



**OBO** Bettermann Group



1050 Jaycox Road • Avon, Ohio 44011  
Phone: (330) 273-3510

**www.chalfant-ob.com**  
[sales@chalfant-ob.com](mailto:sales@chalfant-ob.com)



## Cable Tray

Ladder, Trough, Channel, Under Floor, Shielded



## Ladder Style Cable Tray

Typical Installations

# Ladder Tray®

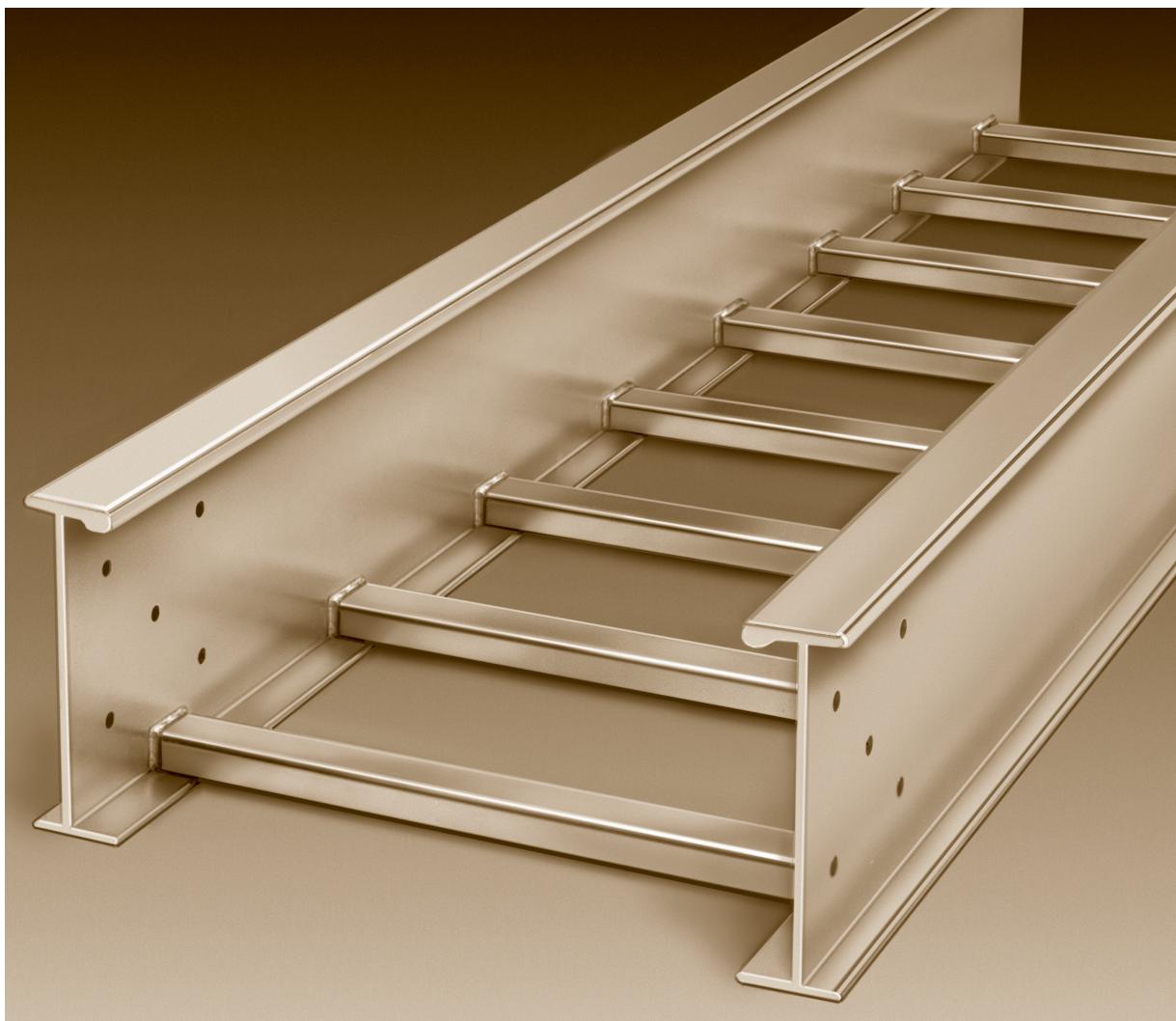
When metal ladder cable trays came of age, they were used to support the new armored shielded power cables that were permitted outside the conduit environment. Utilities and industrial companies initiated the use of expanded metal and solid trough-styled trays for supporting power and control cable.

Cable trays quickly proved their worth as a safe, dependable and cost-effective solution to routing and supporting cables. Installed cost savings of over 50% on project after project drove the market for metal cable trays to over 80 million dollars.

Cable Tray is *NOT A WIREWAY* and is viewed as a support for cables. This provides the designer and user many benefits.

- Full free air rating of cables, results in smaller conductors vs. conduit
- Greater fill volume allowed, results in less space

- Used in all locations except elevator shafts (the only prohibition on cable tray use)
- Used as an equipment grounding conductor (classified by UL)
- Less stress on cables during installation and operation
- Increased safety, no moisture condensation problems nor transmission of corrosive or explosive gases, as with conduit
- Simplified maintenance with the flexibility of adding or changing circuits
- Simplified engineering and construction. Add, change, modify more easily
- Used with other wiring methods
- Longer support spans up to 55' (Chalfant's standard systems to 40').



# Quick Find Index

## Cable Tray Straight Sections Pages 5-11


**Aluminum**

Description: Page 1-5  
Selection: Pages 1-6 & 1-7

**Steel/Stainless Steel**

Description: Page 1-5  
Selection: Pages 1-8 & 1-9

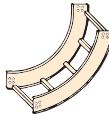
## Fittings Pages 10-17

**Horizontal Bends**


90° Page 1-10  
60° Page 1-10  
45° Page 1-11  
30° Page 1-11

**Outside Vertical Bends**


90° Page 1-12  
60° Page 1-13  
45° Page 1-14  
30° Page 1-15

**Inside Vertical Bends**


90° Page 1-12  
60° Page 1-13  
45° Page 1-14  
30° Page 1-15

**Tees**

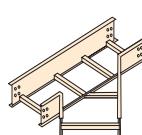

Page 1-16

**Crosses**

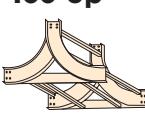

Page 1-16

**Support Riser**

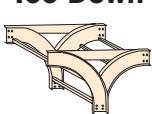

Page 1-16

**Wyes**


Page 1-17

**Vertical Tee Up**


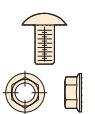
Page 1-17

**Vertical Tee Down**


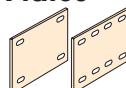
Page 1-17

**Tee with Outside Tap**

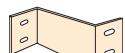

Page 1-18

**Accessories Pages 18-25**
**Fasteners**


Page 1-25

**Splice Plates**


Page 1-19

**Reducer Splice Plates**


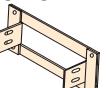
Page 1-19

**Ladder Dropouts**

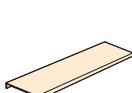

Page 1-19

**Wall Frames**


Page 1-19

**Tray to Panel**


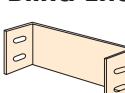
Page 1-19

**Covers**


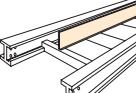
Page 1-20

**Clamps**


Page 1-20

**Blind Ends**


Page 1-21

**Barriers**


Page 1-22

**Expansion Gap**


Page 1-23

**Support Equipment**


Page 1-24

# Selecting & Sizing Cable Tray Systems

## 1 The Cable to be Supported Determines the Type of Tray

Ladder type cable can support heavy power cables or small circuit size communication cables for control data and phone cables or a mix.

- **Rung Spacing:** Single conductor over 4/0 and MC cables should be used with 12" or 18" rung spacing. Smaller diameter cables require 6" or 9" rung spacing.
- **Trough, solid or ventilated type tray** offer protection and better support for small, lightweight instrument or data cables.

### Hints:

- Barrier strips can be used to separate voltages or power and control cables to avoid the cost of adding a second or separate tray for each.
- Covers are not required by the NEC Code and add to the cost of the job. However, they should be considered for protection of personnel and any debris or other material that could fall into the tray.

## 2 Select which Metal and/or Material Finish Your Application Will Require

The job site and its' environment will determine which metal and/or material finish you use. Review where the tray is being used. Are there unusual corrosive conditions (like those found in some chemical and paper processing plants)? See page 1-4 for a list of various tray materials and finishes available.

### Hints:

Aluminum - Most conditions are satisfied by aluminum tray which is also the most popular type. It's less expensive and an easier system to install. Unlike galvanized steel, its' finish is always smooth. Longer span tray systems are also available in aluminum. Aluminum tray is ideal for seacoast, offshore and most petrochemical and pulp mill applications.

Galvanized Steel (HDGAF ASTM A123 Class B2) - This hot dipped galvanized steel is used in outdoor, chlorine, acid or caustic areas. Steel trays can have a rough finish (VE 1) which could cause cable damage. It also adds two to three weeks to delivery time. Trays with Pre-Galvanized steel finish ASTM 653A are the least expensive and only recommended for indoor applications.

Stainless Steel trays are used in special highly corrosive environments and compare favorably with fiber-glass type ladder tray.

## 3 Determine Type of Support

**Hint:** Review the various support methods and options shown in the accessories section of this catalog on pages 1-20, 1-21, 1-24, and 1-25. The distance between each support is the support span. You can support your cable tray system:

- from walls or vertical columns with shelf or cantilevered brackets
- with trapeze or single supports using threaded rods hung directly from building steel
- on or under pipe racks, trestles or bridges
- In utility trenches, tunnels or directly on roofs
- off the ground, using pedestal supports.

**Hint:** You can save money by using a heavier duty tray that results in longer spans and reduces the number of costly supports and installation time. A heavier duty tray will also provide a deeper loading depth and a stronger, less deflective, long-span support.

## 4 Determine Cable Load to be Supported

Review the number and type of cable from the job specifications and requirements. Cable fill in a tray is calculated by using data and criteria specified in NEC 392. To determine total cable weight, add all cables on a lb/ft basis.

### Hints:

▪ Data, telephone and instrument cable should be calculated to fill tray to 50% of the tray cross section fill area (40% for solid bottom tray). In reality, because of voids, overlapping and the circular shape of the cable, a 50% fill will normally completely fill the cable tray.

- MC cable 4/0 or larger, rated 2000 Volts or less, can only be installed in one layer (sum of cable diameters equals tray width).
- Single conductor 2000 Volts or less, larger than 1000 KCM can only be installed in one layer (sum of cable diameters equals tray width).

▪ Other power cables and combinations of sizes are calculated on the sum of cable areas versus allowable fill, see table NEC 392.9 to determine tray width. NEC 392 details cable types, voltages, ampacity, etc.

## Other Loads to be Calculated:

**Snow:** Add 13.3 lbs/square feet for 20-inch deep wet snow.

(Example: For a 36-inch tray width -  $3 \times 13.3 = 39.9$  lbs/sq ft.)

**Ice:** Add 4.7 lbs/square feet .

**Concentrated Load:** Add load effect ( $W_e$ ) for concentrated load effect from splice boxes, heavy cable drop outs and conduit terminations supported off tray.

$W_e = 2$  times the concentrated load divided by the support span.

(Example: For a 200 lbs. concentrated load at a center span of 20 ft,  $W_e = 2 \times 200/20 = 20$  lbs. per ft added load.)

Once you have determined your worst case load, add it to your other cable load calculations. You now have the maximum load the tray must support.

### Hints:

- It is not necessary to specify tray rung type when using Chalfant. Chalfant rung designs can handle a minimum of 350 lbs. at any width. Chalfant uses 3 rung styles to assure this standard is maintained. For example, Strut Rung #11118 is rated at 489 lbs. at 36" wide.

## Review

You have now determined:

1. Tray type
2. Tray material and/or finish
3. Support type & span between supports
4. Total load in lbs/ft

## 5 Select Tray System

(For aluminum, use Selection Chart on pages 1-6, 1-7, 1-8 and 1-9.)

(For steel, use Selection Chart on pages 1-8 and 1-9.) Review Selection chart and the various notes in general. Start at the top of (your) support span column and work down to locate a tray system to handle your total load.

Example: You have determined you need a ladder tray (aluminum) at a 20 ft span and 100 lbs/ft load. Using Selection Chart on pages 1-6 and 1-7, go down 20 ft span column until you reach **Tray System 46A**. This is the best tray for your application.

Note: If you use a shorter span, you must choose between a 3", 4" or 5" load depth.

Order your tray using the Part No. Code on page 1-4.

Contact your Chalfant Sales Representative or the factory if you need help sizing and selecting your tray.

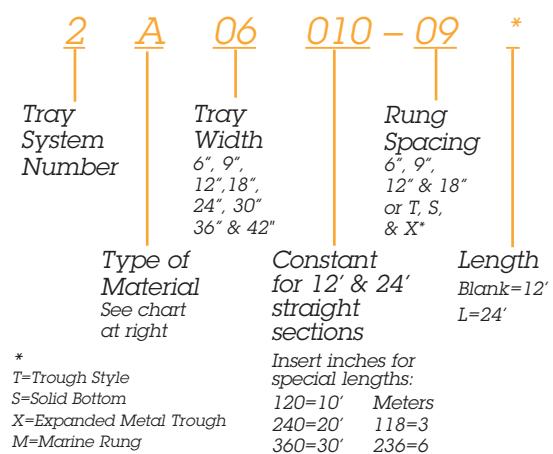
# Ordering Codes and Options

## Part Number/Ordering Codes

Once you have determined the appropriate Chalfant tray system to meet your loading depth and load/span requirements, use the following numbering systems to order straight sections, fittings and accessories.

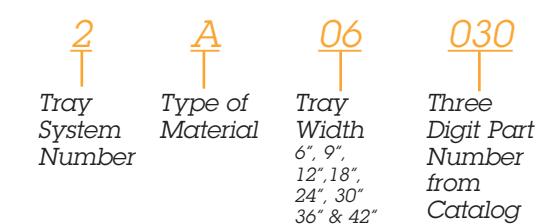
### Cable Tray Straight Sections (Aluminum or Steel)

Example: 2A Aluminum System—12' long, 6" wide, with 9" rung spacing



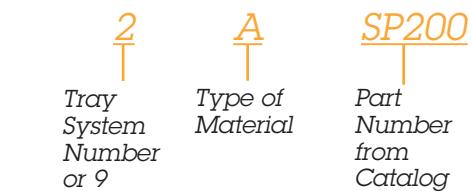
### Cable Tray Fittings (Aluminum or Steel)

Example: 90° Aluminum Horizontal Bend—12" radius



### Accessories

Example: 4-Bolt Slotted Hole Splice Plate



## Options

Chalfant Ladder style cable tray is available in a variety of options to satisfy your needs.

### Materials/Finishes

Following is a list of various materials of construction and/or finishes that can be applied to straight sections, fittings and some accessories. Use these codes when ordering.

#### \* Material Code:

**A** = Aluminum, High Strength 6063T6 Extrusions (5052H34 sheet)

**S** = Pre-Galvanized Steel to ASTM 653A G-90 Coating, 1.05 Mils Thick

**G** = Hot Dip Galvanized after Fabrication to ASTM 123-B2, 2.55 Mils Thick

**T** = 304L Stainless Steel

**Z** = 316L Stainless Steel

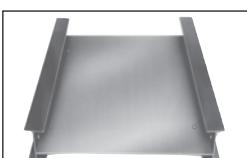
### Other Options

All Ladder Tray systems are easily modified to offer:



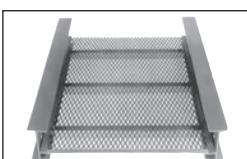
#### Ventilated Trough

2.5" wide rungs MIG welded on 6" centers. Also available with 9" and 12" rung spacing. To order, add letter T, 09T, or 12T instead of rung spacing in straight section part number.



#### Solid Trough

A solid sheet is supported by a 12" rung spaced tray. To order, add letter "S" instead of rung spacing in straight section part number. For Fittings, add suffix "S" to the part number.



#### Expanded Metal Trough

A .5" diamond pattern aluminum sheet is supported by a 12" rung spaced tray. To order, add letter "X" instead of rung spacing in straight section part number. For Fittings, add suffix "X" to the part number. See Page 1-20.



#### Marine Strut Rung

A special rung design to accommodate stainless steel banding of cables. (USCG requirement) Rung supports 460 lbs. per rung on a 36" wide system with a 1.5 safety factor. Add suffix "M" (rung spacing) to the part number.

Consult Factory for full technical data on individual systems, corrosion resistance charts, etc.

# Straight Sections

Most Chalfant cable tray system side rails are stocked in 12' and 24' lengths. You can special order 30' lengths for 875A and 8HAF trays or 40' lengths for 103A tray. All trays meet or exceed NEMA VE-1 standards and NEC Article 392. All trays (except stainless) are classified by UL as an equipment ground conductor.

See Selection Guides for allowable grounding amps for each tray system.

**Lengths** Standard- 12' and 24'

**Widths** Standard- 6", 9", 12", 18", 24", 30", 36" & 42"

**Rung Spacing:** Standard- 6", 9", 12" and 18"

Rail Height	Loading Depth	Tray Systems
4"	3"	14A, 24A, 2A, 34A, 248, 346
5"	4"	15A, 35A, 45A, 258
6.3"	5" or 6"	16A, 26A, 2A, 3A, 46A, 665A, 268, 366, 364
7.4	6.4	47A, 57A
8"	7"	875A, 8HAF
10"	8.8"	103A- (Fittings have 8" sidercail)

## Splice Plates

Splice plates are 1/8" thick with 4-bolt slotted holes. This flat plate design permits fast, easy fit-up in the field. 665A, 47A & 57A systems have 8 bolt/plates. 8" and 10" trays have 10 bolt/plates which are 16" long, 3/16" thick. Splice plates come in pairs with standard zinc hardware.



## Aluminum Cable Tray



Aluminum cable tray is the most popular tray in use today. Chalfant has a wide offering in aluminum tray from light duty commercial/institutional systems for data and telephone support to utility/industrial grade tray and extra heavy duty long span tray to 30' spans. Ideal for most corrosive atmospheres including offshore, seacoast and petro-chemical applications. Not recommended for use in chlorine, caustic or high acid environments.

## Rungs

Rungs are box construction 0.9" high with 7/8", 1" and 1-5/8" bearing surface. All trays (except 14A) and rungs are designed to handle cable loads plus 200 lbs. of concentrated load for any tray width. For example, strut rung #11118 can handle 489 lbs. at a 36". Low profile rungs are available in to provide a 6" load depth.

## Galvanized and Stainless Steel Tray



Pre-Galvanized Steel tray ASTM 653A G90 coating is the least expensive tray and is recommended for indoor applications only.

Hot dipped galvanized after fabrication ASTM 123 is recommended for outdoor use. It is more expensive than aluminum and requires great care in galvanizing to prevent icicles, bare patches, warpage and rough surfaces.

Stainless steel tray is available in 304L and 316L

and is often the least expensive solution for use in highly corrosive atmospheres. It also competes favorably against fiberglass systems.

## Steel Rungs

Rungs are 1" high with 3/4" bearing, 18 gauge. A special gas relief hole for HDGAF is punched on both ends to assure complete galvanizing.

# Cable Tray Selection Guide

<b>Aluminum</b> System No.	Height Side Rail	Load Depth	NEMA Load/Span Rating (@1.5 Safety Factor)1.5	Support Span (Simple Beam Data)					
				6' (1.83) m	8' (2.44) m	10' (3.05) m	12' (3.66) m		
<b>14A</b>		4" (102)	3.2" (81)	12A 8C	<b>208</b> ① 0.37 ② .0018 ③	<b>117</b> 0.66 .0056	<b>74</b> 1.01 .0136	<b>52</b> 1.46 .0281	
<b>24A</b>		4" (102)	3" (76)	12B	<b>304</b> 0.43 .0014	<b>171</b> 0.79 .0046	<b>109</b> 1.22 .0112	<b>75</b> 1.58 .021	
<b>2A</b>		4" (102)	3" (76)	16A 12C ⑤	<b>430</b> .43 .0010	<b>243</b> 0.75 .0031	<b>153</b> 1.17 .0076	<b>108</b> 1.84 .0165	
<b>34A</b>		4" (102)	3" (76)	20A 16B ⑤			<b>220</b> 1.33 .0060	<b>152</b> 1.91 .0124	
<b>15A</b>		5" (127)	4.2" (107)	12B	<b>336</b> 0.30 .0009	<b>189</b> 0.53 .0028	<b>121</b> 0.83 .0069	<b>84</b> 1.21 .0144	
<b>35A</b>		5" (127)	5" (127)	16A 12C			<b>161</b> .083 .0052	<b>112</b> 1.21 .011	
<b>45A</b>		5" (127)	4.1" (102)	20A 16B				<b>149</b> 1.26 .0083	
<b>16A</b>		6.3" (160)	5.5" or 6" ④ (140/152)	12C	<b>400</b> 0.28 .0007	<b>225</b> 0.46 .0021	<b>144</b> 0.72 .0050	<b>100</b> 1.04 .0104	
<b>29A</b>		6.3" (160)	5.3 or 6" ④ (137/152)	16A 12C ⑤		<b>264</b> 0.37 .0014	<b>170</b> 0.73 .0043	<b>121</b> 1.08 .0089	
<b>26A</b>		6.3" (160)	5.3" or 6" ④ (137/152)	20A 16B		<b>342</b> 0.89	<b>220</b> 0.57 .0026	<b>152</b> 0.84 .0055	
<b>3A</b>		6.3" (160)	5.3" or 6" ④ (137/152)	20B 16C ⑤				<b>211</b> 0.95 .0045	
<b>46A</b>		6.3" (160)	5.4" or 6" ④ (137/152)	20C	It is not economical to use long span tray systems for short span installation. Move up to a lighter duty system.				<b>288</b> 1.09 .0038
<b>665A</b>		6.5" (165)	5.4" or 6" ④ (137/152)	24C ⑦				<b>430</b> 1.20 .0028	
<b>47A</b>		7.36" (187)	6.4" (163)	20C 24B				<b>288</b> 0.78 .0027	
<b>57A</b>		7.4" (188)	6.4" (163)	24C				<b>425</b> 0.98 .0023	

**Key:**

- ①= Cable Loading (lb/ft)
- ②= Mid Span Deflection (in)
- ③= K Factor (in/lb/ft)

- ④ 6" Nominal Loading Depth per VE-1 with reinforced low profile rung
- ⑤ Exceeds NEMA Loads by over 20%
- ⑥ Weight shown (lbs/ft or Kg/M) for 24" width tray with 9" rung spacing

**NEMA  
Load/Span  
Designations**  
@1.5 Factor  
of Safety  
*From VE-1 Table 1*

Working Load (lbs/linear ft.)	Support Span			
	8 Ft	12 Ft	16 Ft	20 Ft
A=50 lbs/ft	8A	12A	16A	20A
B=75 lbs/ft	8B	12B	16B	20B
C=100 lbs/ft	8C	12C	16C	20C

	Support Span (Simple Beam Data)						Data (2-Rails)				
	14' (4.27) m	16' (4.88) m	18' (5.49) m	20' (6.10) m	24' ⑦ (7.32) m	30' ⑦ (9.14) m	I <sub>x</sub> In <sup>4</sup>	S <sub>x</sub> In <sup>3</sup>	Area In <sup>2</sup>	NEC 392-7(b)2 EGC AMPS	Tray ⑥ Weight Lbs Per Ft
							1.66	0.75	0.86 (555)	1000	1.79 (2.66)
							2.15	1.01	1.0 (645)	1200	1.95 (2.90)
	<b>79</b> 2.31 .0292	<b>60</b> 2.46 .0410					2.95	1.41	1.14 (735)	1200	2.15 (3.20)
	<b>112</b> 2.60 .0231	<b>86</b> 3.39 .0374	<b>67</b> 4.30 .0632	<b>55</b> 5.30 .0963			3.74	2.07	1.43 (923)	1200	2.46 (3.66)
							3.25	1.20	1.02 (658)	1200	2.00 (2.98)
	<b>82</b> 1.64 .020	<b>60</b> 2.03 .0338					4.36	1.63	1.19 (768)	1200	2.2 (3.27)
	<b>110</b> 1.71 .0155	<b>84</b> 2.23 .0264	<b>66</b> 2.83 .0424	<b>53</b> 3.49 .0646			5.57	2.29	1.46 (942)	1200	2.52 (3.75)
							4.48	1.39	1.20 (774)	1200	2.22 (3.30)
	<b>85</b> 1.35 .016	<b>64</b> 1.45 .0226					6.53	2.0	1.28 (826)	1200	2.33 (3.47)
	<b>112</b> 1.13 .0101	<b>85</b> 1.46 .0172	<b>67</b> 1.87 .0761	<b>55</b> 2.31 0.042			8.55	2.72	1.55 (1000)	1600	2.64 (3.93)
	<b>155</b> 1.28 .0083	<b>119</b> 1.67 .0141	<b>94</b> 2.12 .0226	<b>76</b> 2.62 .0345			10.4	3.81	1.84 (1187)	1600	2.98 (4.43)
	<b>212</b> 1.51 .0071	<b>162</b> 1.96 .0121	<b>128</b> 2.48 .0194	<b>104</b> 3.05 .0296	<b>70</b> 4.3 .0614		12.1	4.55	2.11 (1361)	2000	3.32 (4.94)
	<b>316</b> 1.61 .0051	<b>242</b> 2.11 .0087	<b>191</b> 2.65 .0139	<b>155</b> 3.29 .0212	<b>104</b> 4.58 .0440		16.96	6.24	2.87 (1852)	2000	4.23 (6.29)
	<b>212</b> 0.66 .0031	<b>162</b> 1.41 .0087	<b>128</b> 1.78 .0139	<b>104</b> 2.20 .0212	<b>72</b> 3.16 .0439		17.0	5.29	2.12 (1366)	2000	3.34 (4.96)
	<b>312</b> 1.31 .0042	<b>239</b> 1.72 .0072	<b>188</b> 2.19 .0116	<b>153</b> 2.69 .0176	<b>106</b> 3.89 .0366		20.4	6.7	2.62 (1690)	2000	3.82 (5.68)

**Conversion to Metric**  
Meters = 0.3048 X feet  
Kg/m = 1.488 X lb/ft  
mm = 25.4 X inches

**Convert Load Data**  
To convert into a safety factor = 2.0 multiply loading values by 0.75 (ratio of 1.5/2.0)

**K x W** = Deflection for other loads (inches)

⑦ NEMA does not list 24', 30' & 40' span trays.

## Cable Tray Selection Guide

<b>Aluminum</b>		<b>Height Side Rail</b>	<b>Load Depth</b>	<b>NEMA Load/Span Rating (@1.5 Safety Factor) 1.5</b>	<b>Support Span (Simple Beam Data)</b>			
					<b>14' (4.27) m</b>	<b>16' (4.88) m</b>	<b>18' (5.48) m</b>	<b>20' (6.09) m</b>
<b>875A</b>		8" (203)	7" (178)	30C ⑥ 24C ⑥			<b>484</b> 1.24 .0026	<b>370</b> 1.61 .0044
<b>8HAF</b>		8" (203)	7" (178)	30C ⑥			<b>572</b> 1.75 .0031	
<b>103A</b>		10" (254)	8.85" (225)	40C ⑥				

<b>Steel/Stainless</b>		<b>Gauge</b>	<b>Height Side Rail</b>	<b>Load Depth</b>	<b>NEMA Load/Span Rating (@1.5 Safety Factor)</b>	<b>Support Span</b>		
						<b>6' (1.83) m</b>	<b>8' (2.44) m</b>	<b>10' (3.05) m</b>
<b>Steel</b>	<b>248*</b>		18 (1.3)	4" (102)	3" (76)	12B	<b>340</b> 0.28 .00082	<b>191</b> 0.50 .0026
	<b>346*</b>		16" (1.6)	4" (102)	3" (76)	16A 12C		<b>271</b> 0.49 .0018
	<b>258*</b>		18 (1.3)	5" (127)	4" (102)	16A		<b>237</b> 0.36 .0015
	<b>268*</b>		18 (1.3)	6.3" (160)	5.2" (132)	16A 12C ④		<b>272</b> 0.22 .0008
	<b>366*</b>		16 (1.6)	6.3" (160)	5.2" (132)	20B 16C ④		
	<b>364*</b>		14 (1.9)	6.3" (160)	5.3" (132)	20C 16C ④		
<b>Stainless Steel</b>	<b>248*</b>		18 (1.2)	4" (102)	3" (76)	12B	<b>340</b> 0.28 .00082	<b>191</b> 0.50 .0026
	<b>268*</b>		18 (1.2)	6.3" (160)	5.2" (137)	16C 12C ④		<b>272</b> 0.57 .0008
	<b>366*</b>		16 (1.5)	6.3" (160)	5.2" (137)	20B 16C ④		
	<b>364*</b>		14 (1.9)	6.3" (160)	5.3" (137)	20C 16C ④		

\* Material Code: **S** = Pre-Galvanized to ASTM 653A G-90 coating 1.06 Mils Thick

**G** = Hot Dip Galvanized after Fabrication to ASTM 123-B2 2.55 Mils Thick (Replaced ASTM 386)

**Key:**  
**①** = Cable Loading (lb/ft)  
**②** = Mid Span Deflection (in)  
**③** = K Factor (in/lb/ft)

④ Exceeds NEMA Loads by over 20%  
 ⑤ Weight shown (lbs/ft or Kg/M) for 24" width tray with 9" rung spacing  
 ⑥ NEMA does not list 24', 30', 35' & 40' spans

**NEMA Load/Span Designations**  
 @1.5 Factor of Safety  
 From VE-1 Table 1

<b>Working Load (lbs/linear ft.)</b>	<b>Support Span</b>			
	<b>8 Ft</b>	<b>12 Ft</b>	<b>16 Ft</b>	<b>20 Ft</b>
<b>A=50 lbs/ft</b>	8A	12A	16A	20A
<b>B=75 lbs/ft</b>	8B	12B	16B	20B
<b>C=100 lbs/ft</b>	8C	12C	16C	20C

Support Span (Simple Beam Data)						Data (2-Rails)					
	18' (5.49) m	20' (6.10) m	24' <small>⑥</small> (7.32) m	30' <small>⑥</small> (9.14) m	35' <small>⑥</small> (10.7) m	40' <small>⑥</small> (12.2) m	I <sub>x</sub> In <sup>4</sup>	S <sub>x</sub> In <sup>3</sup>	Area In <sup>2</sup>	NEC 392-7(b)2 EGC AMPS	Tray <small>⑤</small> Weight Lbs Per Ft
	<b>293</b> 2.042 .007	<b>237</b> 2.52 .0106	<b>158</b> 3.43 .0217	<b>101</b> 5.35 .053			34.36	9.6	4.24 (2735)	2000	6.51 (9.69)
	<b>450</b> 2.21 .0049	<b>363</b> 2.72 .0075	<b>249</b> 3.87 .0155	<b>155</b> 5.87 .0379	<b>100</b> 8.34 .0834		48.08	14.3	5.32 (3432)	2000	7.52 (11.19)
		<b>636</b> 2.03	<b>441</b> 3.48	<b>282</b> 4.59	<b>207</b> 6.27	<b>159</b> 8.20	115.4	24.1	7.40 (4555)	2000	9.45 (14.06)

Support Span (Simple Beam Data)						Data (2-Rails)				
	10' (3.05) m	12' (3.66) m	14' (4.27) m	16' (4.88) m	18' (5.49) m	20' (6.10) m	I <sub>x</sub> In <sup>4</sup>	S <sub>x</sub> In <sup>3</sup>	NEC 392-7(b)2 EGC AMPS	Tray <small>⑤</small> Weight Lbs Per Ft
	<b>122</b> 0.77 .0063	<b>85</b> 1.11 .0131	<b>62</b> 1.51 .0243				1.26	0.65	100	3.65 (5.43)
	<b>171</b> 0.75 .0044	<b>107</b> 0.97 .0091	<b>85</b> 1.43 .0168	<b>64</b> 1.83 .0286			1.81	1.00	200	4.15 (6.18)
	<b>150</b> 0.54 .0036	<b>102</b> 0.78 .0076	<b>74</b> 1.04 .0140	<b>55</b> 1.31 .0239			2.16	0.89	100	3.80 (5.65)
	<b>174</b> 0.35 .0020	<b>121</b> 0.51 .0042	<b>89</b> 0.93 .0077	<b>68</b> 0.90 .0132			3.90	1.27	200	4.27 (6.35)
	<b>327</b> 0.46 .0014	<b>225</b> 0.68 .0030	<b>164</b> 0.90 .0055	<b>125</b> 1.18 .0094	<b>96</b> 1.43 .0149	<b>78</b> 1.79 .0229	5.46	1.88	400	5.04 (7.50)
		<b>282</b> 0.68 .0024	<b>206</b> 0.91 .0044	<b>156</b> 1.15 .0074	<b>122</b> 1.45 .0119	<b>100</b> 1.81 .01	6.93	2.36	400	5.93 (8.82)
	<b>122</b> 0.77 .0063	<b>85</b> 1.11 .0131	<b>62</b> 1.51 .0243				1.26	0.65	**	3.65 (5.43)
	<b>174</b> 0.35 .0020	<b>121</b> 0.51 .0042	<b>89</b> .93 .0077	<b>68</b> .090 .0132			3.90	1.27	**	4.27 (6.35)
	<b>327</b> 0.46 .0014	<b>225</b> 0.68 .0030	<b>164</b> 0.90 .0055	<b>125</b> 1.18 .0094	<b>96</b> 1.43 .0149	<b>78</b> 1.79 .0229	5.46	1.88	**	5.04 (7.50)
		<b>282</b> 0.68 .0024	<b>206</b> 0.91 .0044	<b>156</b> 1.15 .0074	<b>122</b> 1.45 .0119	<b>100</b> 1.81 .0181	6.93	2.36	**	5.93 (8.82)

\* Material Code: T= 304L Stainless Steel Z= 316L Stainless Steel

Conversion to Metric  
Meters = 0.3048 X feet  
Kg/M = 1.488 X lb/ft  
mm = 25.4 X inches

#### Convert Load Data

To convert into a safety factor = 2.0, multiply loading values by 0.75. (ratio of 1.5/2.0)

K x W = Deflection for other loads (inches)

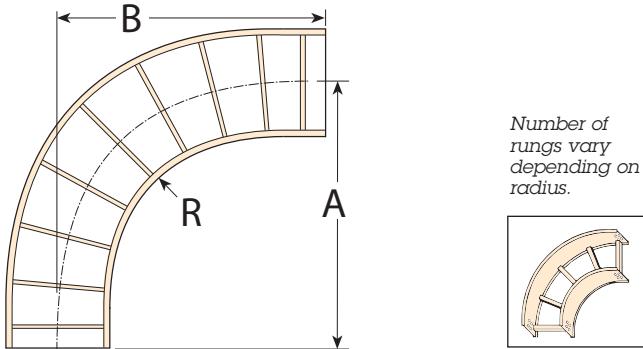
\*\* For EGC run separate ground wire.

# Fittings

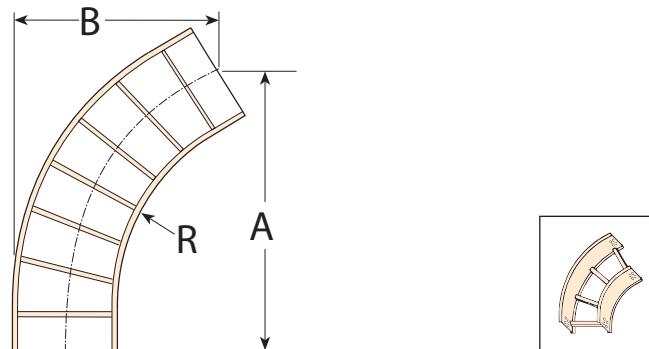
## 90° & 60° Horizontal Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies, with the exception of 8" & 10" trays that have 8" tangents and 10 bolt splice plates. 8" trays available in 36" & 48" radius. 7" trays in 24" radius. Consult factory for fitting dimensions.

### 90° Horizontal Bend



### 60° Horizontal Bend



R	W	Dimensions		Part Number
		A	B	
12" (305)	6	18 (457)	18 (457)	# * 06030
	9	19.5 (495)	19.5 (495)	# * 09030
	12	21 (533)	21 (533)	# * 12030
	18	24 (610)	24 (610)	# * 18030
	24	27 (686)	27 (686)	# * 24030
	30	30 (762)	30 (762)	# * 30030
	36	33 (838)	33 (838)	# * 36030
	42	36 (914)	36 (914)	# * 42030
	48	39 (991)	39 (991)	# * 48030
24" (610)	6	30 (762)	30 (762)	# * 06032
	9	31.5 (800)	31.5 (800)	# * 09032
	12	33 (838)	33 (838)	# * 12032
	18	36 (914)	36 (914)	# * 18032
	24	39 (991)	39 (991)	# * 24032
	30	42 (1067)	42 (1067)	# * 30032
	36	45 (1143)	45 (1143)	# * 36032
	42	48 (1219)	48 (1219)	# * 42032
	48	51 (1295)	51 (1295)	# * 48032
36" (914)	6	42 (1067)	42 (1067)	# * 06033
	9	43.5 (1105)	43.5 (1105)	# * 09033
	12	45 (1143)	45 (1143)	# * 12033
	18	48 (1219)	48 (1219)	# * 18033
	24	51 (1295)	51 (1295)	# * 24033
	30	54 (1372)	54 (1372)	# * 30033
	36	57 (1448)	57 (1448)	# * 36033
	42	60 (1524)	60 (1524)	# * 42033
	48	63 (1600)	63 (1600)	# * 48033
48" (1219)	6	54 (1372)	54 (1372)	# * 06034
	9	55.5 (1410)	55.5 (1410)	# * 09034
	12	57 (1448)	57 (1448)	# * 12034
	18	60 (1524)	60 (1524)	# * 18034
	24	63 (1600)	63 (1600)	# * 24034
	30	66 (1676)	66 (1676)	# * 30034
	36	69 (1753)	69 (1753)	# * 36034
	42	72 (1829)	72 (1829)	# * 42034
	48	75 (1905)	75 (1905)	# * 48034

W=Widths in Inches (mm)

6" (152)    30" (762)  
9" (229)    36" (914)  
12" (305)    42" (1067)  
18" (457)    48" (1176)  
24" (610)

H=Side Rail Height in Inches (mm)

4" (101)    7.3" (179) Consult Factory  
5" (127)    8" (203) Consult Factory  
6.3" (160)

# Tray System \*Type of Material— See Page 1-4 for Selection.

For Steel Fitting  
Part Numbers Use:

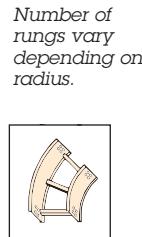
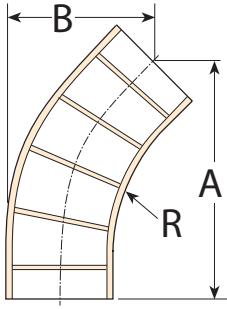
4" High Tray # = 246 \*  
5" High Tray # = 256 \*  
6" High Tray # = 266 \*

For Covers and Barriers  
See Accessories Section, Pages 1-20-1-22

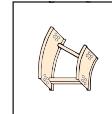
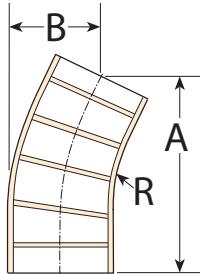
## 45° & 30° Horizontal Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### 45° Horizontal Bend



### 30° Horizontal Bend



R	W	Dimensions		Part Number
		A	B	
12" (305)	6	15.7 (400)	9.51 (242)	# * 06020
	9	16.8 (426)	11.45 (291)	# * 09020
	12	17.9 (455)	13.39 (340)	# * 12020
	18	20.0 (507)	17.27 (439)	# * 18020
	24	22.1 (561)	21.15 (537)	# * 24020
	30	24.2 (615)	25.03 (636)	# * 30020
	36	26.3 (669)	28.91 (734)	# * 36020
	42	28.5 (723)	32.79 (833)	# * 42020
	48	30.6 (777)	36.6 (9300)	# * 48020
24" (610)	6	24.2 (615)	13.0 (331)	# * 06022
	9	25.3 (642)	14.9 (380)	# * 09022
	12	26.3 (669)	16.9 (430)	# * 12022
	18	28.5 (723)	20.8 (528)	# * 18022
	24	30.6 (777)	24.7 (626)	# * 24022
	30	32.7 (831)	28.5 (725)	# * 30022
	36	34.8 (884)	32.4 (823)	# * 36022
	42	36.9 (938)	36.3 (922)	# * 42022
	48	39.1 (993)	40.2 (1021)	# * 48022
36" (914)	6	32.7 (831)	16.5 (420)	# * 06023
	9	33.8 (857)	18.5 (469)	# * 09023
	12	34.8 (884)	20.4 (519)	# * 12023
	18	36.9 (938)	24.3 (617)	# * 18023
	24	39.1 (992)	28.2 (716)	# * 24023
	30	41.2 (1046)	32.1 (814)	# * 30023
	36	43.3 (1100)	35.9 (913)	# * 36023
	42	45.4 (1154)	39.8 (1011)	# * 42023
	48	47.6 (1208)	43.7 (1110)	# * 48023
48" (1219)	6	41.2 (1046)	20.1 (510)	# * 06024
	9	42.2 (1073)	22.0 (559)	# * 09024
	12	43.3 (1100)	23.9 (608)	# * 12024
	18	45.4 (1154)	27.8 (706)	# * 18024
	24	47.6 (1208)	31.7 (805)	# * 24024
	30	49.7 (1262)	35.6 (903)	# * 30024
	36	51.8 (1315)	39.5 (1002)	# * 36024
	42	53.9 (1369)	43.3 (1100)	# * 42024
	48	56.0 (1422)	47.2 (1199)	# * 48024

R	W	Dimensions		Part Number
		A	B	
12" (305)	6	13.1 (333)	6.51 (165)	# * 06015
	9	13.9 (353)	8.21 (209)	# * 09015
	12	14.6 (371)	9.91 (252)	# * 12015
	18	16.6 (422)	13.31 (338)	# * 18015
	24	17.6 (447)	16.72 (425)	# * 24015
	30	19.1 (485)	20.12 (511)	# * 30015
	36	20.6 (523)	23.52 (597)	# * 36015
	42	22.1 (561)	26.52 (674)	# * 42015
	48	23.6 (601)	30.32 (770)	# * 48015
24" (610)	6	19.1 (485)	8.12 (206)	# * 06017
	9	19.9 (505)	8.95 (227)	# * 09017
	12	20.6 (523)	11.52 (293)	# * 12017
	18	22.1 (561)	14.92 (379)	# * 18017
	24	23.6 (599)	18.32 (465)	# * 24017
	30	25.1 (638)	21.79 (553)	# * 30017
	36	26.1 (663)	25.13 (638)	# * 36017
	42	28.1 (714)	28.53 (725)	# * 42017
	48	29.1 (739)	31.93 (811)	# * 48017
36" (914)	6	25.1 (638)	9.73 (247)	# * 06018
	9	25.9 (658)	11.43 (290)	# * 09018
	12	26.6 (676)	13.13 (334)	# * 12018
	18	28.1 (714)	16.53 (420)	# * 18018
	24	29.6 (752)	19.93 (506)	# * 24018
	30	31.1 (790)	23.33 (593)	# * 30018
	36	32.6 (828)	26.75 (679)	# * 36018
	42	34.1 (866)	30.14 (766)	# * 42018
	48	35.6 (904)	33.54 (852)	# * 48018
48" (1219)	6	31.1 (790)	11.33 (288)	# * 06019
	9	31.9 (810)	13.03 (331)	# * 09019
	12	32.6 (828)	14.74 (374)	# * 12019
	18	34.1 (866)	18.14 (461)	# * 18019
	24	35.6 (904)	21.54 (547)	# * 24019
	30	37.1 (942)	24.94 (633)	# * 30019
	36	38.6 (980)	28.34 (720)	# * 36019
	42	40.1 (1019)	31.74 (806)	# * 42019
	48	41.6 (10570)	35.15 (893)	# * 48019

#### For Steel Fitting Part Numbers Use:

4" High Tray # = 246 \*

5" High Tray # = 256 \*

6" High Tray # = 266 \*

#### For Covers and Barriers

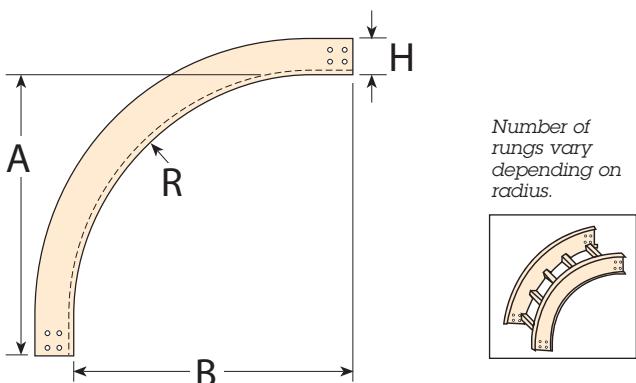
See Accessories Section, Pages 1-20-1-22

# Tray System \*Type of Material— See Page 1-4 for Selection.

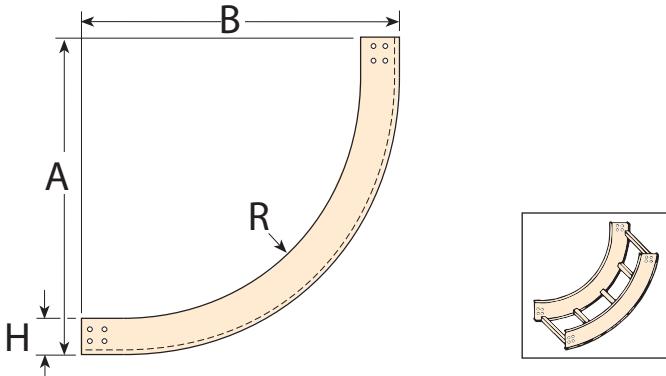
## 90° Outside & Inside Vertical Bend Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### 90° Outside Bend



### 90° Inside Bend



R	W	Outside Vertical Bend Dimensions			Inside Vertical Bend						Part Number
		A	B	Part Number	H@4"		H@5"		H@6.3"		
12" (305)	6	15 (381)	15 (381)	# * 06050	19 (483)	19 (483)	20 (508)	20 (508)	22.3 (566)	22.3 (566)	# * 06070
	9			# * 09050							# * 09070
	12			# * 12050							# * 12070
	18			# * 18050							# * 18070
	24			# * 24050							# * 24070
	30			# * 30050							# * 30070
	36			# * 36050							# * 36070
	42			# * 42050							# * 42070
	48			# * 48050							# * 48070
24" (610)	6	27 (686)	27 (686)	# * 06052	31 (787)	31 (787)	32 (813)	32 (813)	34.3 (871)	34.3 (871)	# * 06072
	9			# * 09052							# * 09072
	12			# * 12052							# * 12072
	18			# * 18052							# * 18072
	24			# * 24052							# * 24072
	30			# * 30052							# * 30072
	36			# * 36052							# * 36072
	42			# * 42052							# * 42072
	48			# * 48052							# * 48072
36" (914)	6	39 (991)	39 (991)	# * 06053	43 (1092)	43 (1092)	44 (1118)	44 (1118)	46.3 (1176)	46.3 (1176)	# * 06073
	9			# * 09053							# * 09073
	12			# * 12053							# * 12073
	18			# * 18053							# * 18073
	24			# * 24053							# * 24073
	30			# * 30053							# * 30073
	36			# * 36053							# * 36073
	42			# * 42053							# * 42073
	48			# * 48053							# * 48073
48" (1219)	6	51 (1295)	51 (1295)	# * 06054	55 (1397)	55 (1397)	56 (1422)	56 (1422)	58.3 (1481)	58.3 (1481)	# * 06074
	9			# * 09054							# * 09074
	12			# * 12054							# * 12074
	18			# * 18054							# * 18074
	24			# * 24054							# * 24074
	30			# * 30054							# * 30074
	36			# * 36054							# * 36074
	42			# * 42054							# * 42074
	48			# * 48054							# * 48074

W=Widths in Inches (mm)

6" (152)    30" (762)  
9" (229)    36" (914)  
12" (305)    42" (1067)  
18" (457)    48" (1176)  
24" (610)

H=Side Rail Height in Inches (mm)

4" (101)    7.3" (179) Consult Factory  
5" (127)    8" (203) Consult Factory  
6.3" (160)

# Tray System \*Type of Material— See Page 1-4 for Selection.

#### For Steel Fitting

#### Part Numbers Use:

4" High Tray # = 246 \*  
5" High Tray # = 256 \*  
6" High Tray # = 266 \*

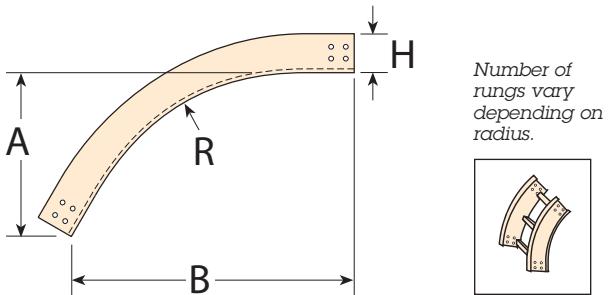
#### For Covers and Barriers

See Accessories Section, Pages 1-20-1-22

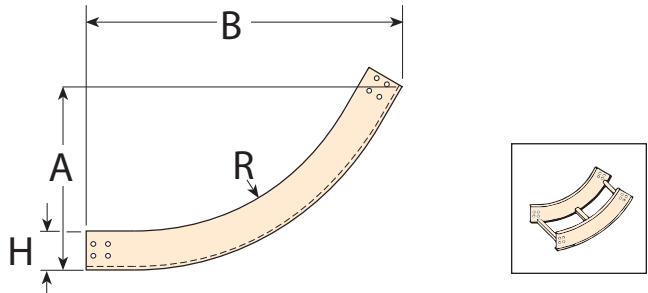
## 60° Outside & Inside Vertical Bend Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### 60° Outside Bend



### 60° Inside Bend



R	W	Outside Vertical Bend Dimensions			Part Number	Inside Vertical Bend						Part Number		
		Dimensions		A		H@4"		H@5"		H@6.3"				
		A	B			A	B	A	B	A	B			
12" (305)	6	8.6 (218)	14.9 (378)	# * 06045								# * 06065		
	9			# * 09045								# * 09065		
	12			# * 12045								# * 12065		
	18			# * 18045	10.6 (269)	18.35 (466)		11.1 (282)	19.22 (488)	12.7 (323)	21.1 (536)	# * 18065		
	24			# * 24045								# * 24065		
	30			# * 30045								# * 30065		
	36			# * 36045								# * 36065		
	42			# * 42045								# * 42065		
	48			# * 48045								# * 48065		
	24" (610)			# * 06047								# * 06067		
	9			# * 09047								# * 09067		
	12			# * 12047								# * 12067		
	18			# * 18047	16.6 (422)	28.74 (730)		17.1 (434)	29.61 (752)	18.7 (475)	31.5 (800)	# * 18067		
	24			# * 24047								# * 24067		
	30			# * 30047								# * 30067		
	36			# * 36047								# * 36067		
	42			# * 42047								# * 42067		
	48			# * 48047								# * 48067		
36" (914)	6	20.60 (523)	35.68 (907)	# * 06048								# * 06068		
	9			# * 09048								# * 09068		
	12			# * 12048								# * 12068		
	18			# * 18048	22.6 (579)	39.14 (994)		23.1 (587)	40.01 (1016)	24.7 (627)	41.9 (1064)	# * 18068		
	24			# * 24048								# * 24068		
	30			# * 30048								# * 30068		
	36			# * 36048								# * 36068		
	42			# * 42048								# * 42068		
	48			# * 48048								# * 48068		
	48" (1219)			# * 06049								# * 06069		
	9			# * 09049								# * 09069		
	12			# * 12049								# * 12069		
	18			# * 18049	28.6 (726)	49.53 (1258)		29.1 (739)	50.4 (1280)	30.7 (780)	52.2 (1328)	# * 18069		
	24			# * 24049								# * 24069		
	30			# * 30049								# * 30069		
	36			# * 36049								# * 36069		
	42			# * 42049								# * 42069		
	48			# * 48049								# * 48069		

# Tray System \*Type of Material— See Page 1-4 for Selection.

#### For Steel Fitting Part Numbers Use:

4" High Tray # = 246 \*

5" High Tray # = 256 \*

6" High Tray # = 266 \*

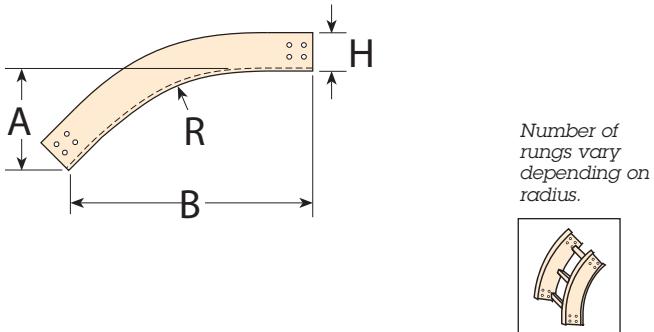
#### For Covers and Barriers

See Accessories Section, Pages 1-20-1-22

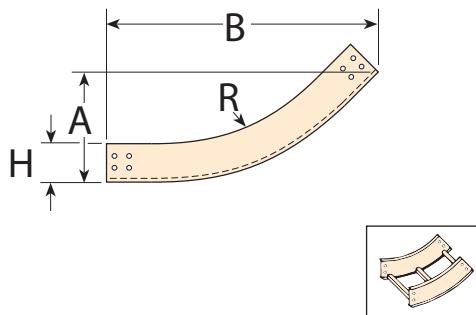
## 45° Outside & Inside Vertical Bend Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### 45° Outside Bend



### 45° Inside Bend



R	W	Outside Vertical Bend			Inside Vertical Bend						Part Number
		Dimensions		Part Number	H@4"		H@5"		H@6.3"		
A	B				A	B	A	B	A	B	
12" (305)	6	5.6 (143)	13.6 (356)	# * 06040							# * 06060
	9			# * 09040							# * 09060
	12			# * 12040							# * 12060
	18			# * 18040	6.8 (173)	16.4 (417)	7.1 (180)	17.1 (435)	7.8 (198)	18.8 (478)	# * 18060
	24			# * 24040							# * 24060
	30			# * 30040							# * 30060
	36			# * 36040							# * 36060
	42			# * 42040							# * 42060
	48			# * 48040							# * 48060
24" (610)	6	9.2 (232)	22.1 (561)	# * 06042							# * 06062
	9			# * 09042							# * 09062
	12			# * 12042							# * 12062
	18			# * 18042	10.3 (262)	24.92 (633)	10.6 (270)	25.6 (651)	11.3 (287)	27.3 (693)	# * 18062
	24			# * 24042							# * 24062
	30			# * 30042							# * 30062
	36			# * 36042							# * 36062
	42			# * 42042							# * 42062
	48			# * 48042							# * 48062
36" (914)	6	12.7 (322)	30.6 (777)	# * 06043							# * 06063
	9			# * 09043							# * 09063
	12			# * 12043							# * 12063
	18			# * 18043	13.8 (351)	33.4 (849)	14.1 (359)	34.12 (867)	14.8 (376)	35.7 (907)	# * 18063
	24			# * 24043							# * 24063
	30			# * 30043							# * 30063
	36			# * 36043							# * 36063
	42			# * 42043							# * 42063
	48			# * 48043							# * 48063
48" (1219)	6	16.2 (411)	39.1 (922)	# * 06044							# * 06064
	9			# * 09044							# * 09064
	12			# * 12044							# * 12064
	18			# * 18044	17.4 (441)	41.9 (1064)	17.6 (448)	42.6 (1082)	18.03 (465)	44.2 (1123)	# * 18064
	24			# * 24044							# * 24064
	30			# * 30044							# * 30064
	36			# * 36044							# * 36064
	42			# * 42044							# * 42064
	48			# * 48044							# * 48064

W=Widths in Inches (mm)

6" (152)    30" (762)  
9" (229)    36" (914)  
12" (305)    42" (1067)  
18" (457)    48" (1176)  
24" (610)

H=Side Rail Height in Inches (mm)

4" (101)    7.3" (179) Consult Factory  
5" (127)    8" (203) Consult Factory  
6.3" (160)

For Steel Fitting  
Part Numbers Use:

4" High Tray # = 246 \*  
5" High Tray # = 256 \*  
6" High Tray # = 266 \*

For Covers and Barriers

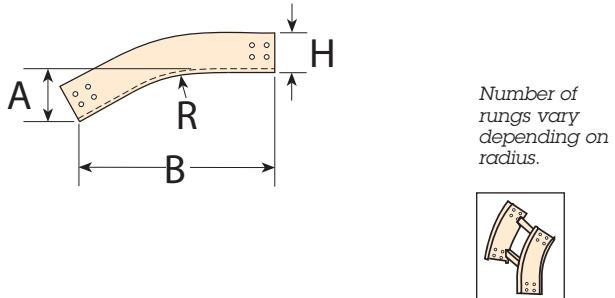
See Accessories Section, Pages 1-20-1-22

# Tray System \*Type of Material— See Page 1-4 for Selection.

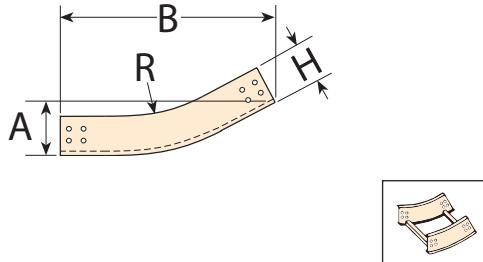
## 30° Outside & Inside Vertical Bend Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation. Each fitting and straight section comes with a pair (2) splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### 30° Outside Bend



### 30° Inside Bend



R	W	Outside Vertical Bend					Inside Vertical Bend				Part Number	
		Dimensions		Part Number	H@4"		H@5"		H@6.3"			
		A	B		A	B	A	B	A	B		
12" (305)	6			#* 06035							#* 06055	
	9			#* 09035							#* 09055	
	12			#* 12035							#* 12055	
	18	3.2 (79)	11.6 (295)	#* 18035	3.7 (93)	13.6 (345)	3.8 (96)	14.1 (358)	3.9 (100)	14.8 (375)	#* 18055	
	24			#* 24035							#* 24055	
	30			#* 30035							#* 30055	
	36			#* 36035							#* 36055	
	42			#* 42035							#* 42055	
	48			#* 48035							#* 48055	
24" (610)	6			#* 06037							#* 06057	
	9			#* 09037							#* 09057	
	12			#* 12037							#* 12057	
	18	4.7 (120)	17.6 (447)	#* 18037	5.3 (133)	19.6 (498)	5.4 (137)	20.1 (511)	5.6 (141)	20.8 (527)	#* 18057	
	24			#* 24037							#* 24057	
	30			#* 30037							#* 30057	
	36			#* 36037							#* 36057	
	42			#* 42037							#* 42057	
	48			#* 48037							#* 48057	
36" (914)	6			#* 06038							#* 06058	
	9			#* 09038							#* 09058	
	12			#* 12038							#* 12058	
	18	6.32 (161)	23.60 (599)	#* 18038	6.9 (174)	25.6 (650)	7.0 (178)	26.1 (663)	7.2 (182)	27.1 (688)	#* 18058	
	24			#* 24038							#* 24058	
	30			#* 30038							#* 30058	
	36			#* 36038							#* 36058	
	42			#* 42038							#* 42058	
	48			#* 48038							#* 48058	
48" (1219)	6			#* 06039							#* 06059	
	9			#* 09039							#* 09059	
	12			#* 12039							#* 12059	
	18	7.93 (201)	29.60 (752)	#* 18039	8.5 (215)	31.6 (803)	8.6 (218)	32.1 (815)	8.8 (223)	32.8 (832)	#* 18059	
	24			#* 24039							#* 24059	
	30			#* 30039							#* 30059	
	36			#* 36039							#* 36059	
	42			#* 42039							#* 42059	
	48			#* 48039							#* 48059	

# Tray System \*Type of Material— See Page 1-4 for Selection.

### For Steel Fitting Part Numbers Use:

4" High Tray #\* = 246 \*

5" High Tray #\* = 256 \*

6" High Tray #\* = 266 \*

### For Covers and Barriers

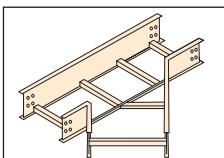
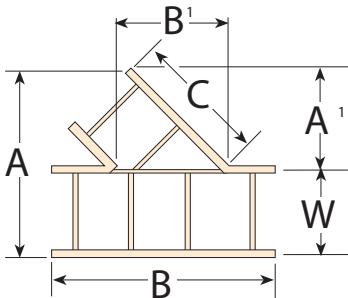
See Accessories Section, Pages 1-20-1-22



## Fittings

All Ladder Tray Fittings have rungs on 9" centers with 3" tangents for easy fit-up during installation.

### Left or Right Hand Wye



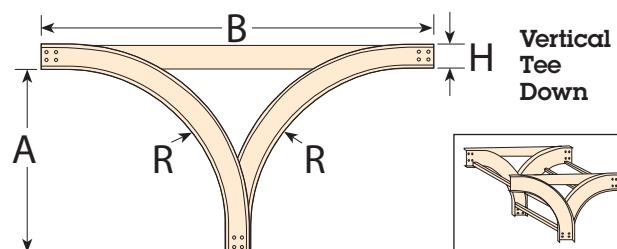
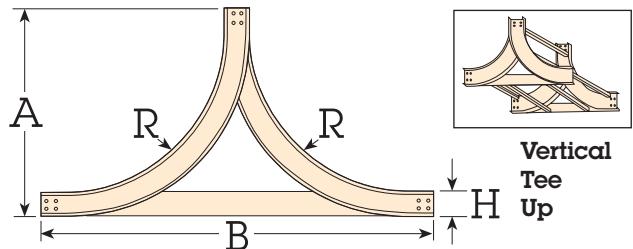
Number of rungs vary depending on tray width.

W	B <sup>1</sup>	B	C	A <sup>1</sup>	A	Part Number
6"	8.49 (216)	15.73 (400)	12 (305)	4.24 (108)	14.49 (368.0)	# * W 172 RIGHT Hand
9"	12.73 (323)	22.09 (561)	18 (457)	6.36 (162)	21.73 (551.9)	
12"	16.97 (431)	28.45 (723)	24 (610)	8.48 (215)	28.97 (735.8)	
18"	25.45 (647)	41.19 (1046)	36 (914)	12.73 (323.3)	43.46 (1103.9)	
24"	33.94 (862)	53.91 (1369)	48 (1219)	16.97 (431.0)	57.94 (1471.7)	or
30"	42.43 (1078)	66.64 (1693)	60 (1524)	21.21 (538.7)	72.43 (1839.7)	# * W 173 LEFT Hand
36"	50.91 (1293)	79.37 (2016)	72 (1829)	25.46 (646.7)	86.41 (2194.8)	
42"	59.40 (1509)	92.10 (2339)	84 (2134)	29.20 (741.7)	101.4 (2575.6)	
48"	67.90 (1725)	104.34 (2650)	96 (2438)	33.94 (862.1)	115.9 (2943.9)	

Special Wyes can be made with two different tray widths. Consult factory.

Each Wye is furnished with two pairs (4) of splice plates and eight (8) 9SBN302 nut and bolt assemblies.

### Vertical Tee



R	Dimensions / Side Rail Height = H						Part Number
	4"		5"		6"		
A	B	A	B	A	B		
	15 (381)	34 (864)	15 (381)	35 (889)	15 (381)	36.3 (922)	# * W 095
12" (305)	19 (483)	34 (864)	20 (508)	35 (889)	22.3 (566)	36.3 (922)	# * W 095U
	27 (686)	58 (1473)	27 (686)	59 (1499)	27 (686)	60.3 (1532)	# * W 097
24" (610)	31 (787)	58 (1473)	32 (813)	59 (1499)	34.3 (871)	60.3 (1532)	# * W 097U
	39 (991)	82 (2083)	39 (991)	83 (2108)	39 (846)	84.3 (2141)	# * W 098
36" (914)	43 (1092)	82 (2083)	44 (1118)	83 (2108)	46.3 (1176)	84.3 (2141)	# * W 098U
	51 (1295)	106 (2692)	51 (1295)	107 (2718)	51 (1295)	108.3 (2751)	# * W 099
48"	55 (1397)	106 (2692)	56 (1422)	107 (2718)	58.3 (1481)	108.3 (2751)	# * W 099U

Each Vertical Tee is furnished with two (2) pairs of splice plates and sixteen (16) 9SBN302 nut and bolt assemblies.

### Fitting Reducers

Fitting Reducers are available in right hand, left hand or concentric styles as a special order. Consult Factory. Chalfant strongly recommends the use of **offset splice plate reducers** which are 1/3 the cost and 1/2 the labor to install while doing the same job.

See Page 1-19 in the Accessories Section.

### Fitting Covers

**Covers**— Available in Flanged and Flat styles only.

See page 1-20 in the Accessories Section.

To order covers substitute the "Tray System" number (#) with a **7** for the Flanged style cover or a **67** for a Flat cover style.

Example:  
Tray part Number. 2 A 06050

7                    67  
Flanged            Flat

**Barriers**— Available for Horizontal and Vertical fittings.

See page 1-22 in the Accessories Section.

To order Vertical Barriers substitute the "Tray System" number (#) with an **8**. and substitute "BS", as shown.

Example:

Tray part Number. 2 A 06050 + [Barrier Height]  
8                    BS

For Horizontal Barriers— See Page 1-22 and specify part number 8 \* BS340-A.

# Tray System

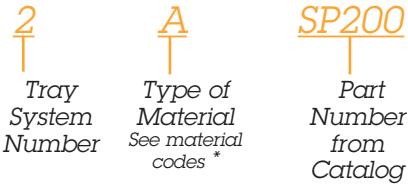
\* Type of Material— See Page 1-4 for Selection.

# Cable Tray Accessories

Chalfant's complete line of accessories are designed to be used with the following Cable Tray Systems:

## How to Order

Example: 4-Bolt Slotted Hole Splice Plate



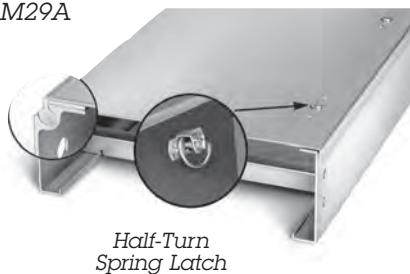
### \* Material Code:

- A** = Aluminum, High Strength 6063T6 Extrusions (5052H34 sheet)
- S** = Pre-Galvanized Steel to ASTM 653A G-90 Coating, 1.05 Mils Thick
- G** = Hot Dip Galvanized after Fabrication to ASTM 123-B2 2.55 Mils Thick (replaced ASTM 386)
- T** = 304L Stainless Steel
- Z** = 316L Stainless Steel

## Cable Tray Accessories

### Integral Hinged Cover

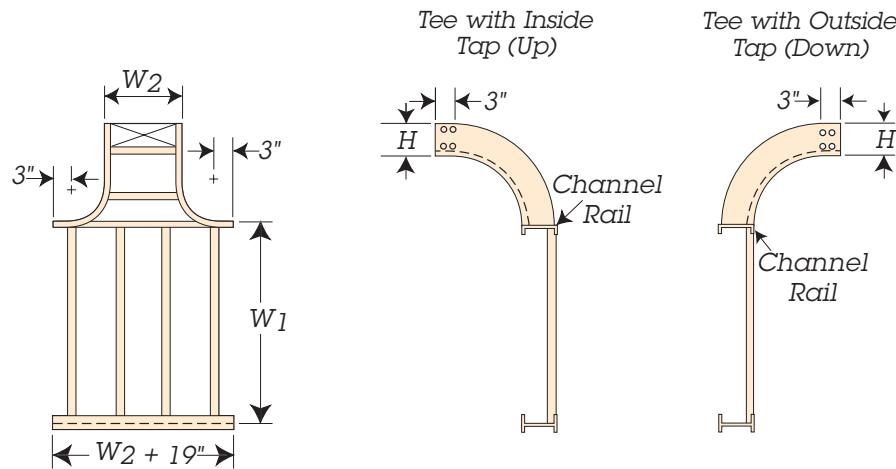
M24A  
M29A



Available in 24A and 29A systems in twelve foot standard lengths. Material is 6063 Aluminum Alloy.

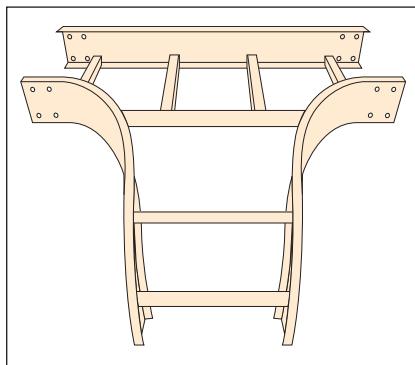
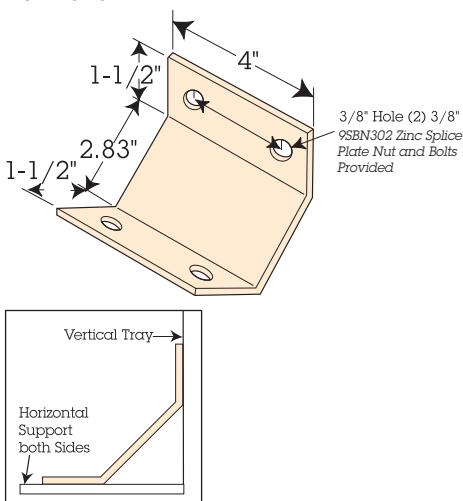
### Tee with Drop-Out

24A W1085-VOT-W2 (vertical outside tap)  
24A W1085-VIT-W2 (vertical inside tap)



### Heavy-Duty Vertical Hold Down Bracket

9SHD590



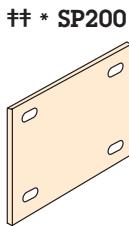
W<sub>1</sub> = Width of Horizontal Run  
W<sub>2</sub> = Width of Vertical Tap

Available in any tray size in systems 2A through 665A. Material is 6063 Aluminum Alloy. See page 1-6 for selection.

## Cable Tray Splice Plates and Adapters

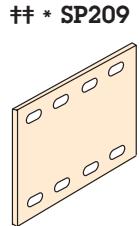
Note: All splice plates are shipped in pairs with necessary zinc hardware.

### 4 Bolt Splice Plate



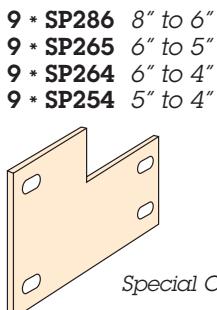
# \* SP200

### 8 Hole Long Splice Plate



# \* SP209

### Adapter Splice Plate

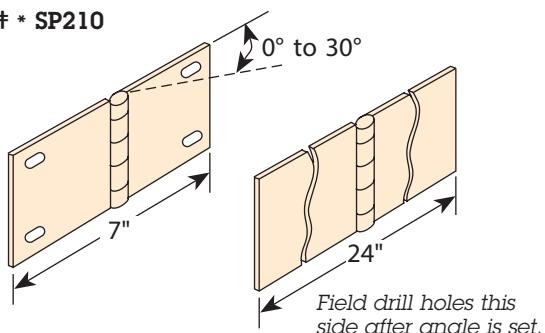


9 \* SP286 8" to 6"  
9 \* SP265 6" to 5"  
9 \* SP264 6" to 4"  
9 \* SP254 5" to 4"

Special Order

### Horizontal Adjustable Splice Plate

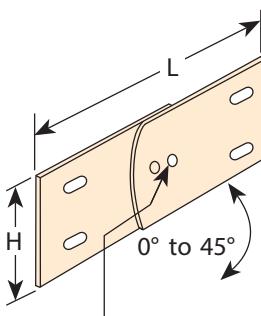
# \* SP210



Note: Anti-oxide compound is not needed behind plates— Per NEMA VE-2.

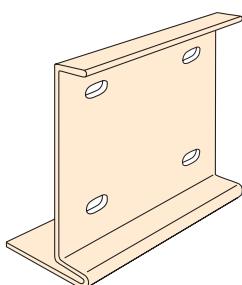
### Vertical Adjustable Splice Plate

# \* SP212



Field drill hole next to pivot point after angle is set.

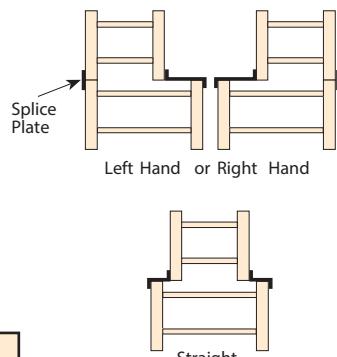
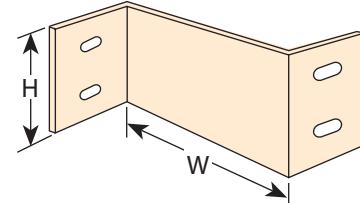
### Mid-Span Splice Plate



Aluminum splice plates are shipped in pairs with zinc hardware.

Rail Height	Tray Series	Part Number
6"	665A	665AWASP200
7"	47A	47AWASP200
	57A	57AWASP200

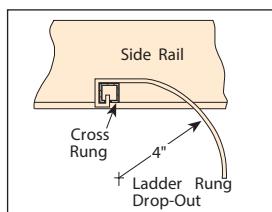
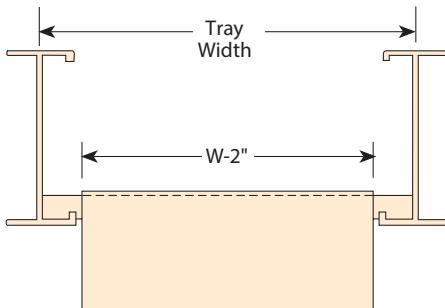
### Reducer Splice Plates



Where application calls for a left or right hand reduction, Chalfant reducing splice plates are sold with a standard splice plate # \* SP200. For a concentric straight reduction, the dimension "W" is the total reduction.

### Ladder Rung Drop-Out

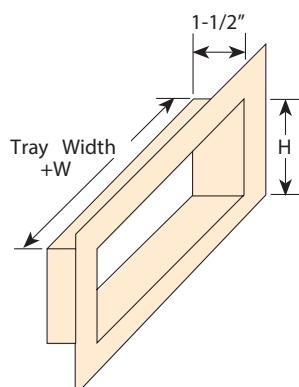
9 \* W198



# Tray System

\* Type of Material— See Page 1-18 for Selection.

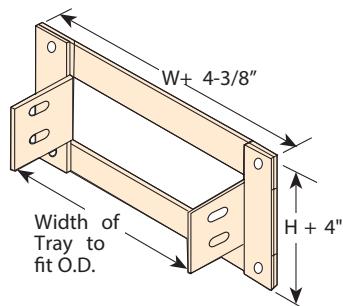
### Wall Frame— 1 Tier



Rail Height	H	W	Part Number
4"	4.0"	2.50"	94-W495
5"	5.4375	2.50"	95-W495
6"	6.875	2.50"	96-W495

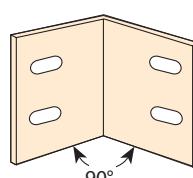
### Tray to Panel Frame

9HSW244

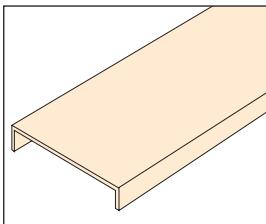
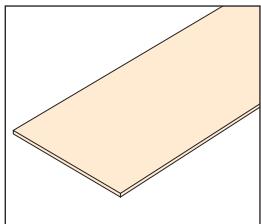
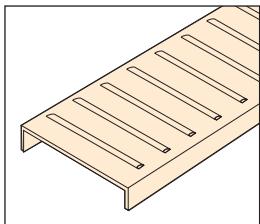
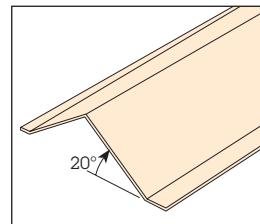
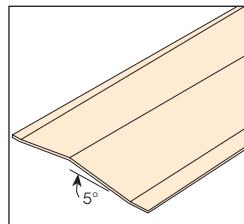


### 90° Alternate Tray to Box Connector

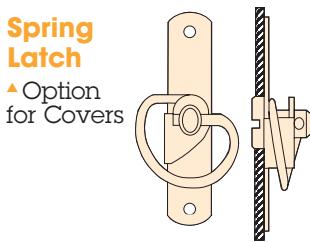
# \* SP213



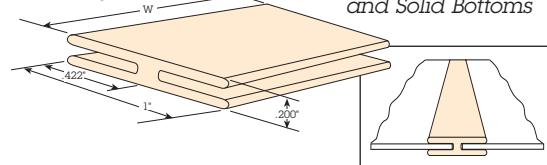
## Covers and Accessories

**Standard Cover****Flat Cover<sup>▲</sup>**  
67 \* W 010**Louvered Cover<sup>▲</sup>**  
7 \* W 010-V**Peak Cover-- 20°**  
7 \* W 010-P**Rain Peaked Cover**  
7 \* W 010-RP

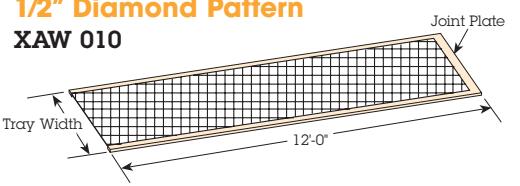
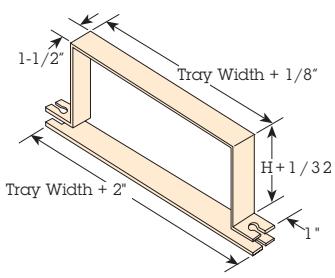
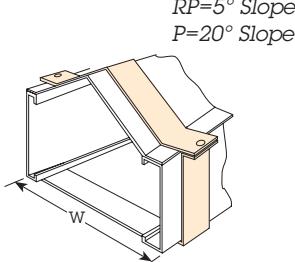
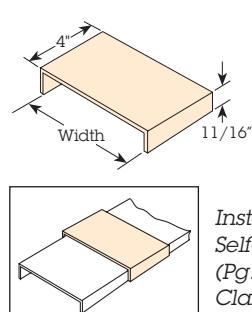
Note: Standard cover length is 12'. ▲ Also available with installed spring latches— See Below and Page 1-18. W=Width

**Spring Latch**

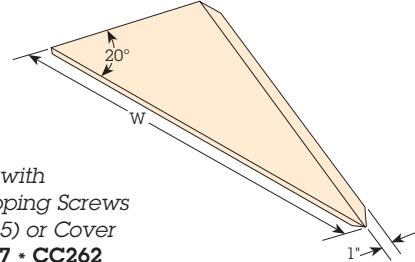
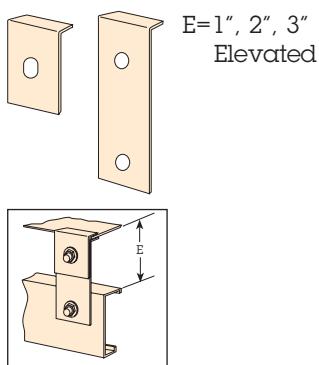
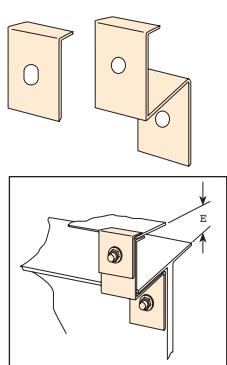
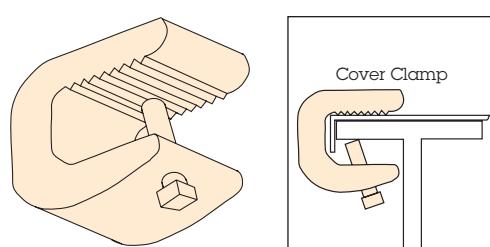
▲ Option  
for Covers

**H Joint**  
**9AW196**

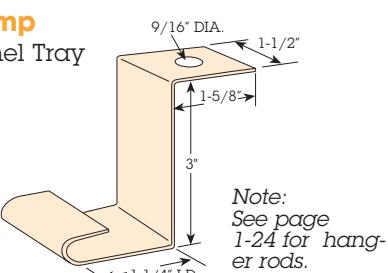
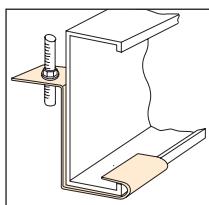
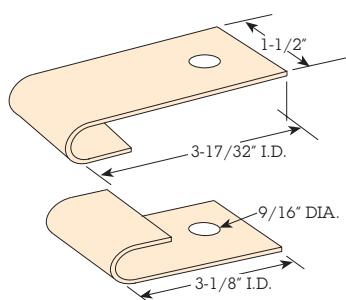
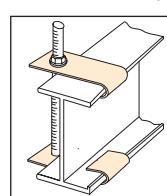
For Covers,  
Expanded Metal  
and Solid Bottoms

**Aluminum Expanded Metal Bottom--**  
**1/2" Diamond Pattern****XAW 010****Heavy Duty Cover Strap**  
7 \* W69H**Peaked Cover  
Heavy Duty Strap**7 \* W69H-RP  
7 \* W69H-P**Cover Joint Strap**  
7 \* W196**Peaked Cover  
Blind End**

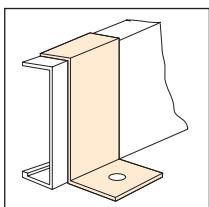
7 \* W245

**Raised Cover  
Clamp-- Channel**  
7 \* CC70C**Raised Cover  
Clamp-- I-Beam**  
7 \* CC70E**Aluminum Cover Clamp or  
Conduit Bracket**  
7ACC262

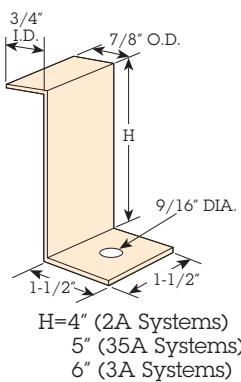
For galvanized steel  
order 7SCC262

**Hanger Rod Clamp**  
9SHC239 All Channel Tray**Hanger Rod Clamp**  
9SHC257 3A, 26A & 46A Tray  
9SHC249 2A, 34A & 35A Tray

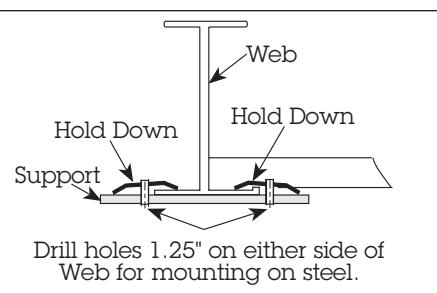
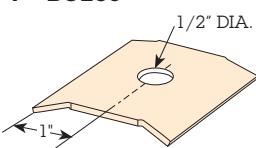
### Wall Bracket Clamp-- Channel 9SOH248



For I-Beam— **9S ## A248**



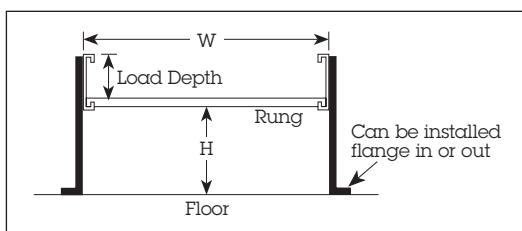
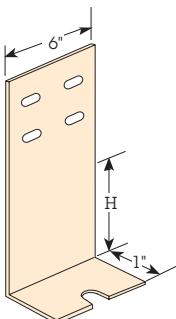
### Hold Down Clamp 9 \* BC250



Used on either side with aluminum I-beam.  
Installs on inside of C-Channel.

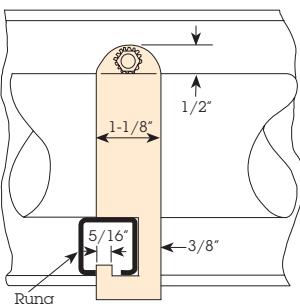
### Raised Support Splice Plate

**## \* SP200-H**



Used on C-Channel side rails, only.  
U.S. Patent 4,596,095

### Stainless Steel Ladder Rung Cable Clamp

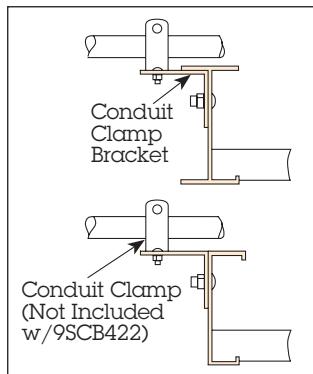
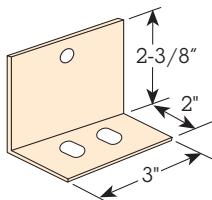


1/4" adjustment on all clamps.  
20 ga. stainless steel with 1/4"-20-3/4" bolt and locknut.

O. D. of Cable	Part Numbers
1.00"-1.25"	9TLC288
1.25"-1.50"	9TLC289
1.50"-1.75"	9TLC290
1.75"-2.00"	9TLC291
2.00"-2.25"	9TLC292
2.25"-2.50"	9TLC293
2.50"-2.75"	9TLC294
2.75"-3.00"	9TLC295
3.00"-3.25"	9TLC296
3.25"-3.50"	9TLC297
3.50"-3.75"	9TLC298
3.75"-4.00"	9TLC299
4.00"-4.25"	9TLC300
4.25"-4.50"	9TLC301
4.50"-4.75"	9TLC302

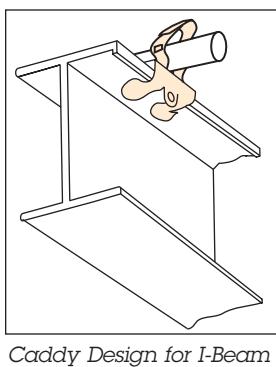
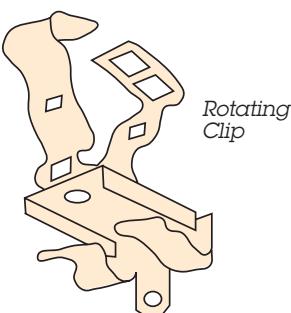
### Optional Conduit Clamp Bracket

**9SCB422**



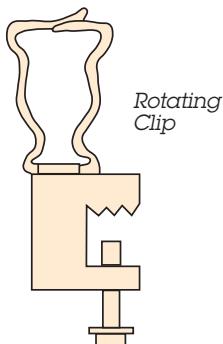
### Universal Clamp & Conduit Clip

**9SCB423** (1/2" to 3/4" Conduit)



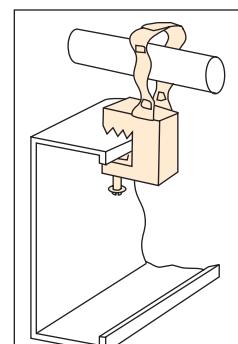
### Beam Clamps

**9SCB424** (1/2" to 3/4" Conduit)\*\*



Caddy Design for C-Channel

\*\*Call factory for other conduit sizes.



## Tray System

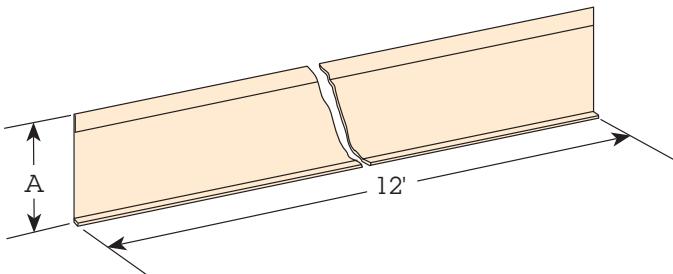
\* Type of Material— See Page 1-18 for Selection.

## Barriers and Separators

### Barrier Strip-- Straight

8 \* BS010-A

(For 3 meter length order: 8 \* BS118-A)



All barriers are supplied with (4) 9STK774 magnetic steel self tapping screws.

### 90° Inside Vertical Barrier

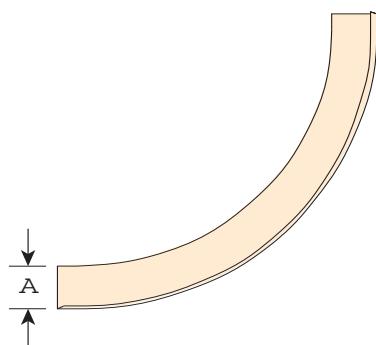
12"- 8 \* BS07 † -A

24"- 8 \* BS07 † -A

36"- 8 \* BS07 † -A

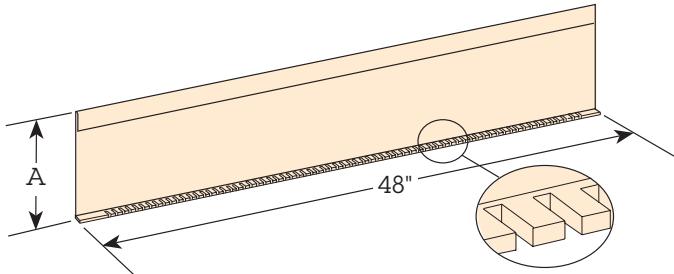
48"- 8 \* BS07 † -A

0=12" Radius  
2=24" Radius  
3=36" Radius  
4=48" Radius



### Horizontal Adjustable Barrier-- Hand Formed

8 \* BS340-A



A= 3 for 3" and 4" Load Depths  
5 for 5" and 6" Load Depths

### 90° Outside Vertical Barrier

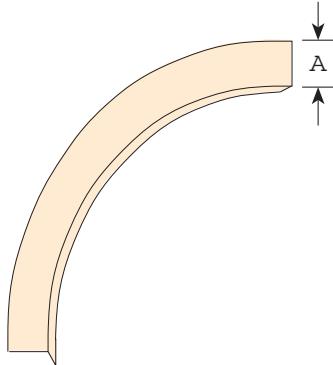
12"- 8 \* BS05 † -A

24"- 8 \* BS05 † -A

36"- 8 \* BS05 † -A

48"- 8 \* BS05 † -A

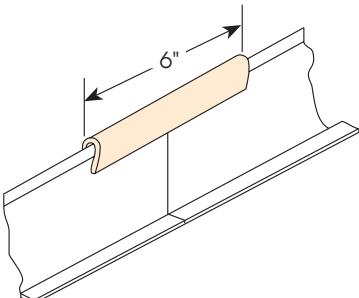
0=12" Radius  
2=24" Radius  
3=36" Radius  
4=48" Radius



For 30°, 45° and 60° Vertical Barriers, See Page 1-17

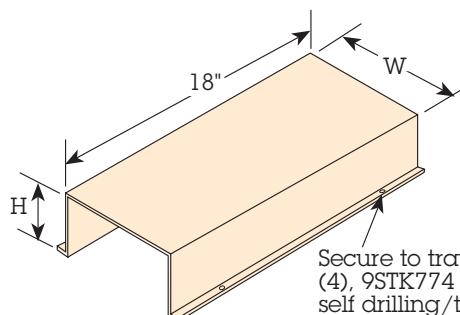
### Barrier Alignment Joint Strip (Nylon)

8N06196



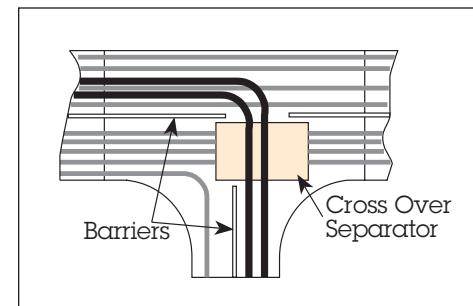
### Cross Over Separator

8HSW



H=2" or 4"  
S=16 Gauge Steel-ASTM-653A  
W=6" or 12"

Secure to tray with supplied  
(4), 9STK774 stainless steel  
self drilling/tapping screws



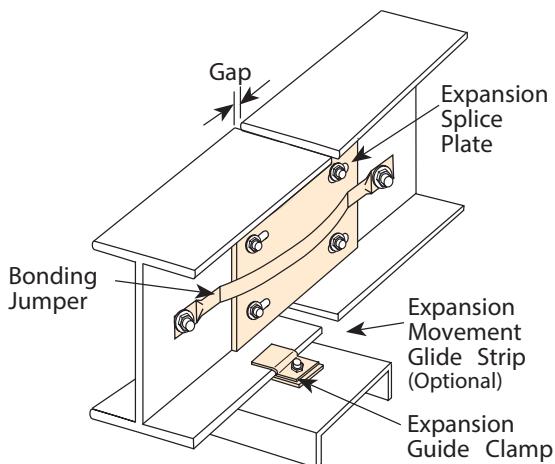
† Tray System

\* Type of Material—

See Page 1-18 for Selection.

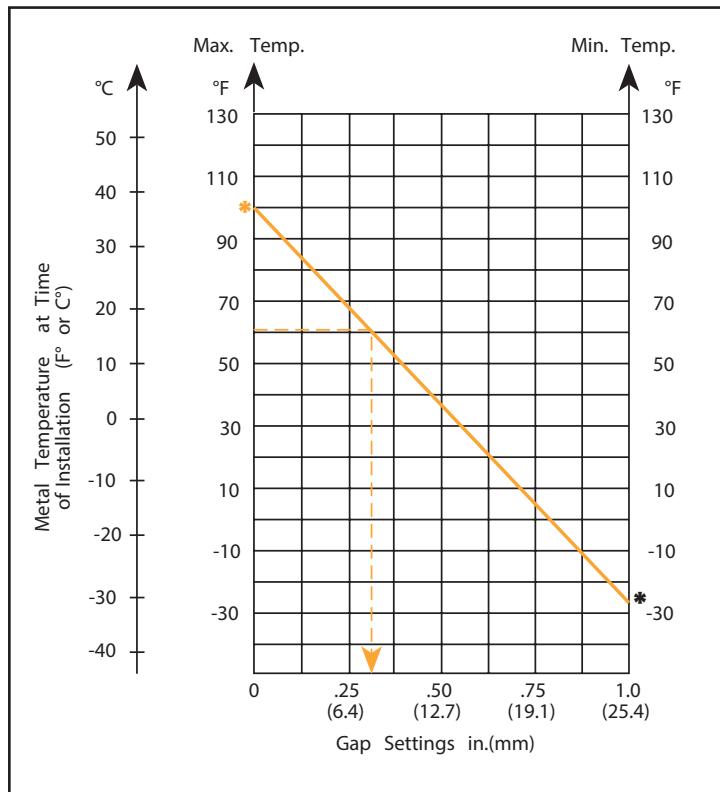
## Expansion Joint Components/Gap Setting

### Tray Expansion Gap Setting



**Maximum Spacing Between Expansion Joints that Provide for One Inch (25.4) Movement**

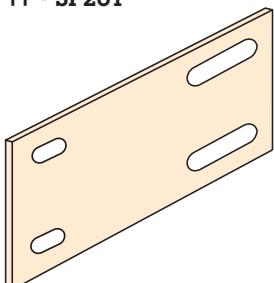
Temperature Differential	Steel		Aluminum			
	F°	C°	Ft.	m	Ft.	m
25 (-4)	512	(156)	260	(79.2)		
50 (10)	256	(78)	130	(39.6)		
75 (24)	171	(52.1)	87	(26.5)		
100 (38)	128	(39.0)	65	(19.8)		
125 (51)	102	(31.1)	52	(15.8)		
150 (65)	85	(25.9)	43	(13.1)		
175 (79)	73	(22.2)	37	(11.3)		



\* Input temperature Max/Min for your location.

### Expansion Splice Plate

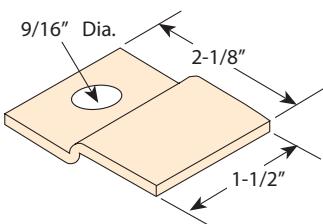
#\* SP201



Furnished in pairs (2) with (4) 9SBN302 nut & bolt assemblies and (4) 9SEB519 shoulder bolts, washers and nyloc hex nuts.

### Expansion Guide Clamp

9 \* EX253

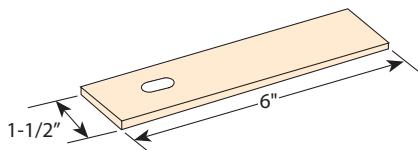


# Tray System

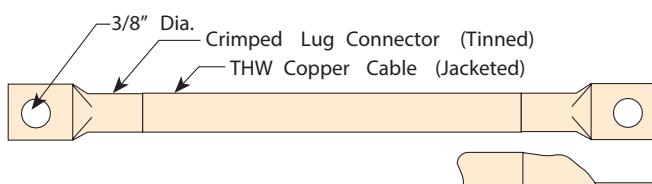
\* Type of Material— See Page 1-18 for Selection.

### Expansion Movement Glide Strip—Isolation Pad

9NPG259



### Bonding Jumper

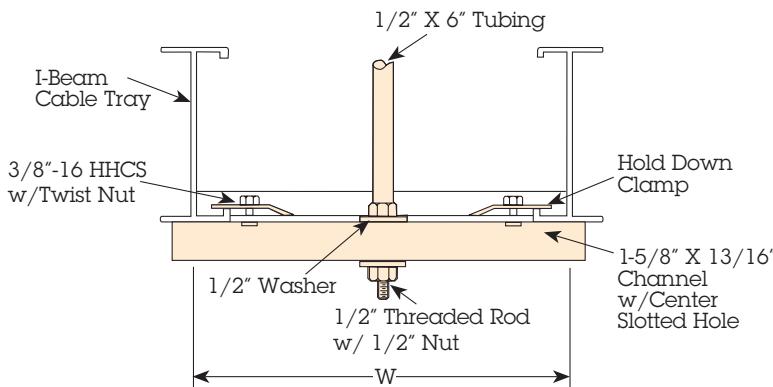


Cable Size	Rated Amps	Part Number
#6	200	9CBJ200
#1	600	9CBJ600
2/0	1000	9CBJ1000
4/0	1600	9CBJ1600

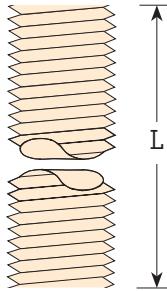
Furnished with (2) 3/8" fasteners. Field drill mounting holes. Allow for 1" expansion.

# Support Equipment

## Single Center Support for Ladder Tray 9SW263



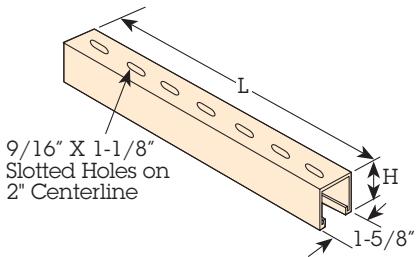
## Hanger Rods



L	Part Number	
	3/8"-16	1/2"-13
12"	9S12310	9S12312
24"	9S24310	9S24312
36"	9S36310	9S36312
48"	9S48310	9S48312
72"	9S72310	9S72312
120"	9S120310	9S120312

Note: All items are supplied except for 1/2" threaded rod.

## Trapeze Support Bracket

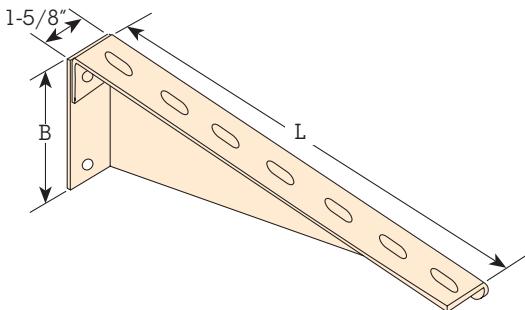


Tray Width	L	H	Usable Load (lbs.)	Part* Number
6	12"	0.8125	985	9S12323
9	15"	0.8125	830	9S15323
12	18"	0.8125	680	9S18323
18	24"	0.8125	495	9S24323
24	30"	1.625	1050	9S30323
30	36"	1.625	880	9S36323
36	42"	1.625	600	9S42323

Note: Hanger rods and hardware not included.

Standard Channel Strut		Part* Number
Length	Single Double	
10'	Single	9S10570
10'	Double	9S10572
20'	Single	9S20570
20'	Double	9S20572

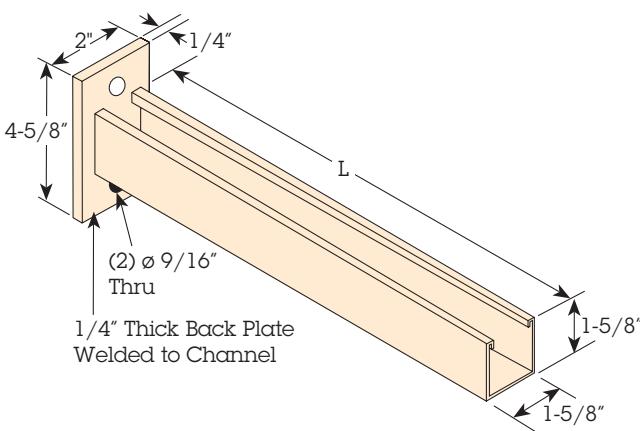
## Shelf Style Wall Bracket



Tray Width	L	B	Uniform Load (lbs.)	Part* Number
6 & 9	10"	3.00	300	9S10322
12	16"	4.50	300	9S16322
18	22"	6.00	300	9S22322
24	28"	7.50	300	9S28322

Important: Allowance must be made for expansion if temperature extremes exist.

## Medium Duty Strut Channel Bracket



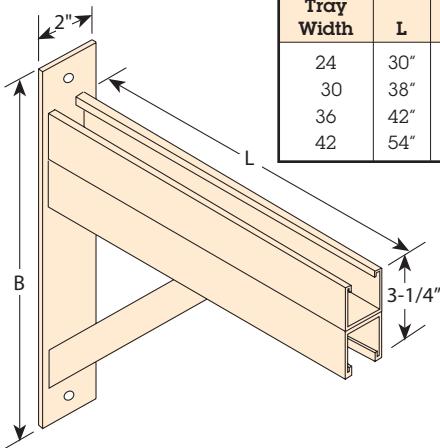
Tray Width	L	Uniform Load (lbs.)	Ga	Part* Number
6 & 9	12"	1500	12	9S12580
12	18"	750	12	9S18580
18	24"	500	12	9S24580
24	30"	250	12	9S30580

F.O.S. = 2.5

Securely mounted to wall with proper hardware.

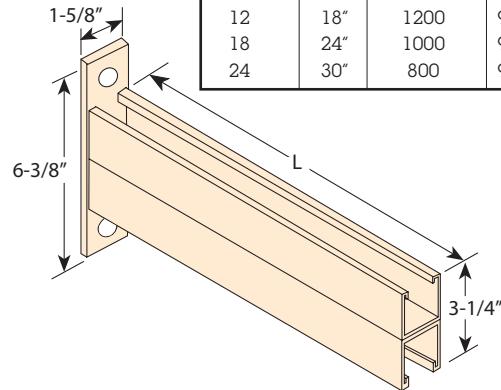
\* For hot dipped ASTM 123 galvanized steel after fabrication: specify "G" for material designation.

## Heavy Duty Wall Bracket



Tray Width	L	B	Uniform Load (lbs.)	Part Number
24	30"	27.25	3000	9S30321
30	38"	35.25	2800	9S38321
36	42"	39.25	2500	9S42321
42	54"	49.25	2000	9S54321

## Double Channel Bracket



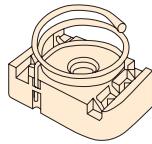
Tray Width	L	Uniform Load (lbs.)	Part Number
6 & 9	12"	2000	9S12582
12	18"	1200	9S18582
18	24"	1000	9S24582
24	30"	800	9S30582

## Other Accessories

**Flanged Washer/Hex Nut**  
9S38309 3/8" - 16  
9S12309 1/2" - 13



**Twist Nut**  
9S38575 - 3/8" - 16  
9S12575 - 1/2" - 13

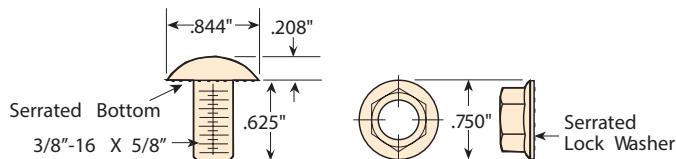


### Splice Plate Nut & Bolt Assembly

9TBN302 Stainless Steel

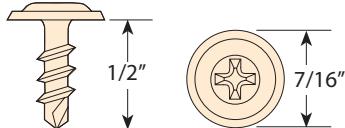
9SBN302 Zinc Plated (Standard)

The Splice Plate Nut & Bolt Assembly features a serrated truss head bolt and serrated hex flange lock nut. Recommended torque value is 20-foot pounds.



### Self-Drilling/Tapping Screw

9STK774 Special Dorri Tech™ Coating, Steel (Magnetic)



For Covers, Barriers and Solid Bottom Installations

### Misc. Accessories

9S38574	3/8"	16 X 1" Hex Head Machine Bolt
9S12574	1/2"	13 X 1" Hex Head Machine Bolt
9S12576	1-5/8"	Square Washer for Strut
9S38307	3/8"	Washer
9S12307	1/2"	Washer
9S38318	3/8"	16 Beam Clamp - Malleable Iron Plated
9S12318	1/2"	13 Beam Clamp - Malleable Iron Plated
9SVB227	"L"	Vertical Tray Bracket