I-BEAM LADDER

Atkore™

US Tray

Atkore™
US Tray

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Made in the U.S.A.

Atkore™
US Tray

US Tray's Aluminum I-BEAM tray provides a heavy duty welded cable tray for clients requiring I-BEAM side rails. It is perfect for long span locations and offers best in class loading properties. I-BEAM is manufactured in 2 locations: Atlanta and Houston.

Manufacturing:

Atkore
560 Wharton Circle, Suite E
Atlanta, GA 30336

Atkore
11539 North Houston-Rosslyn Road
Houston, TX 77008

- Our Atlanta facility manufactures the full line of NEMA classes 8A-20C++
- Our Houston facility manufactures NEMA 20C I-BEAM
- Contact your local sales representative for more information. Our rep locator tool can be found at atkore.com/ustray.

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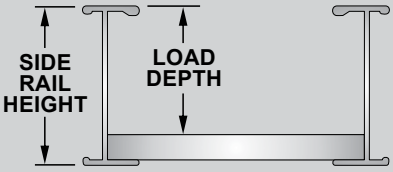
US Tray

I-Beam Ladder

Cable Tray Straight Sections - Aluminum

Cable Tray Cross-Section

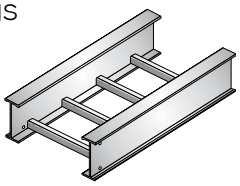


- Extruded aluminum alloy 6063-T6
- Side rails are I-Beam profiles
- Rungs are 1⅛ square tubes with open slot facing down
- Arc-welded construction
- UL Classified grounding
- UL Certified load capacities
- NEMA, CSA and NEC Compliant
- Necessary Splice Plates with hardware are included with all straight sections and fittings
- Made in the USA

Side Rail Height	Load Depth	NEMA Load Class	NEMA Safe Load Load - Span	CSA Load Class	System Number	Fittings		Standard Tray Length	UL Area	Amp Rating
						Class	Prefix			
4"	3"	12B	81 lbs/ft - 12' span	C	A412B	1	A41	12'	0.60 in²	1000
		12C	100 lbs/ft - 12' span	D-3M	A412C	1	A41	12',24'	0.60 in²	1000
		20A	58 lbs/ft - 20' span	D-6M	A420A	2	A42	12',20'	1.50 in²	1600
		20B	85 lbs/ft - 20' span	E-6M	A420B	2	A42	20', 24'	1.50 in²	1600
5"	4"	12B	78 lbs/ft - 12' span	C	A512B	1	A51	12'	1.00 in²	1200
		20A	57 lbs/ft - 20' span	D-6M	A520A	2	A52	12', 20'	1.50 in²	1600
		20B	80 lbs/ft - 20' span	E-6M	A520B	2	A52	20'	1.50 in²	1600
		20C	115 lbs/ft - 20' span	E-6M	A520C	2	A52	20'	1.50 in²	1600
6"	5"	12B	89 lbs/ft - 12' span	D-3M	A612B	1	A61	12'	1.00 in²	1200
		12C	105 lbs/ft - 12' span	D-3M	A612C	1	A61	12'	1.00 in²	1200
		20A	62 lbs/ft - 20' span	D-6M	A620A	2	A62	12', 20'	1.50 in²	1600
		20B	80 lbs/ft - 20' span	E-6M	A620B	2	A62	20', 24'	1.50 in²	1600
		20C	109 lbs/ft - 20' span	E-6M	A620C	2	A62	12', 20', 24'	2.00 in²	2000
		20C+	104 lbs/ft - 24' span	E-6M	A624C	3	A63	20', 24'	2.00 in²	2000
		20C++	128 lbs/ft - 25' span	E-6M	A620D	3	A63	20', 25', 30'	2.00 in²	2000
7"	6"	12C	100 lbs/ft - 12' span	D-3M	A712C	1	A71	12'	1.00 in²	1200
		20B	81 lbs/ft - 20' span	E-6M	A720B	2	A72	20'	2.00 in²	2000
		20C	108 lbs/ft - 20' span	E-6M	A720C	2	A72	20', 24'	2.00 in²	2000
		20C+	111 lbs/ft - 24' span	E-6M	A720D	3	A73	20', 25'	2.00 in²	2000
		20C++	105 lbs/ft - 30' span	E-6M	A720E	3	A73	20', 30'	2.00 in²	2000
8"	7"	20C+	121 lbs/ft - 30' span	E-6M	A820D	4	A84	20', 30'	2.00 in²	2000
		20C++	114 lbs/ft - 40' span	E-6M	A820E	4	A84	30', 40'	2.00 in²	2000

Standard Ladders & Ventilated/Trof

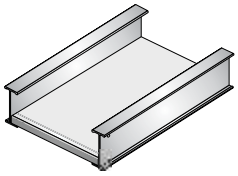
- 1⅛" Square tubular rungs
- 6", 9", 12" Rung spacings
- 5 Rung spacing for trof
- Rungs have large radius corners
- Optional rung designs available



BOTTOM TYPE	RUNG SPACING
06	6" RUNG SPACING
09	9" RUNG SPACING
12	12" RUNG SPACING
VT	5" RUNG SPACING

Solid Bottoms

- Solid, 0.040" flat sheet on top of ladder rungs on 12" centers
- Bottoms can be located under rungs
- Bottoms can be located on top of and under rungs (double bottom)
- Heavier bottoms available



BOTTOM TYPE	BOTTOM LOCATION
SF	SOLID FLAT BOTTOM ON TOP OF RUNGS
SFU	SOLID FLAT BOTTOM UNDER RUNGS

All US Tray aluminum cable trays are classified by Underwriters Laboratories as suitable for use as equipment grounding conductors per NEC 392 and are certified by UL to meet all requirements of CSA Std. C22.2 No. 126. All NEMA and CSA safe load data is based on destruction load tests that were witnessed and certified to be accurate by Underwriters Laboratories.

I-Beam Ladder

Cable Tray Straight Sections - Aluminum

US Tray Part Numbering System

- Non-standard lengths and widths are available; consult factory for lead times

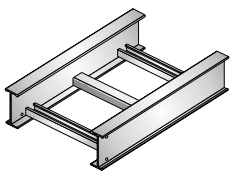
Example: **A620C - 09(*) - SL20 - 24 - S**

- **CableTray System Number** — Select from chart below
- **Bottom Type**
  - **06** - 6" Rung Spacing
  - **09** - 9" Rung Spacing
  - **12** - 12" Rung Spacing
  - **VT** - Ventilated/Trough
  - **SF** - Solid Flat Bottom
  - **SFU** - Solid Flat Bottom, *Under* Rungs
- **Optional Rungs and Bottoms**
  - **BLANK** - Standard
  - Insert 2-Digit **Bottom Code** (See Below) to specify optional rungs and bottoms
- **Item Code** — **SL** Straight Length
- **Length**
  - **10** - 10'-0"
  - **12** - 12'-0"
  - **20** - 20'-0"
  - **24** - 24'-0"
  - **25** - 25'-0"
  - **30** - 30'-0"
  - **40** - 40'-0"
- **Width**
  - **06** - 6"
  - **09** - 9"
  - **12** - 12"
  - **18** - 18"
  - **24** - 24"
  - **30** - 30"
  - **36** - 36"
- **Hardware Finish**
  - **G** - Geomet Plated Steel
  - **S** - Stainless Steel 316

Side Rail Height	Load Depth	NEMA Load Class	CSA Load Class	System Number	Safe Load Data (Lbs/Ft Uniformly Distributed, 1.5 Safety Factor)															
					6	8	10	12	14	16	18	20	22	24	25	26	28	30	35	40
4"	3"	12B	C	A412B	324	182	117	81												
		12C	D-3M	A412C	400	225	144	100												
		20A	D-6M	A420A	644	363	232	161	118	90	72	58								
		20B	E-6M	A420B	649	531	340	236	173	132	105	85								
5"	4"	12B	C	A512B	312	176	112	78												
		20A	D-6M	A520A	633	356	228	158	116	89	70	57								
		20B	E-6M	A520B	649	500	320	222	163	125	99	80								
		20C	E-6M	A520C	649	649	460	319	234	179	142	115								
6"	5"	12B	D-3M	A612B	356	200	128	89												
		12C	D-3M	A612C	420	236	151	105												
		20A	D-6M	A620A	649	387	248	172	126	96	77	62								
		20B	E-6M	A620B	649	500	320	222	163	125	99	80								
		20C	E-6M	A620C	649	649	436	303	222	170	135	109								
		20C+	E-6M	A624C	649	649	600	416	306	234	185	150	124	104		96				
		20C++	E-6M	A620D	649	649	649	555	408	313	247	200	165	139		128				
7"	6"	12C	D-3M	A712C	400	225	144	100												
		20B	E-6M	A720B	649	506	324	225	165	127	100	81								
		20C	E-6M	A720C	649	649	432	300	220	169	133	108								
		20C+	E-6M	A720D	649	649	639	444	326	249	197	161	132	111						
		20C++	E-6M	A720E	649	649	649	649	482	369	291	236	195	164	151	120	105	105		
8"	7"	20C+	E-6M	A820D	800	800	800	756	555	425	336	272	225	189	174	161	138	121		
		20C++	E-6M	A820E	800	800	800	800	800	712	562	456	376	316	292	269	232	203	149	114

Strut Rungs

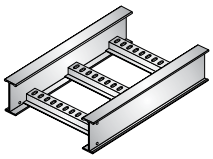
- Strut profile accepts standard spring nuts with short springs for added cable clamping options
- Heavy-duty for extreme loads
- Extra wide 1⅝" cable support
- Standard rung for 8" high trays



BOTTOM CODE	RUNG ORIENTATION
SA	SLOTS ALTERNATE FACING UP/DOWN
SD	SLOTS FACE DOWN
SU	SLOTS FACE UP

Marine Rungs (Slotted or Non-Slotted)

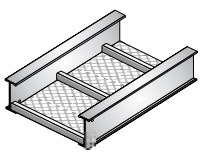
- Hat-shaped rungs have 0.31" x 0.75" round slots on 1" centers
- Accommodates stainless steel banding in marine applications
- Extra wide 1¾" cable support
- Can be provided without slots



BOTTOM CODE	RUNG DESIGN
MR	MARINE RUNG (WITH SLOTS)
HR	HAT RUNG (NO SLOTS)

Expanded Metal Bottoms

- ½" - 0.081" expanded, flattened aluminum sheet under rungs
- 0.25" x 1" bottom openings
- Blocks birds, rodents, vandals
- Maintains open-air, ladder rating



BOTTOM CODE	BOTTOM DESIGN
EM	1/2-0.081" EXPANDED METAL UNDER LADDER RUNGS

I-Beam Ladder

NEMA and CSA Span/Load Classes

Span/Load Class Designations

Commonly called the Load Class, this defines the load-carrying capability of the tray for a specific support span distance. The design and cost of the cable tray is greatly affected by this designation. In order to determine the most appropriate and economical system, a class should be selected that reflects the actual total working load and support span for each application.

Concentrated Static Loads

Some applications may require the cable tray to support the weight of a single, dead object in addition to the cable loads. Specifications typically require this to be applied at the mid-point of the span between the tray supports, which is the worst-case location. To incorporate this in the tray design the following formula can be used to convert the concentrated static load in pounds to an equivalent uniform load (W) in pounds per foot. That equivalent load can then be combined with the weight of cables, tray contents, and other loads that are also expressed in lbs/ft to determine the total Working Load.

Formula

$$W_e = \frac{2 \times (\text{concentrated static load, lbs})}{\text{support span length, ft}}$$

Note: This calculation is based on the load being applied at the center of the tray in the middle of a rung or bottom. If the specification requires the concentrated static load to be applied on top of one side rail, then the equivalent uniform load will be 2 times the result of this calculation.

Example

A cable tray is to be supported on 20' spans. It shall contain 50 lbs/ft of cables and support 15 lbs/ft of snow load. It is also required to support a 250 pound concentrated static load applied in the center of the tray width. Using the calculation above, the concentrated static load is converted to an equivalent uniform load as follows: 2 x 250 lbs / 20 ft = 25 lbs/ft. The Total Working Load will be the combination of all 3 loads, expressed in lbs/ft:

Cables	40 lbs/ft
Snow	+15 lbs/ft
Concentrated Load	+25 lbs/ft
Total Working Load:	80 lbs/ft

Refer to the chart below. With a support span of 20' and a total working load of 80 lbs/ft, a NEMA Class 20B tray rated at 75 lbs/ft will not be adequate. A NEMA Class 20C tray, rated at 100 lbs/ft, will be required.

Working Load

The total load supported by the cable tray, uniformly distributed. This will be the combined weight of all of the cables or tray contents, any environmental loads (snow, ice, dust) and any concentrated static loads.

Support Span

The maximum distance between the tray supports.

NEMA Load Classes

A number (support span in feet) combined with a letter (load capacity: A=50, B=75 and C=100 Lbs/Ft). Defined in the National Electrical Manufacturers Assoc. NEMA Standard VE1.

CSA Load Classes

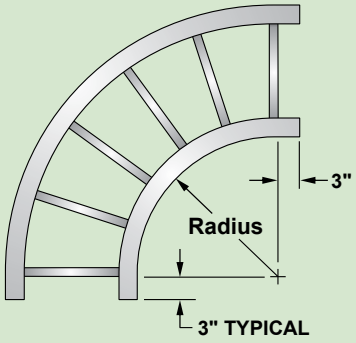
A single letter (A,B,C,D,E) designates the support span and load capacity per Canadian Standards Association CSA Standard C22.2, No. 126.

Span/Load Class Designations Per NEMA Standard VE1 / CSA C22.2 No. 126

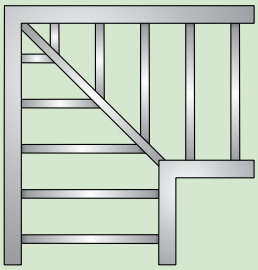
Working Load lbs/ft (kg/m)	Support Span, Feet (Meters)					
	5 (1.5)	8 (2.4)	10 (3.0)	12 (3.6)	16 (4.9)	20 (6.0)
25 (37)	5AA	8AA	10AA	12AA		20AA
45 (67)						D*
50 (74)	5A	8A		12A	16A	20A
65 (97)			C			
75 (112)		8B		12B	16B	E* or 20B
100 (149)		8C		12C	16C	20c
120 (179)			D*			
200 (299)			E*			

* CSA Classes D and E are applicable to both 3.0 and 6.0 meter support spans. The appropriate support span should also be included when specifying these classes (example: D-3M).

I-Beam Ladder



Radius Fittings



Square-Corner Fittings

Cable Tray Fittings - Aluminum

Material
All fittings are aluminum with arc-welded construction.

Side Rails
Fitting side rails are I-Beams with overall dimensions similar to straight tray sections.

Rungs and Bottoms
Rung and Bottom designs are identical to similar straight cable tray sections.

Tangents
All fittings have 3 tangents (flats) at the end of all curved side rails to accommodate splice plate connectors.

Radius
Standard NEMA-VE1 12", 24", and 36" available for all curved fittings. 48" radius and other custom designs are available, consult factory.

Square Corners
90 Degree Horizontal Elbows, Horizontal Tees, and Horizontal Crosses are available with square corners (0" radius). The 6" through 18" square-corner fittings are designed to align with the centerline of 24" square panels of raised-floor systems.

Splice Plates
All elbows are supplied with one pair of standard splice plates with hardware at no charge. WYE fittings and tees include 2 pairs and crosses include 3 pairs with hardware at no charge.

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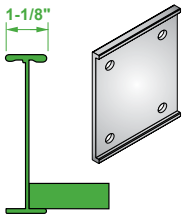
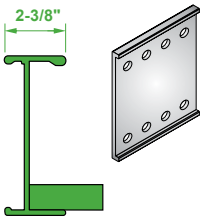
Class 1 Fittings

- NEMA Class 12B & 12C Trays
- 1⅛" Wide Side Rail Flanges
- 4-Bolt Connector Plates
- 3" Tangents



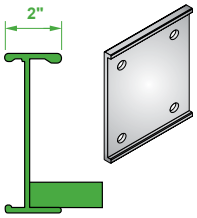
Class 3 Fittings

- NEMA Classes beyond 20C
- 2 ⅜" Wide Side Rail Flanges
- 8-Bolt Connector Plates
- 3" Tangents



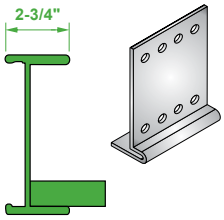
Class 2 Fittings

- NEMA Class 20A, 20B, 20C Trays
- 2" Wide Side Rail Flanges
- 4-Bolt Connector Plates
- 3" Tangents



Class 4 Fittings

- 8 High Long-Span System A820E
- 2 ¾" Wide Side Rail Flanges
- 8-Bolt Wrap-Around Connectors
- 3" Tangents



Catalog #'s for Horizontal and Vertical Elbows, Standard Horizontal Tees, and Crosses

Material **A** - Aluminum

Catalog # Example: **A62 - 09 (*) - 90H 24 - 36 - G**

Side Rail Height
- **4** - 4" High
- **5** - 5" High
- **6** - 6" High
- **7** - 7" High
- **8** - 8" High

Fitting Class
- **1** - NEMA Classes 12B & 12C
- **2** - NEMA Classes 20A, 20B & 20C
- **3** - NEMA Classes exceeding 20C
- **4** - 8" High System A820E

Bottom Type
- **06** - 6" Rung Spacing
- **09** - 9" Rung Spacing
- **12** - 12" Rung Spacing
- **VT** - Ventilated/Trough
- **SF** - Solid Flat Bottom
- **SFU** - Solid Flat Bottom, *Under* Rungs

Optional Rungs and Bottoms
- **BLANK** - Standard Design, No Options
- Insert 2-Digit Bottom Code (See Page 1) to specify optional rungs and bottoms

Item Code
Insert 2 or 3-digit Item Code to specify Fitting type

Radius
- **12** - 12"
- **24** - 24"
- **36** - 36"
- **00** - Square Corners and Adjustable Elbows (HAE)

Width 1
- **06** - 6"
- **09** - 9"
- **12** - 12"
- **18** - 18"
- **24** - 24"
- **30** - 30"
- **36** - 36"

Hardware Finish
- **G** - Geomet Plated Steel
- **S** - Stainless Steel Type 316

Non-standard lengths and widths are available; consult factory for lead times

Catalog #'s for Reducer Fittings, Reducing and Expanding Tees, Reducing Crosses

Material **A** - Aluminum

Catalog # Example: **A73 - 09 (*) - HTR 24 - 36 - 18 - S**

Side Rail Height
- **4** - 4" High
- **5** - 5" High
- **6** - 6" High
- **7** - 7" High
- **8** - 8" High

Fitting Class
- **1** - NEMA Classes 12B & 12C
- **2** - NEMA Classes 20A, 20B & 20C
- **3** - NEMA Classes exceeding 20C
- **4** - 8" High System A820E

Bottom Type
- **06** - 6" Rung Spacing
- **09** - 9" Rung Spacing
- **12** - 12" Rung Spacing
- **VT** - Ventilated/Trough
- **SF** - Solid Flat Bottom
- **SFU** - Solid Flat Bottom, *Under* Rungs

Optional Rungs and Bottoms
- **BLANK** - Standard Design, No Options
- Insert 2-Digit Bottom Code (See Page 1) to specify optional rungs and bottoms

Item Code
Insert 2, 3 or 4-digit Item Code to specify Fitting type

Radius
- **12** - 12"
- **24** - 24"
- **36** - 36"
- **00** - Square Corners
- **BLANK** - Reducer Fittings

Width W1
- **06** - 6"
- **09** - 9"
- **12** - 12"
- **18** - 18"
- **24** - 24"
- **30** - 30"
- **36** - 36"

Width W2
- **06** - 6"
- **09** - 9"
- **12** - 12"
- **18** - 18"
- **24** - 24"
- **30** - 30"
- **36** - 36"

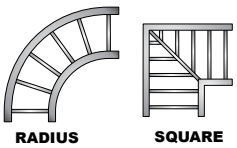
Hardware Finish
- **G** - Geomet Plated Steel
- **S** - Stainless Steel Type 316

Non-standard lengths and widths are available; consult factory for lead times

I-Beam Ladder

Horizontal Elbows

90° Elbow
Item Code 90H

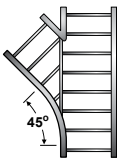


60° Elbow
Item Code 60H

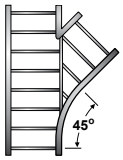
45° Elbow
Item Code 45H

30° Elbow
Item Code 30H

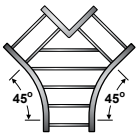
WYE - Left
Item Code HYL



WYE - Right
Item Code HYR

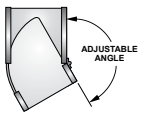


WYE Straight
Item Code HYS



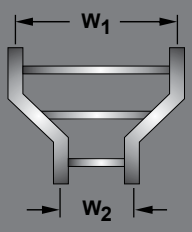
Adjustable Elbow
Item Code HAE

- No Radius
- Max. 35° bend

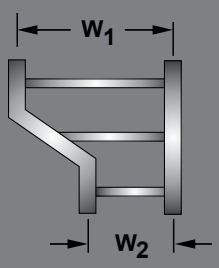


Reducers

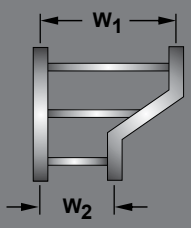
Straight
Item Code RS



Left - Hand
Item Code RL



Right - Hand
Item Code RR

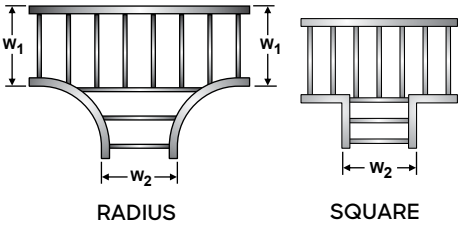


I-Beam Ladder

Tees and Crosses

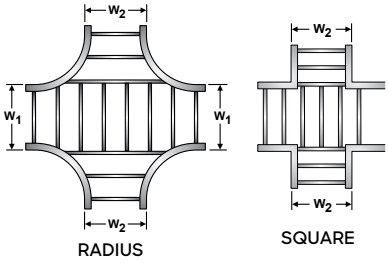
Horizontal Tee

Standard Tee W1 = W2	HT
Reducing Tee W1 > W2	HTR
Expanding Tee W1 < W2	HTE



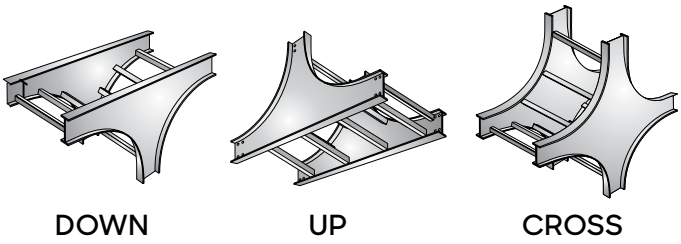
Horizontal Cross

Standard Cross W1 = W2	HC
Reducing Cross W1 > W2	HCR



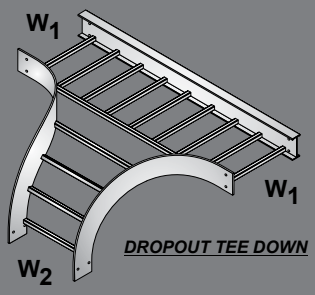
Vertical Tee

Vertical Tee Down	VTD
Vertical Tee Up	VTU
Vertical Cross	VC



Dropout Tee with Vertical Riser Tap

Standard Tee W1 = W2	↓DTD / ↑DTU
Reducing Tee W1 > W2	↓DTDR / ↑DTUR
Expanding Tee W1 < W2	↓DTDE / ↑DTUE

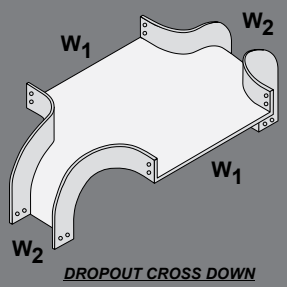


Dropout Cross with Vertical Riser Taps

Standard Cross W1 = W2	↓DCD / ↑DCU
Reducing Cross W1 > W2	↓DCDR / ↑DCUR
Expanding Cross W1 < W2	↓DCDE / ↑DCUE

- Horizontal Cross combined with two vertical riser taps
- Ideal for tight spaces
- Dropout Cross Down (shown) - Taps turn down vertical
- Dropout Cross Up (not shown) - Taps turn up vertical
- Can be customized with special widths and radius

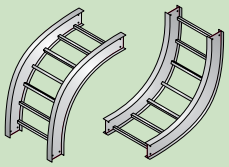
Note: Dropout Tee/Cross Type ↓ = Down / ↑ = Up



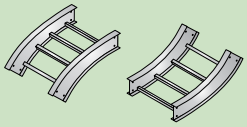
I-Beam Ladder

Vertical Elbows

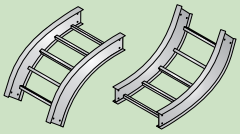
90° Vertical Elbow
Vertical Outside 90VO
Vertical Inside 90VI



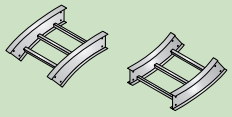
45° Vertical Elbow
Vertical Outside 45VO
Vertical Inside 45VI



60° Vertical Elbow
Vertical Outside 60VO
Vertical Inside 60VI



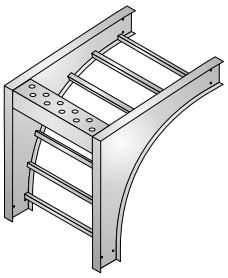
30° Vertical Elbow
Vertical Outside 30VO
Vertical Inside 30VI



90° Cable Support Elbow (Vertical Outside)

Item Code CSE

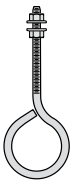
- Equivalent to standard 90° vertical outside elbow with additional bracing
- Square outer corners
- Angle brace on top with holes for ⅜" dia. fasteners
- Attach eye bolts or hooks to support Kellums cable grips and relieve tension in long vertical cable drops
- Also provides alternatives to support elbow from above



Eye Bolt Kit

Catalog # F-EB-38-5-S

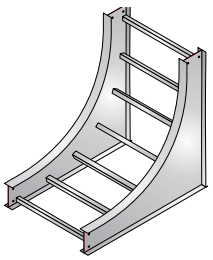
- ⅜" Dia. x 5 Long Eye Bolt and (2) ⅜" Flanged Hex Nuts
- Stainless Steel
- Use in Cable Support Elbow to attach Kellums cable grips



90° Cable Support Elbow (Vertical Inside)

Item Code BSE

- Equivalent to standard vertical inside elbow with additional bracing
- Square outer corners
- Provides alternatives to support the elbow from below



I-Beam Ladder

Dividers

Straight & Flexible Catalog Numbers:

Example: **DS - A6 - 12**

Item Code	Side Rail Height	Length
DS - Straight, Standard **DSH** - Straight, Heavy Duty **DH** - Horizontal, Flexible	**4** - 4" High **5** - 5" High **6** - 6" High **7** - 7" High **8** - 8" High	Straight Sections: **10** - 10' **12** - 12' Horizontal Flexible: **6** - 6'

Vertical Elbow Divider Catalog Numbers:

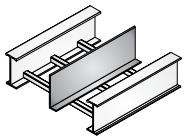
Example: **DF - A6 - 45VO24**

Item Code	Side Rail Height	Elbow Item Code	Radius
DF - Vertical Elbow, Standard **DFH** - Vertical Elbow, Heavy Duty	**4** - 4" High **5** - 5" High **6** - 6" High **7** - 7" High **8** - 8" High	**90VO** - 90° Vertical Outside **90VI** - 90° Vertical Inside **60VO** - 60° Vertical Outside **60VI** - 60° Vertical Inside **45VO** - 45° Vertical Outside **45VI** - 45° Vertical Inside **30VO** - 30° Vertical Outside **30VI** - 30° Vertical Inside	**12** - 12" **24** - 24" **36** - 36"

Straight

Item Code DS

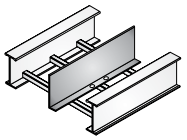
- Supplied with (4) #10 self-drilling, stainless steel screws



Straight - Heavy Duty

Item Code DSH

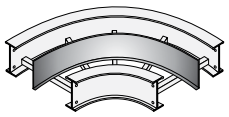
- Includes holes for installation with U-Bolt Divider Clamps (ordered separately)



Horizontal Flexible

Item Code DH

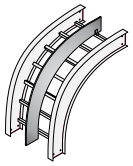
- Supplied with (3) #10 self-drilling, stainless steel screws



Vertical Elbow

Item Code DF
Item Code DFH

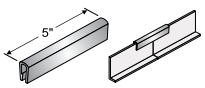
- Standard: Supplied with (2) #10 self-drilling, stainless steel screws
- Heavy-Duty: Includes holes for installation with U-Bolt Divider Clamps (ordered separately)



Divider Splice

Catalog # DVS-5 (Length = 5)
Catalog # DVS-(L)* (L* = Inches)

- Flexible PVC with internal metal clips
- Align and protect divider ends
- Can be cut to custom lengths
- Cope offers 5", 144" and 100' as standard



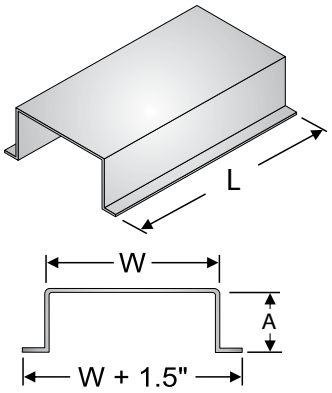
I-Beam Ladder

Dividers

Cable Bridge for Divided Tees and Crosses

Catalog # CB - A (H)*-(W) *-(L)*

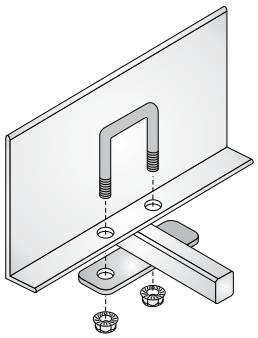
- Provides support for vertical cable separation where cables cross in divided Horizontal Tees and Crosses
- Dimensions can be customized to meet specific project requirements. Includes (6) #10 x 1" long self-drilling, stainless steel screws
- Standard height A is typically ½ of the tray interior load depth
- Standard length (L)* is typically 20"
- (H)* Insert tray side rail height in inches (4, 5, 6, 7, 8)
- (W)* Insert Bridge width in inches (03, 4.5, 06, 09, 12, 15, 18, 24, 30)
- (L)* Insert Bridge length in inches (05, 08, 12, 18, 20, 24, 27, 30, 36)



U-Bolt Divider Clamp Kit

Catalog # DHC-A-S

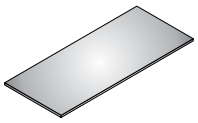
- Heavy-duty for high winds
- Install on 36"-48" centers (same as Tek screws in standard configuration)
- Includes U-Bolt, alum. plate and (2) ¼" flanged hex nuts
- Bolt and nuts are type 316 Stainless Steel



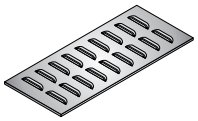
I-Beam Ladder

Covers

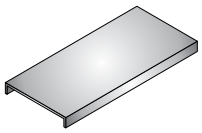
Flat, Non-Flanged, Solid
Cover System FNS



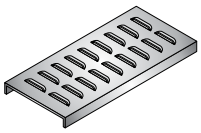
Flat, Non-Flanged, Ventilated
Cover System FNV



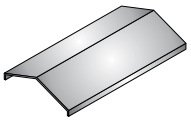
Flat, Flanged, Solid
Cover System FFS



Flat, Flanged, Ventilated
Cover System FFV



Peaked 20°, Flanged, Solid
Cover System PFS



Straight Cover Catalog Numbers:

Example: **AC - FFS - SL12 - 24 - 125**

Material	Cover System	Item Code	Length	Width	Thickness
AC Aluminum Cover	**FNS** **FFS** **FNV** **FFV** **PFS**	**SL** Straight Length	Standard: **06** - 6'-0" **12** - 12'-0" Non-standard lengths are available; consult factory for lead times	**06** - 6" **09** - 9" **12** - 12" **18** - 18" **24** - 24" **30** - 30" **36** - 36"	**040** - 0.040" (Standard) **Alternates:** **063** - 0.063" **080** - 0.080" **090** - 0.090" **125** - 0.125" **188** - 0.188"

Fitting Cover Catalog Numbers:

Example: **AC - FFS - 90VO12 - 18 - 125 - 6**

Material	Cover System	Item Code	Radius	Width	Thickness	Side Rail Height
AC Aluminum Cover	**FNS** **FFS** **FNV** **FFV** **PFS**	Fitting Item Code Pages 18 & 21	**00** - Square **12** - 12" **24** - 24" **36** - 36" **OR** **Reducer Width W1**	**06** - 6" **09** - 9" **12** - 12" **18** - 18" **24** - 24" **30** - 30" **36** - 36" **OR** **Reducer Width W2**	**040** - 0.040" (Standard) **Alternates:** **063** - 0.063" **080** - 0.080" **090** - 0.090" **125** - 0.125" **188** - 0.188"	For Outside Vertical Elbows Only; Leave Blank For All Other Fittings

I-Beam Ladder

Cover Connectors

Cover Clamp Catalog Numbers:

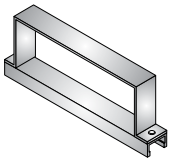
Example: **CFS - A6 - 18 - S**

Item Code	Material	Side Rail Height	Width	Hardware Material
Clamp Item Code	A Aluminum	4 - 4" High 5 - 5" High 6 - 6" High 7 - 7" High 8 - 8" High	06 - 6" 09 - 9" 12 - 12" 18 - 18" 24 - 24" 30 - 30" 36 - 36"	S - Stainless Steel 316 (Standard Hardware Material)

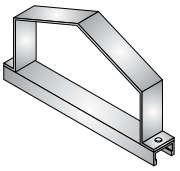
RECOMMENDED QUANTITY OF COVER CONNECTORS	QUANTITY	
COVER TYPE	STANDARD CLIPS	CLAMPS
STRAIGHT SECTION 6'L	4	2
STRAIGHT SECTION 12'L	6	3
ELBOWS	4	2
TEES	6	3
CROSSES	8	4

Vertical Outdoor Cover Clamps

Flat Strap
Cover Clamp — CFS

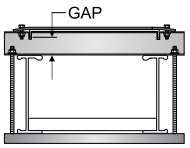


Peaked Strap
Cover Clamp — CPS



Elevated Cover Clamp**
Cover Clamps. — *CCEF

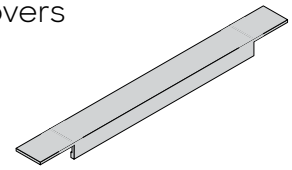
(†)* Specify Gap = 1", 2", 3", 4"
**Peaked Elevated Cover Clamps are available upon request. Please contact the factory at ustraymarketing@atkore.com.



Cover Support Brace

Catalog # — CS-A-(W)*

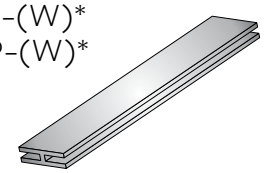
- Reinforces sagging Covers
- Install under covers on 24" to 36" centers
- Aluminum extrusion
- (W)* = Insert Nominal tray width in inches



Aluminum Cover Joint Strip

Cover Flat — CJF-(W)*
Cover Peaked — CJP-(W)*

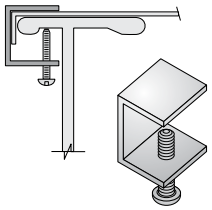
- (W)* = Insert Nominal tray width in inches



Cover Clips Indoor & Horizontal Use

Standard Cover Clips — CCS-S

- Indoor Use Only
- 18-8 Stainless Steel Clip & Screw

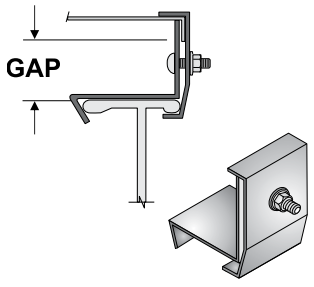


Raised Cover Clip

Fitting Class 1 — CCR-A(†)* -1-(F)*
Fitting Class 2 — CCR-A(†)* -2-(F)*
Fitting Class 3 — CCR-A(†)* -3-(F)*

- Indoor Use Only
- Aluminum Clip
- (†) Specify Gap = 1, 2, 3, 4

(F)* = Insert Z or S



F* = Fastener Materials

- G — Steel, Geomet Plated
- Z — Steel, Zinc Plated
- S — Stainless Steel, Type 316

I-Beam Ladder

Splices & Connectors

Splice Plate & Connector Catalog Numbers:

Example: **SPS - A7 - G4**

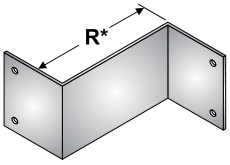
Item Code	Material	Side Rail Height	Hardware Finish	Hardware Quantity
Splice or Connector Item Code	A Aluminum	4 - 4" High 5 - 5" High 6 - 6" High 7 - 7" High 8 - 8" High	G - Geomet S - Stainless Steel 316	4 - (4) Screws per plate 8 - (8) Screws per plate, Fitting Class 3 Only

All **Splice Plates** (except reducing) are supplied in pairs. Geomet-plated steel hardware is supplied with all splices and connectors. Type 316 stainless steel hardware is optional.

Standard Splice Plates are automatically included with all straight tray sections and fittings. Extras for field cuts or spares should be ordered separately.

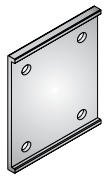
Bonding Jumpers are required for use only with expansion connectors and at discontinuities in the tray system. Bonding jumpers are not required for use with vertical or horizontal adjustable connectors.

Offset Reducing
Item Code SPR-(R)*

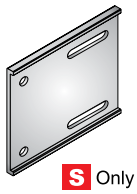


- Supplied each, not in pairs
- (R)* Insert Reduction in inches (R)* = 1.5, 3, 4.5, 6, 7.5, 9, 10.5, 12, 13.5, 15, 18, 21, 24, 27, or 30

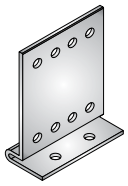
Standard
Item Code SPS



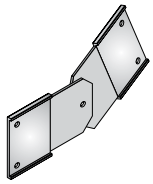
Expansion
Item Code SPE



Mid-Span
Item Code SPM

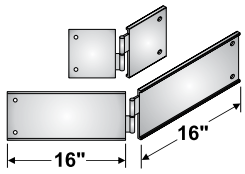


Vertical Adjustable
Item Code SPV

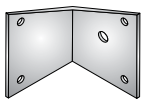


Horizontal Adjustable
Item Code SPH

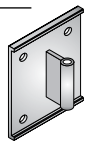
- For odd angle bends up to 30°



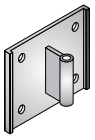
Box Connector
Item Code SPB



Horizontal Trays
Item Code SHH



Vertical Trays
Item Code SVH

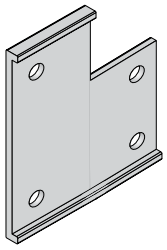


I-Beam Ladder

Splices & Connectors

Step-Down (Reducing Height)

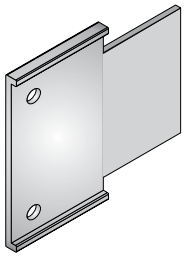
Catalog # SPD-(H1)*(H2)*



- Transition between different side rail heights
- Step down from nominal side rail Height H1 to H2 (H)* = 4",5",6",7", or 8"

Conversion Plate

Item Code SPC

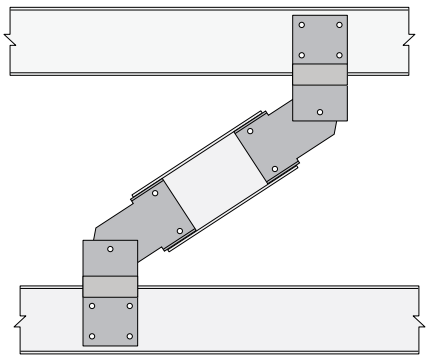


- Holes on one side connect to USTray components
- No holes on opposite side for field modifications

Branch Pivot Connectors

Item Code SPP

- Transition between trays
- Adjustable to any angle
- Supplied in pairs with fasteners
- One pair required for each tray-to-tray connection
- Two pairs required to make transition shown in illustration

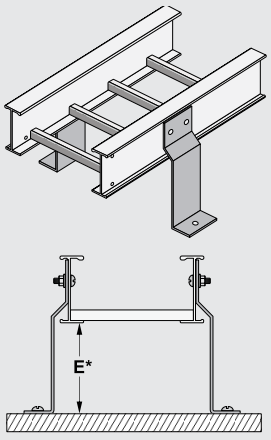


Side View

Floor Support Brackets

Catalog # SPFS-A(H)*-(E)*-(F)*-2

- Supports tray directly above floor
- Elevation (E)* as required, 36" Max.
- Tray connection hardware is included
- Floor connection hardware not included
- For applications with multiple tiers of trays stacked vertically, these brackets can be designed to stack on top of each other and share the same 9⁄16" dia. hole for the floor connection hardware
- Heavy-Duty aluminum material



(H)* Insert nominal tray side rail height

(E)* Insert required tray bottom elevation

(F)* Insert hardware material G or S

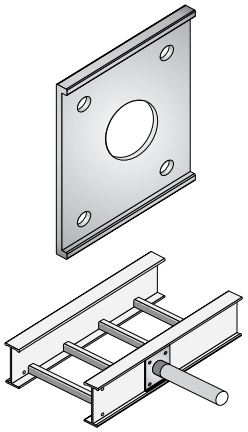
I-Beam Ladder

Splices & Connectors

Conduit Connector Plate for 6 High, NEMA 20C Tray Systems

Catalog # CCP-A6-(D)*-(F)* 4

- Reinforces the tray to permit field-drilled holes in the side rails for conduit connector bushings
- Install up to 6 places anywhere in each side rail of a 20' long tray section and still maintain NEMA 20C load rating
- Load tests per NEMA-VE1 witnessed and certified accurate by UL
- The size of hole required for the conduit bushing shall be specified by customer (2.5" maximum diameter). This is a modified SPS splice plate connector that attaches with standard connector hardware



(D)* Insert required bushing hole diameter

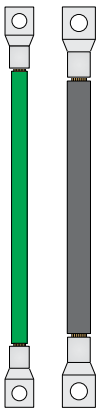
(F)* Insert hardware material G or S

Bonding & Grounding

Bonding Jumpers

- THHN Copper, Green Insulation, 16 Long
- 250 MCM is Black Welding Cable
- One-hole Lugs sized for ⅜" fasteners
- Fasteners ordered separately
- Consult factory for other sizes and lengths

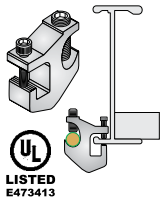
Catalog #	AMP NEC 250.122	Cable Size
GBJ-C-600	600	1
GBJ-C-800	800	1/0
GBJ-C-1000	1000	2/0
GBJ-C-1200	1200	3/0
GBJ-C-1600	1600	4/0
GBJ-C-2000	2000	250



Ground Wire Clamp

Catalog # GWC-A1-Z

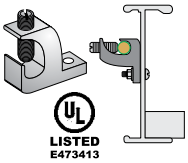
- UL Listed for bonding
- No field-drilling req'd.
- #6 thru 250 MCM wire
- Aluminum clamp
- Zinc plated screws



Ground Wire Lay-In Lug

Catalog # GWL-A-Z

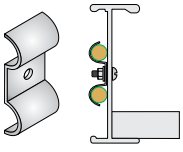
- UL Listed for bonding
- #6 thru 250 MCM wire
- Aluminum clamp
- Field-drilling is required
- Can be factory-welded to side rails as needed
- UL Listed as welded assembly when welded



Ground Wire Support Clamp

- For support only, does not bond
- Clamp is 316 stainless steel
- ¼" Screw & flanged nut included
- Insert fastener finish (F)* = Z or S

Catalog #	Cable Size
GWS-S-1-(F)*	#1 thru 2/0
GWS-S-1-(F)*	3/0 thru 250 MCM
GWS-S-1-(F)*	300 thru 500 MCM

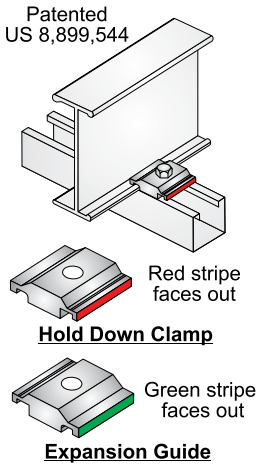


I-Beam Ladder

Hold Down Clamps

Hold Down Clamp & Expansion Guide (Series 2, 3 & 4 Trays Only)

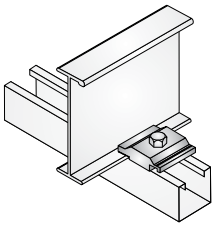
Catalog # HDH-A



- Locks on outside flange of tray side rails, preventing movement in all directions
- Functions as Hold Down Clamp and Expansion Guide
- Colored stripes indicate use
- For use only with heavy-duty trays - Series 2, 3 and 4
- Hole sized for ⅜" fasteners, ordered separately
- Hole sized for ½" fasteners is optional, consult factory
- Extruded aluminum

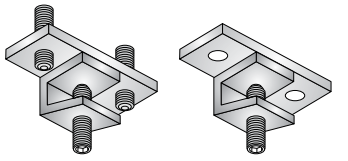
Hold Down Clamp & Expansion Guide (Series 1 Trays Only)

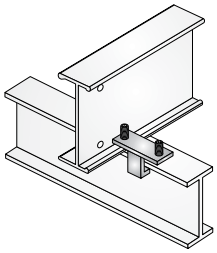
Catalog # HDL-A



- Hole sized for ⅜" fasteners
- Hole sized for ¼" fasteners is optional, consult factory
- Extruded Aluminum

Hold Down Clamp & Expansion Guide, I-Beam





- No drilling of I-Beam support
- Cast Iron material per ASTM A220
- Hot-dip galv. after fab. per ASTM A-123
- ½" Dia. fasteners included
  (F)* Insert G or S

Catalog #	Type
HHB-H-(F)*	Hold Down Clamp
HEB-H-(F)*	Expansion Guide

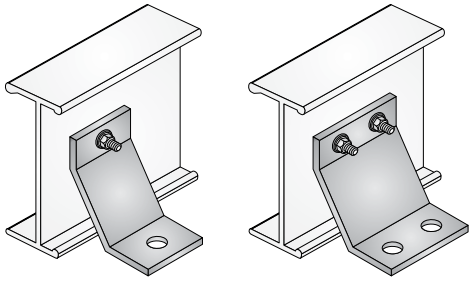
I-Beam Ladder

Hold Down Clamps

Hold Down Brackets

2 Holes	HBT-A-(F)*
4 Holes	HBF-A-(F)*

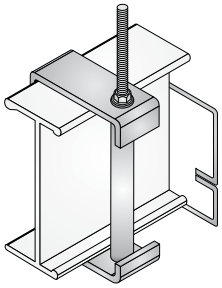
- Aluminum
- ⅜" tray attachment hardware included
- ½" support attachment hardware not included



Hanger Rod Clamp

Catalog # HRC-Z(H)*-(C)*

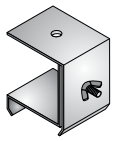
- Zinc plated steel
- Use with ½" threaded rod, order ½" threaded rod and hex nuts separately
- (H)* Insert tray height in inches
- (C)* Insert Fitting Class = 1, 2 or 3



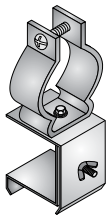
Conduit Attachment Bracket & Clamp

Bracket	CAB-(C)*-(F)*
Bracket Clamp	CAC-(D†)*-(C)*-(F)*

- Aluminum Bracket
- Specify conduit type (D)* = R for Rigid, E for EMT
- Specify conduit size in inches (+)* = .5, .75, 1, 1.25, 1.5, 2, 2.5, 3, or 4
- Specify Tray Fitting Class (C)* = 1, 2, 3 or 4
- (F)* Insert G or S for clamp & fastener material



Bracket



Bracket + Clamp

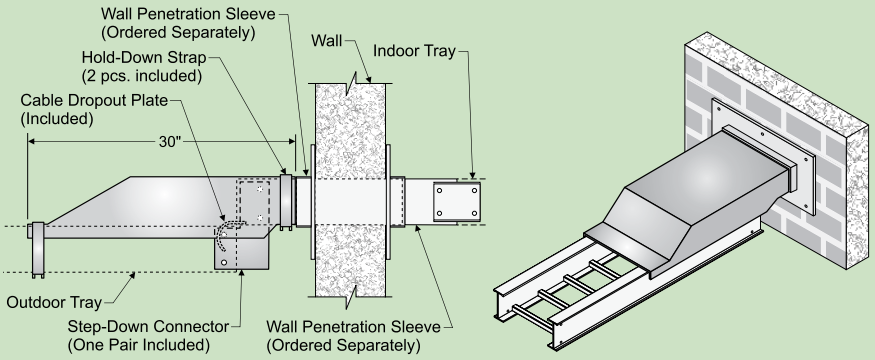
I-Beam Ladder

Accessories

Rain Hood for Wall Penetration Sleeve

Catalog # RHP-A(H)*-(C)*-(W)* S

- Cover attaches to Wall Penetration Sleeve
- Top of outdoor tray attaches to bottom of sleeve to create downhill Drip Loop in cables and prevent water from seeping into building
- Aluminum materials
- Fasteners are stainless steel type 316
- Rain Hood attaches independently of tray and sleeve assembly



Rain Hood Side View

(H)* Insert tray side rail height in inches (4, 5, 6, 7, 8)

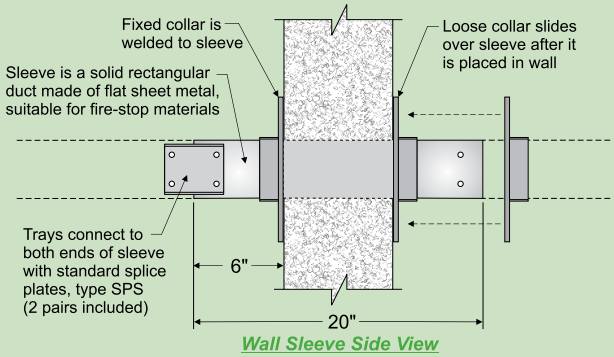
(C)* Insert tray fitting class 1, 2, 3 or 4

(W)* Insert tray width in inches (06, 09, 12, 18, 24, 30, 36)

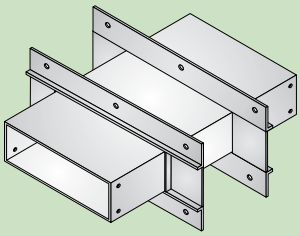
Wall Penetration Sleeve

Catalog # WPS-(M)*(H)*-(W)*-(F)*

- Steel: Mill-Galv. or Hot-Dip Galvanized
- 2 pairs of splice plates and ⅜" tray attachment hardware included



Wall Sleeve Side View



(M)* Insert H or M

(H)* Insert tray height

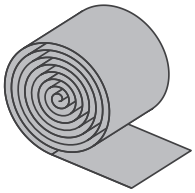
(W)* Insert tray width

(F)* Insert G or S

I-Beam Neoprene Roll

Catalog # NR-18-2

- ⅛" x 2"
- 25' roll
- Good isolator
- Other sizes available



I-Beam Ladder

Accessories

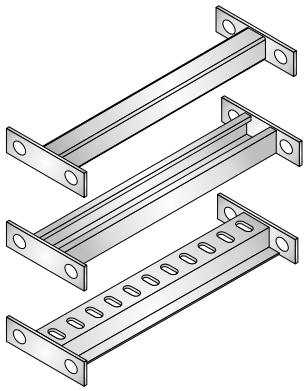
Replacement Rungs

Ladder	RRL-A-(W)*-(F)*
Strut Profile	RRS-A-(W)*-(F)*
Marine Slotted	RRM-A-(W)*-(F)*

- Replace damaged rungs in field
- Add to support heavy point loads
- Installation hardware included

(W)* Insert tray width

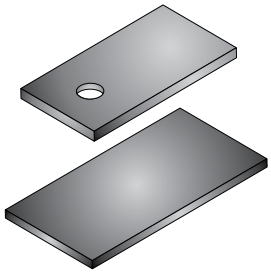
(F)* Insert G or S



Nylon Pads

3" x 6" Solid	NP-36
3" x 2" with ½" Hole:	NP-32-12

- ⅛" Thick Black Nylon
- UV Rated for Outdoor Use



Blind End Plate & Box Connector, Frame-Type

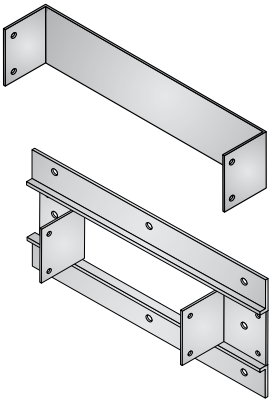
Blind End (Ladder)	BE-A(H)*-(W)*-(F)*
Blind End (Solid-Bottom):	BE-A(H)*-(W)*-(F)*-SB
Box Conn:	BC-A(H)*-(W)*-(F)*

- Aluminum
- ⅜" tray attachment hardware included

(H)* Insert tray height

(W)* Insert tray width

(F)* Insert G or S



M* = Part Materials

H	Steel, Hot-Dip Galv. After Fab. (ASTM A123)
M	Steel, Mill-Galvanized (ASTM A653)
S	Stainless Steel, Type 316

F* = Fastener Materials

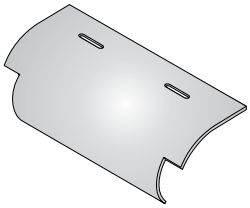
G	Steel, Geomet Plated
Z	Steel, Zinc Plated
S	Stainless Steel, Type 316

I-Beam Ladder

Accessories

Ladder Cable Dropout

Catalog #



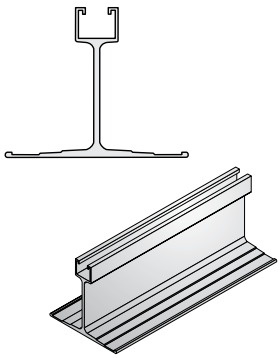
LD-A-(C)*-(W)*-(F)*

- 3" radius
- Aluminum
- ¼" fasteners included

(W)* Insert tray width
(F)* Insert Z or S
(C)* Class 1, 2, 3 or 4

Roof Block Support

Catalog #



RB-A-(W)*

- Solid aluminum
- 6" high support
- 7" wide base
- Heavy-duty
- Strut profile on top
- Cut to any length
- Neoprene and adhesive bases available

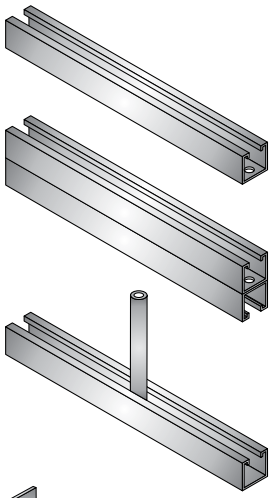
(W)* Insert tray width

I-Beam Ladder

Hanger Channels

Hanger Channel Single Strut	HCS-(M)-(W)*
Hanger Channel Double Strut	HCD-(M)-(W)*
Hanger Channel Center Hung	HCC-H-(W)*

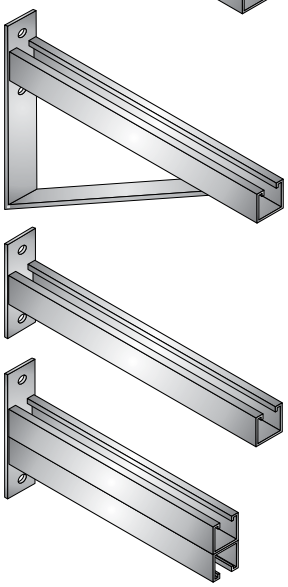
- All hanger channels made from 1-⅝" deep x 12 Ga. steel struts
- (M)* Insert material: **M** = Mill-Galvanized; **H** = Hot-Dip Galvanized
- (W)* Insert channel width in inches:
  - Single & double use nominal tray width + 12".
  - For center-hung channel use tray width + 6"

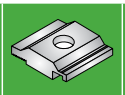
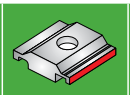
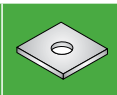


Wall Brackets

Wall Bracket, Heavy Duty	WBH-H-(W)*
Wall Bracket, Single Channel	WBS-H-(W)*
Wall Bracket, Double Channel	WBD-H-(W)*

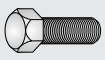
- Material: Steel, Hot-Dip Galvanized After Fabrication Per ASTM A-123
- Wall brackets, heavy duty made from 1" deep x 12 Ga. steel strut
- Wall brackets, single & double made from 1 ⅝" deep x 12 Ga. steel struts
- (W)* Insert bracket width in inches:
  - Use nominal tray width + 6"

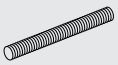
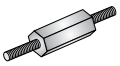


Support Hardware Kits								
Support Type		Duty	Light Duty Hold Down Clip	Heavy Duty Hold Down Clip	Hex Bolt 1 ½ Long	Spring Nut	1½ Square Washer	Flanged Hex Nut
	Trapeze	Light	2		2 (¼)	2 (¼)	4 (⅜ or½)	4 (⅜ or½)
		Heavy		2	2 (⅜)	2 (⅜)	4 (⅜ or½)	4 (⅜ or½)
	Center Hung	Light	2		2 (¼)	2 (¼)	1 (⅜ or½)	2 (⅜ or½)
		Heavy		2	2 (⅜)	2 (⅜)	1 (⅜ or½)	2 (⅜ or½)
	Wall Bracket	Light	2		2 (¼)	2 (¼)		
		Heavy		2	2 (⅜)	2 (⅜)		
38 =⅜, 12 =½ Hardware for use with⅜ or½ threaded rod			Chart above shows quantities of each item included in kits, supplied in plastic bags.					

I-Beam Ladder

Fasteners & Hardware

Type	Catalog #	Size	Use
 Ribbed Neck Screw	F-RNS-38-34-(G or S)	⅜" x ¾"	A, D, F, L
 Flanged Hex Nut	F-FHN-14-(Z or S) F-FHN-38-(G or S) F-FHN-12-(Z or S)	¼" ⅜" ½"	B,E,G,J,M,N A,C,D,F,H,L C,H
 Standard Hex Nut	F-SHN-38-(Z or S) F-SHN-12-(Z or S)	⅜" ½"	K
 Locking Hex Nut	F-LHN-38-S	⅜"	D
 Flat Round Washer	F-FRW-14-(Z or S) F-FRW-38-S F-FRW-12-(Z or S)	¼" ⅜" ½"	E D
 Hex Bolt	F-HHB-14-15-(Z or S) F-HHB-38-15-(Z or S) F-HHB-12-15-(Z or S)	¼" x 1½" ⅜" x 1½" ½" x 1½"	G H H, L
 Slotted, Round-Head Screw	F-SRS-14-15-(Z or S) F-PRS-38-34-S F-SRS-38-15-(Z or S)	¼" x 1½" ⅜" x ¾" ⅜" x 1½"	E D K
 Square-Neck Carriage Bolt	F-SNC-14-34-(Z or S) F-SNC-14-5-Z F-SNC-14-6-Z F-SNC-14-7-Z F-SNC-14-8-Z	¼" x ¾" ¼" x 5" ¼" x 6" ¼" x 7" ¼" x 8"	B,M N-4High N-5High N-6High N-7High

Type	Catalog #	Size	Use
 Threaded Rod	F-THR-14-72-(Z or S) F-THR-38-144-(Z or S) F-THR-12-144-(Z or S)	¼" x 6' ⅜" x 12' ½" x 12'	C
 Threaded Stud	F-THS-14-6-(Z or S) F-THS-14-7-(Z or S) F-THS-14-8-(Z or S) F-THS-14-9-(Z or S)	¼" x 6 ¼" x 7 ¼" x 8 ¼" x 9	N-4High N-5High N-6High N-7High
 Rod Coupler Nut	F-RCN-14-(Z or S) F-RCN-38-(Z or S) F-RCN-12-(Z or S)	¼" ⅜" ½"	C
 Spring Nut	F-CNS-14-(Z or S) F-CNS-38-(Z or S) F-CNS-12-(Z or S)	¼" ⅜" ½"	C,G C,H C,H
 Channel Nut Without Spring	F-CNW-14-(Z or S) F-CNW-38-(Z or S) F-CNW-12-(Z or S)	¼" ⅜" ½	G H H
 1 1/2" Square Channel Washer	F-SCW-14-(Z or S) F-SCW-38-(Z or S) F-SCW-12-(Z or S)	¼" Hole ⅜" Hole ½" Hole	C C C
 Beam Clamp	F-HBC-14-(Z or S) F-HBC-38-(Z or S) F-HBC-12-(Z or S)	¼" Rod ⅜" Rod ½" Rod	C-650 lbs C-1100 lbs C-1600 lbs
 Self-Drilling Screw	F-SDS-10-1-S	#10 x 1"	P

F* = Fasteners Materials

- G — Steel, Geomet Plated
- Z — Steel, Zinc Plated
- S — Stainless Steel, Type 316

Fastener Uses

(A) Splice plates & tray connectors
(B) Flat & peaked strap cover clamps
(C) Trapeze hangers & supports
(D) Expansion connectors
(E) Cable dropouts
(F) Blind ends
(G) Hold Down Clamp - HDL
(H) Hold Down Clamp - HDH
(J) Ground wire support clamps
(K) Bonding Jumpers
(L) Hold down brackets
(M) Conduit clamp brackets
(N) Channel & elevated cover clamps
(P) Dividers

Notes

Notes

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Allied Tube & Conduit ▲ **AFC Cable Systems** ▲ **Heritage Plastics** ▲ **Unistrut**
Unistrut Construction ▲ **Cope** ▲ **US Tray** ▲ **Calbrite** ▲ **Calbond** ▲ **Kaf-Tech**
Columbia-MBF ▲ **Eastern Wire + Conduit** ▲ **ACS/Uni-Fab** ▲ **Cii**
Power-Strut ▲ **Calconduit** ▲ **Razor Ribbon** ▲ **Calpipe Security**
FRE Composites ▲ **Vergokan** ▲ **Flexicon** ▲ **Marco**

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