a practical guide to the amount of cable weight that can realistically be installed.

For analysis purposes, the loads are separated into 2 groups: less than 25 lbs/ft, and greater than 25 lbs/ft. These groups will be used in the eccentric load study on the following pages.

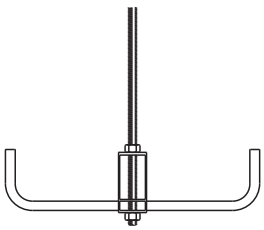
Data-Track™ Allowable Unbalanced Load Distribution

Group 1 - Loads under 25 lbs/ft	Loading Balance %*
Method 1 - 1/2" all thread rod with hex nuts on top and bottom of tray	65/35
Method 2 - 1/2" all thread rod with CZNH-CD clevis hanger	65/35
Method 3 - 1/2" all thread rod stiffened with B22 and SC228's (pg. 144)	80/20
Method 4 - using CZN-DRS-72 (pg. 144)	100/0

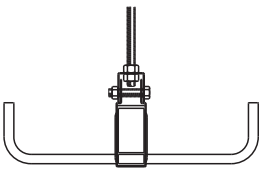
Group 2 - Loads between 25 lbs/ft and 50 lbs/ft	Loading Balance %*
Method 1 - 1/2" all thread rod with hex nuts on top and bottom of tray	60/40
Method 2 - 1/2" all thread rod with CZNH-CD clevis hanger	55/45
Method 3 - 1/2" all thread rod stiffened with B22 and SC228's (pg. 144)	65/35
Method 4 - using CZN-DRS-72 (pg. 144)	80/20

Failure was defined as a 6 degree horizontal tilt of the tray. Tests were performed on single sections of tray with a span of 12 ft between supports. Maximum hanger rod length tested was 6 ft. For study results refer to page 171.

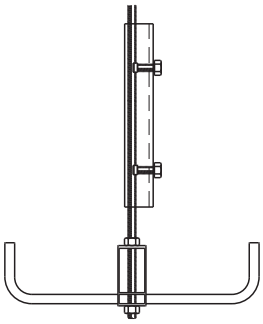
*Defined as percentage of total cable load allowed on one side of the tray.



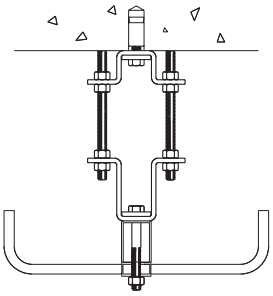
Method 1



Method 2



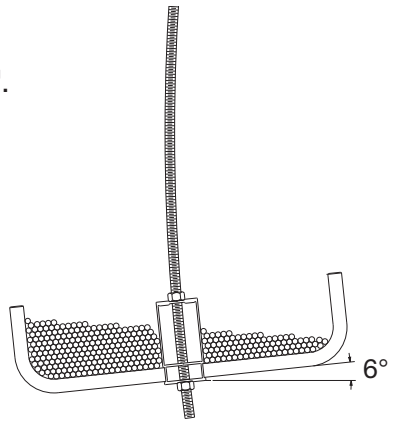
Method 3



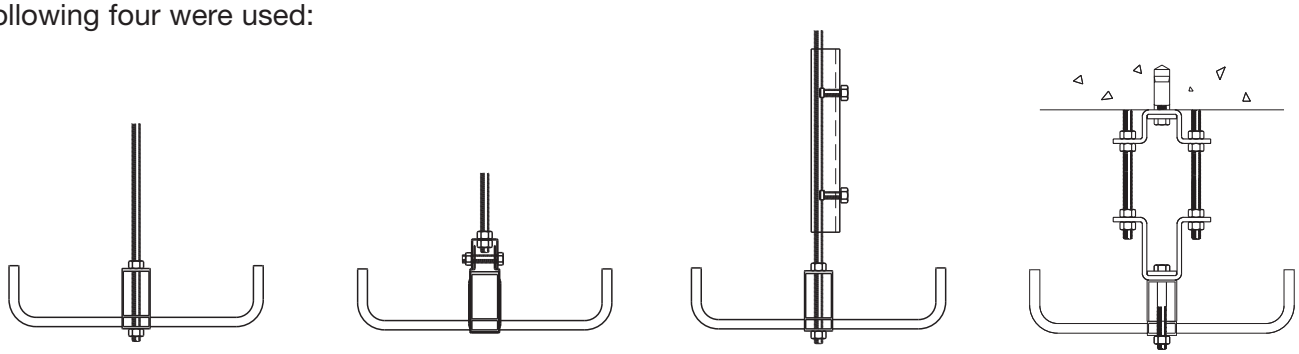
Method 4

Unbalanced Loading - The Study

To better understand uneven loading on center rail systems, Cooper B-Line ran a series of tests on Data-Track™. Tests were performed with supports on twelve foot centers using 1/2" threaded rod. The maximum allowable tilt was set at six degrees. This angle was chosen purely for aesthetic reasons. It is nowhere near structural failure, but the point at which it started to look unacceptable.



Center rail systems can be supported using different processes. For B-Line's study, the following four were used:



Method 1 Method 2 Method 3 Method 4

Method 1: 1/2" ATR passing through splice hangers (CAS-SB) with hex nuts on top and bottom.
Method 2: 1/2" ATR with clevis (CZNH-CD).
Method 3: 1/2" ATR reinforced with rod stiffener (B22 channel rod stiffener and SC228 hanger rod stiffener assembly).
Method 4: CZN-DRS-72 special purpose support assembly.

Combining the two loading groups and the four support methods, testing revealed the following:

Group 1-Under 25 lbs/ft	Loading Balance %*
Method 1	65/35
Method 2	65/35
Method 3	80/20
Method 4	100/0

Group 2 - 25 lbs/ft to 50 lbs/ft	Loading Balance %*
Method 1	60/40
Method 2	55/45
Method 3	65/35
Method 4	80/20

As a reminder, failure was defined as a 6° horizontal tilt. The supports were on 12 ft centers and the ATR drops were 6 ft. Cable loading was estimated for category 5 cable weighing .021 lbs/ft with a cross-sectional area of .0492 square inches. This information should be beneficial when considering eccentric loading and center rail systems.

*Defined as percentage of total cable load allowed on one side of the tray.

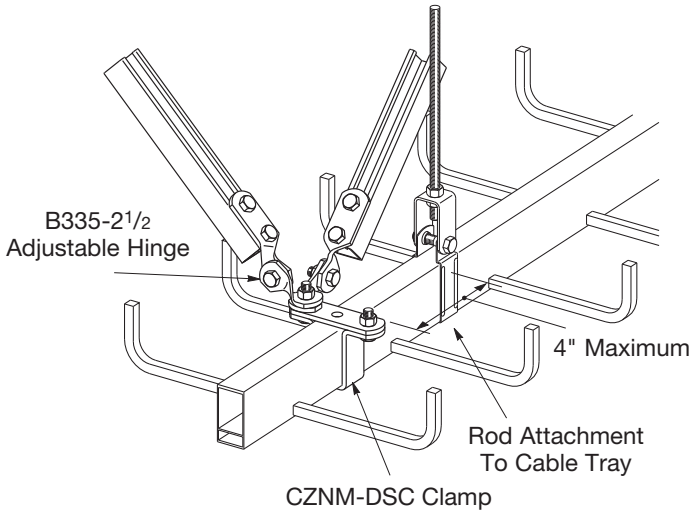
Seismic Restraint Systems

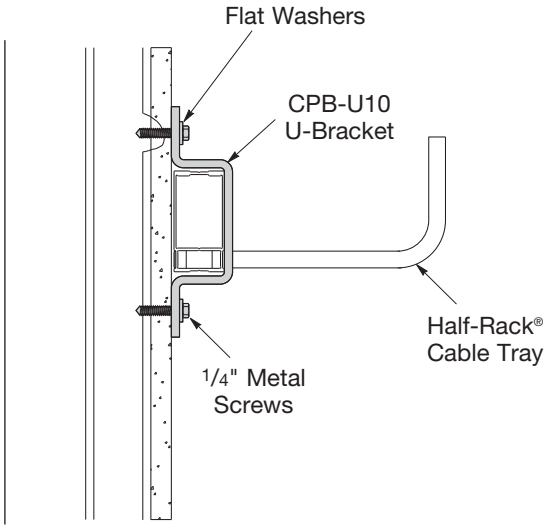
❑ **SRS-00 Seismic Restraints**

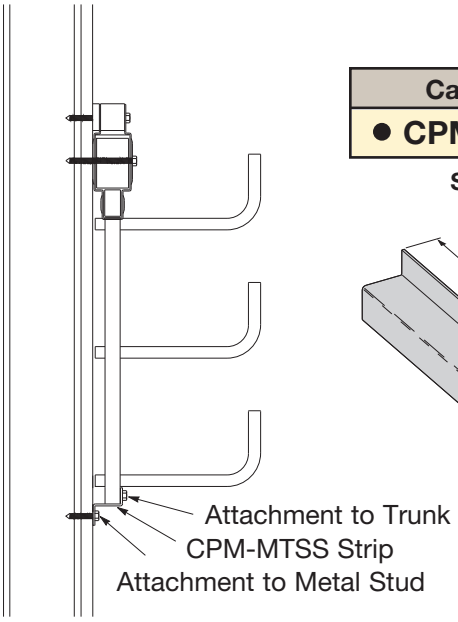
Multi-Directional bracing for electrical conduit, cable tray and mechanical piping systems. Standard mounting details and bracing schedules have been reviewed and stamped by a California structural engineer.

❑ **SRS-CR1 Cent-R-Rail Seismic Supplement**

Multi-Directional bracing for Data-Track™, Half-Rack™ and Multi-Tier Half-Rack™ Systems. Standard mounting details and bracing schedules have been reviewed and stamped by a California structural engineer.

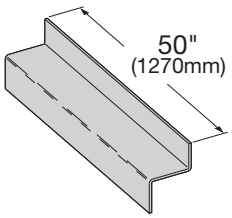






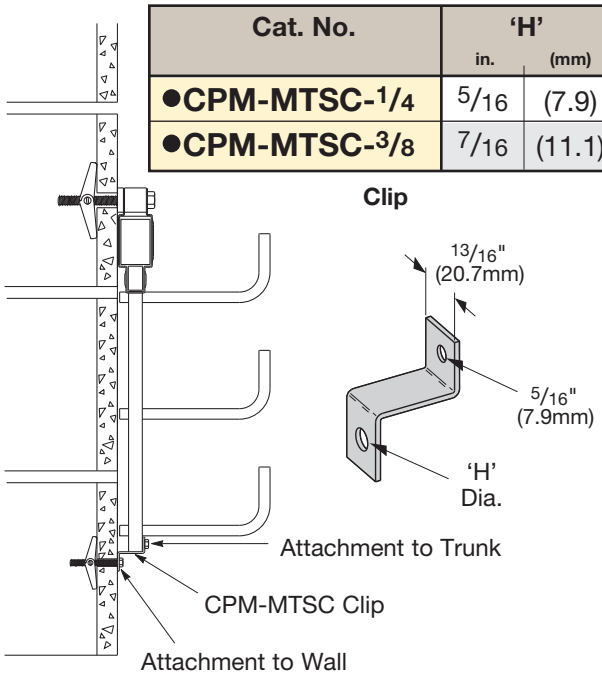
Cat. No.
● CPM-MTSS

Strip



Cat. No.	'H' in.	'H' (mm)
●CPM-MTSC-1/4	5/16	(7.9)
●CPM-MTSC-3/8	7/16	(11.1)

Clip



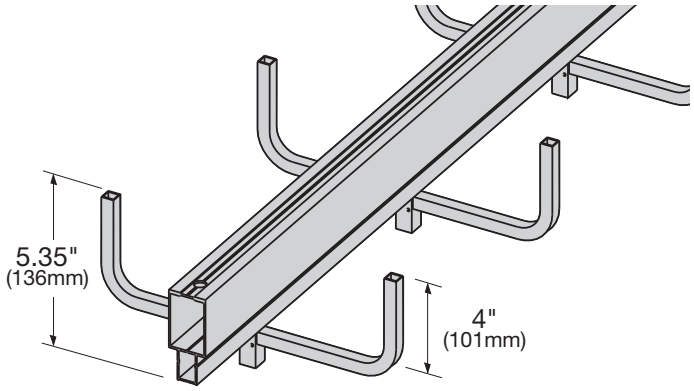
● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

New - Verti-Rack™
4" Fill Depth to 24" Wide

Single Tier

Cat. No.
● C4A1V12-24-144

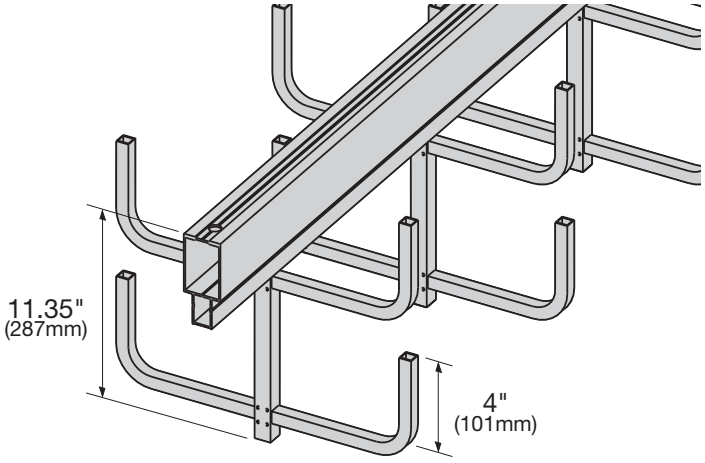
- Expandable with Add-A-Rung
- Center rail loading to NEMA 12C
- UL Classified
- Widths available: 6", 9", 12", 18" and 24"
- Lengths: 120" or 144"



Two Tier

Cat. No.
● C4A2V12-24-144

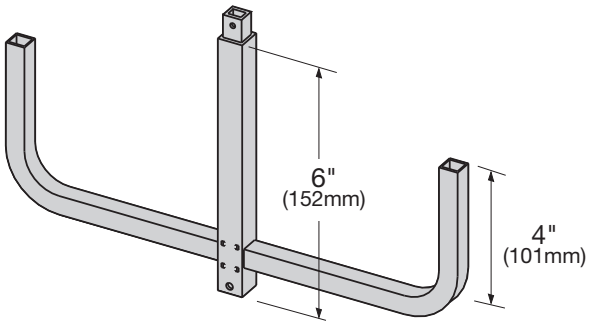
- Center rail loading to NEMA 12C
- UL Classified
- Widths available: 6", 9", 12", 18" and 24"
- Lengths: 120" or 144"



Add-A-Rung

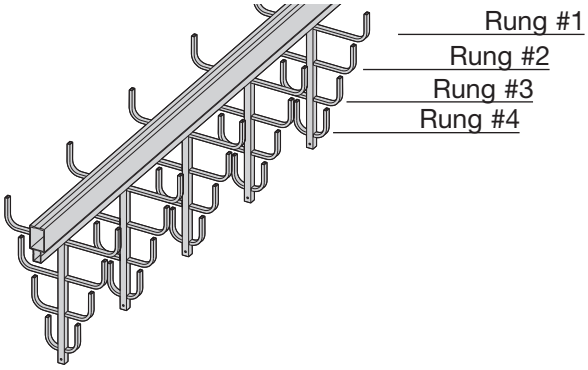
Cat. No.
● CAR-1V424

- Attaches to bottom of existing tray
- Shipped with required hardware



● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Variable Width Verti-Rack™



****Variable Width Verti-Rack® 4 Tier Example**

C2A4V12-12-09-06-03-144

Width

Rung #1 = 12"
Rung #2 = 09"
Rung #3 = 06"
Rung #4 = 03"

Rung #1 being closest to the center rail

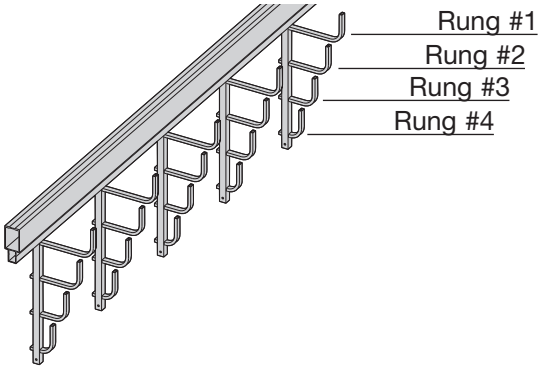
Variable Width Verti-Rack Straight Section Part Numbering

C2 A 4V 12 - 12-09-06-03 - 144

Series	Material	Type	Rung Spacing	Width**	Length*
● C0 = Straight Rung ● C2 = 2" Loading Depth	● A = Aluminum	● 2V = 2 tier ● 3V = 3 tier ● 4V = 4 tier ● 5V = 5 tier ● 6V = 6 tier	● 06 = 6" ● 09 = 9" ● 12 = 12" (Specials available)	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"	● 144 = 144" ● 120 = 120"

* Actual tray lengths are 142" and 118" to allow for splice hangers

Variable Width Multi-Tier Half-Rack™



****Variable Width Multi-Tier Half-Rack® 4 Tier Example**

C3A4M09-12-09-06-03-144

Width

Rung #1 = 12"
Rung #2 = 09"
Rung #3 = 06"
Rung #4 = 03"

Rung #1 being closest to the center rail

Variable Width Multi-Tier Half-Rack Straight Section Part Numbering

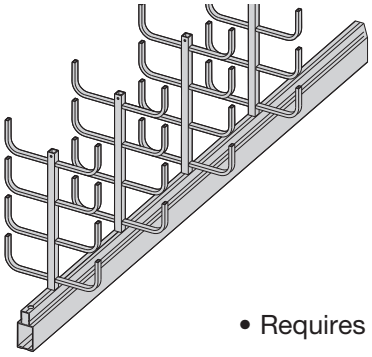
C3 A 4M 09 - 12-09-06-03 - 144

Series	Material	Type	Rung Spacing	Width**	Length*
● C0 = Straight Rung ● C3 = 3" Loading Depth ● C4 = 4" Loading Depth	● A = Aluminum	● 2M = 2 tier ● 3M = 3 tier ● 4M = 4 tier (Specials available)	● 06 = 6" ● 09 = 9" ● 12 = 12"	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"	● 144 = 144" ● 120 = 120"

* Actual tray lengths are 142" and 118" to allow for splice hangers

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items

Inverted Verti-Rack™



Used as a floor mounted system

• Requires splice CAS-SBVI

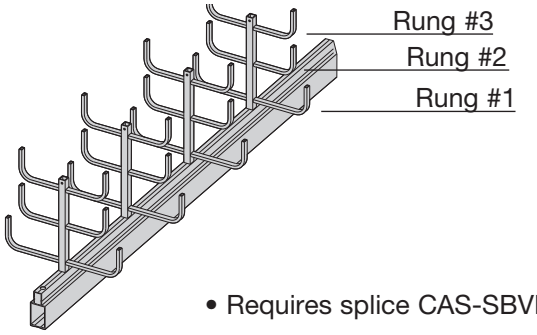
Inverted Verti-Rack Straight Section Part Numbering

C2 A 4VI 12 - 09 - 144

Series	Material	Type	Rung Spacing	Width**	Length*
● C0 = Straight Rung ● C2 = 2" Loading Depth	● A = Aluminum	● 2VI = 2 tier ● 3VI = 3 tier ● 4VI = 4 tier ● 5VI = 5 tier ● 6VI = 6 tier	● 06 = 6" ● 09 = 9" ● 12 = 12" (Specials available)	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"	● 144 = 144" ● 120 = 120"

* Actual tray lengths are 142" and 118" to allow for splice hangers

Inverted Variable Width Verti-Rack



Used as a floor mounted system

• Requires splice CAS-SBVI

****Inverted Variable Width Verti-Rack 3 Tier Example**

C2A3VI12-12-09-09-144

Width

Rung #1 = 12"
Rung #2 = 09"
Rung #3 = 09"

Rung #1 being closest to the center rail

Inverted Variable Width Verti-Rack Straight Section Part Numbering

C2 A 3VI 12 - 12-09-09 - 144

Series	Material	Type	Rung Spacing	Width**	Length*
● C0 = Straight Rung ● C2 = 2" Loading Depth	● A = Aluminum	● 2VI = 2 tier ● 3VI = 3 tier ● 4VI = 4 tier ● 5VI = 5 tier ● 6VI = 6 tier	● 06= 6" ● 09= 9" ● 12=12" (Specials available)	● 03 = 3" ● 06 = 6" ● 09 = 9" ● 12 = 12"	● 144 = 144" ● 120 = 120"

* Actual tray lengths are 142" and 118" to allow for splice hangers

● Green = Fastest shipped items ● Black = Normal lead-time items ● Red = Normally long lead-time items