

# CHALFANT

**OBO** Bettermann Group



**Series 6**  
Trough Style Tray



**Series 6  
Trough Cable Tray**  
Typical Installations



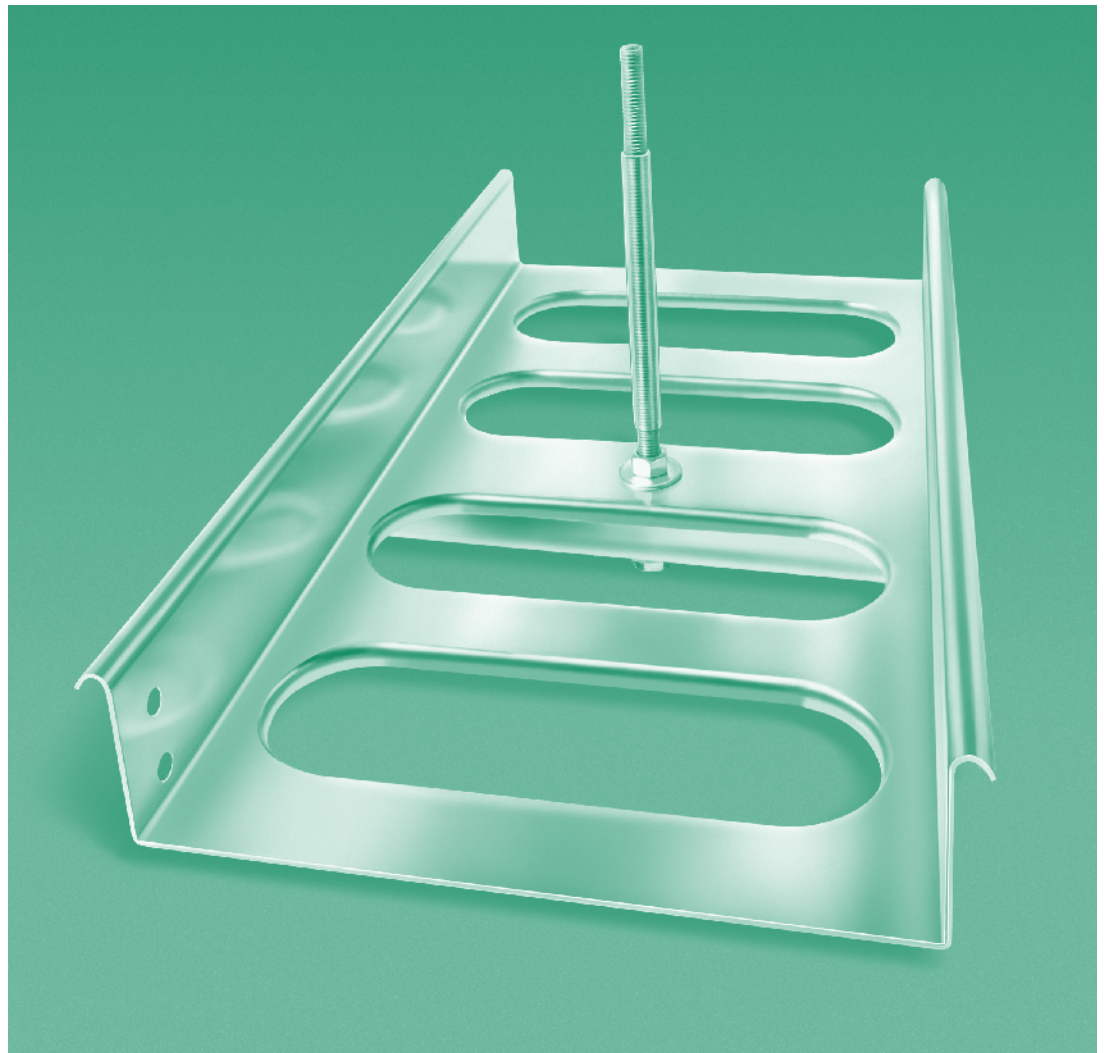
# Series 6 Trough Cable Tray

Since it was introduced in the 50's, Chalfant's Series 6 Cable Tray has become the preferred choice for many hospitals, schools, universities, laboratories, airports, retail stores and offices as well as industrial and plant applications. Series 6 Cable Tray is extremely versatile and adaptable to your special needs and is very easy to specify and install. Popular models are available from stock in Cleveland and several other locations throughout the U.S.A.

- Takes up to 25 percent less space than ladder or corrugated bottom designs.
- Has an installed cost of 40 to 60 percent less than conduit.
- One-piece design provides rigidity.
- Easy to design, modify or extend.
- Available in galvanized or plain steel, aluminum or stainless steel.
- Can be painted or coated with fusion bonded epoxy.
- Can be custom cut to length
- Barriers can be installed to reduce field labor costs.

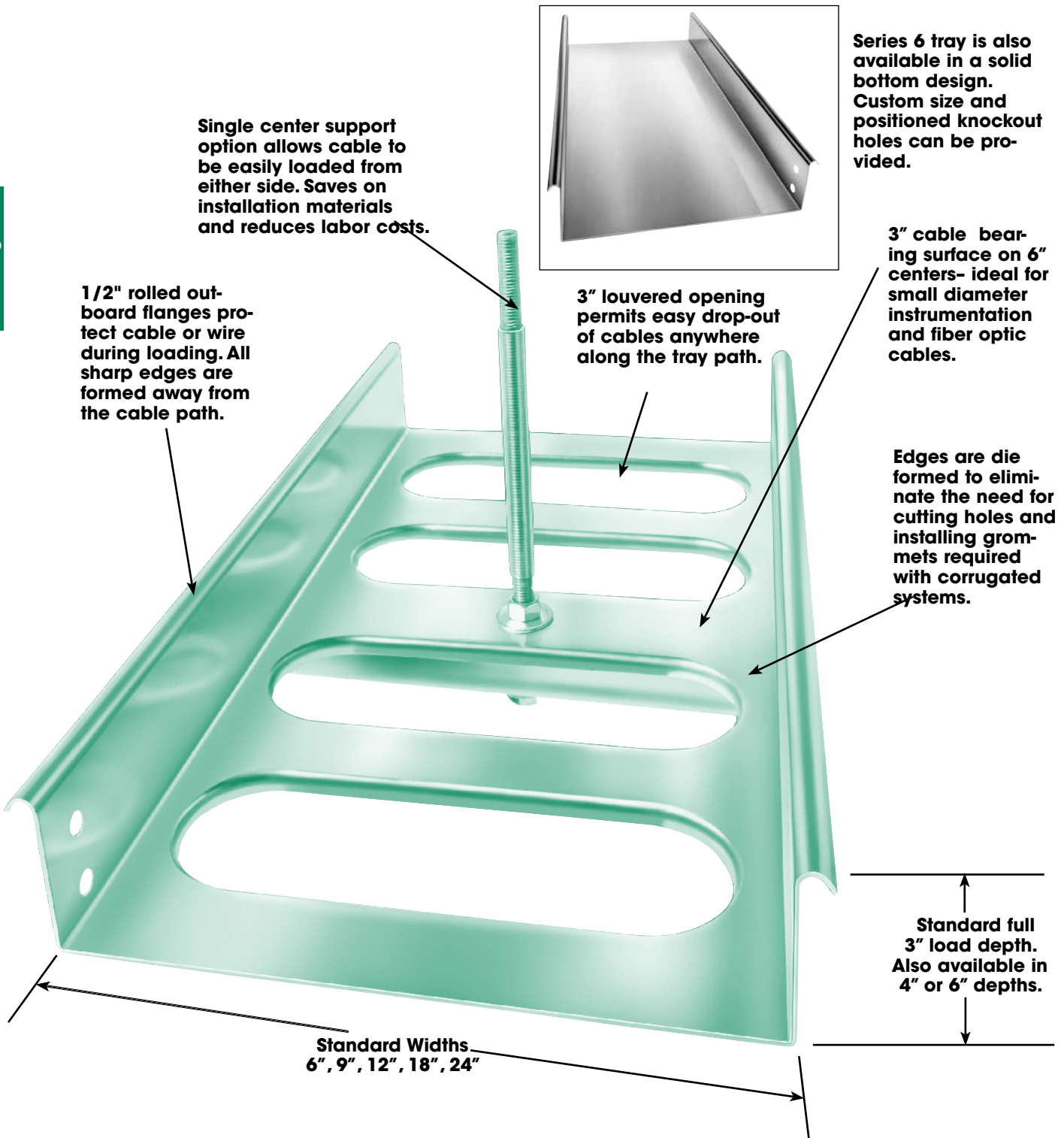
Other custom modifications available:

- Special widths.
- Special load depths from 2" to 8".
- Manufactured with 90° flanges inboard or outboard.
- Can be punched with special holes and knock-outs.





# Straight Sections



Single center support option allows cable to be easily loaded from either side. Saves on installation materials and reduces labor costs.

1/2" rolled out-board flanges protect cable or wire during loading. All sharp edges are formed away from the cable path.

3" louvered opening permits easy drop-out of cables anywhere along the tray path.

Series 6 tray is also available in a solid bottom design. Custom size and positioned knockout holes can be provided.

3" cable bearing surface on 6" centers- ideal for small diameter instrumentation and fiber optic cables.

Edges are die formed to eliminate the need for cutting holes and installing grommets required with corrugated systems.

Standard full 3" load depth. Also available in 4" or 6" depths.

Standard Widths  
6", 9", 12", 18", 24"

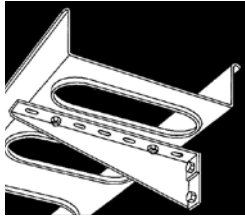
- UL Classified as an equipment grounding conductor.
- Build to NEMA VE-1-2015 standards.
- Meets NEC Article 392-5.
- Made in the U.S.A.



# Mounting/Application Flexibility

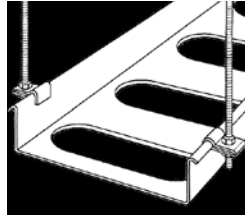
Series 6 can be supported directly on roof trusses or wall brackets up to a 12' span or can be mounted to the floor or elevated off the floor using Chalfant's

patented integral support splice plates. It can also be suspended using hanger rods to single or trapeze supports.



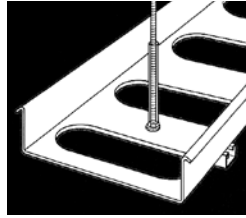
### Wall Brackets--

Use either a strut style or (shelf) wall bracket. Mounts directly to wall or strut on wall. Tray can also be directly bolted to bracket (as shown) for indoor applications. Allowance must be made for expansion if temperature extremes exist.



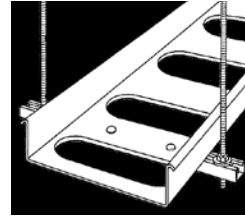
### Hanger Rod Clamps--

Use two (2), threaded rods and hanger rod clamps that directly attach to tray side rails. Unique 2-piece clamp design gets tighter when loaded and has a clean look from the bottom. Saves space in cramped, above drop ceiling installations.



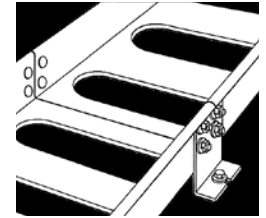
### Single Center Support--

Use 1/2" rod. Has the lowest installed costs. Field drill 1/2" hole centered on rung. Good for up to 12' support spans. 6" plastic tubing installs over rod inside tray to protect cabling.



### Trapeze, with strut--

Use two (2), threaded rods with tray directly supported by strut. Fasten tray to strut by means of wall bracket clamp or bolt directly to strut by field drilling hole in bottom of tray.



### Pedestal Splice Plate--

Mount tray to floor or vertical runs up walls or off floors up to a 10' elevation using Chalfant's patented integral splice plate. Series 6 can also be used with Chalfant's under floor COM-TRAY system or in place of it.

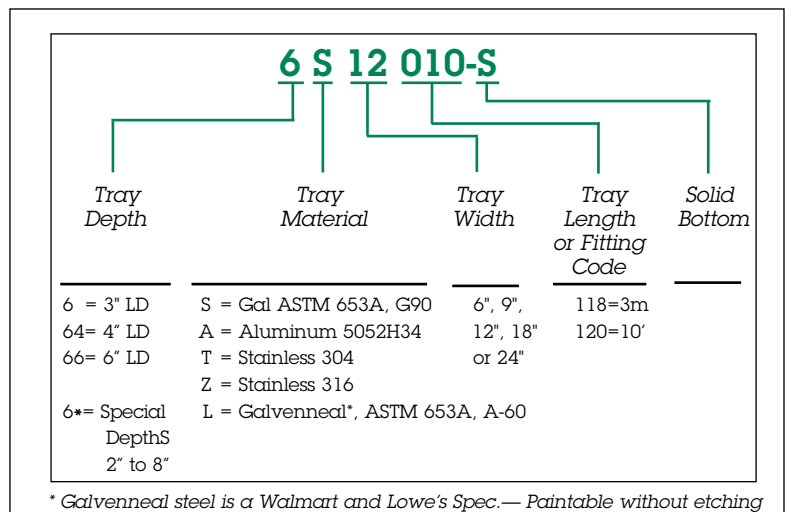
Trough

## How to Order

Once you have selected the Series 6 Model to meet your requirements, use the number system shown to order straight sections, fittings and accessories which are detailed on the following pages.

*Example:* The following part number is for a 12" wide louvered tray in galvanized steel with a 3" loading depth.

**6S12010**



## Part Numbers for Standard

### 3" (76) X 12' (3,658) Straight Sections

Load Depth	Tray Width	Part Number		
		Ventilated	Solid	Cover
3" Standard	6" (152)	6 * 06010	6 * 06010-S	67 * 06010
	9" (229)	6 * 09010	6 * 09010-S	67 * 09010
	12" (305)	6 * 12010	6 * 12010-S	67 * 12010
	18" (457)	6 * 18010	6 * 18010-S	67 * 18010
	24" (610)	6 * 24010	6 * 24010-S	67 * 21010

\* Indicates type of material, See "Order Code" above.

### Notes:

- Dimensions given in inches. For metric conversion multiply inches X 25.4 = (mm).
- Solid bottom designs are 6 to 13 percent less cost than louvered models.
- Each straight section and fitting comes with a pair of splice plates and eight (8), 9TBN302 nut and bolt assemblies.

# Maximum Loading & Deflection

The charts below were developed from actual NEMA VE-1-1991 Simple Beam Testing of two, 24" wide tray samples for each style. Maximum load data provided is at a Safety Factor = 1.5. This data has been plotted to give you better understanding of the performance of various designs. The charts also permit you to quickly determine your simple beam deflection for your load/span conditions.

Aluminum is often preferred because of its ease of installation. Aluminum is 3 times as deflective

and not as strong as a steel design at a 12' span. However, at 6 or 8 ft. spans, aluminum is capable of carrying even the heaviest loads.

Notes:

- Simple beam tests—actual installed deflection about 1/2 to 1/3 that of simple beam.
- Load capacity for narrow widths are slightly lower because system moment of inertial and system modules are a function of width of tray.

Trough

**Tray Depth**  
 — 3" - - - 4" — 6"

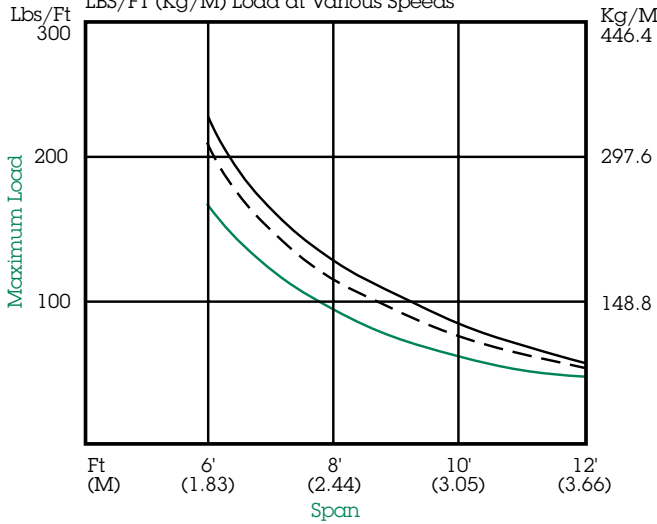
## Aluminum

### Maximum Loading

### Maximum Deflection

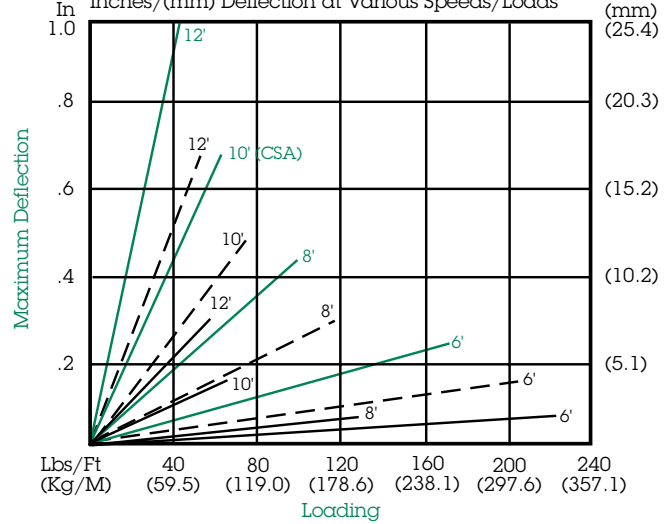
#### Ventilated Bottom\*

LBS/FT (Kg/M) Load at Various Speeds



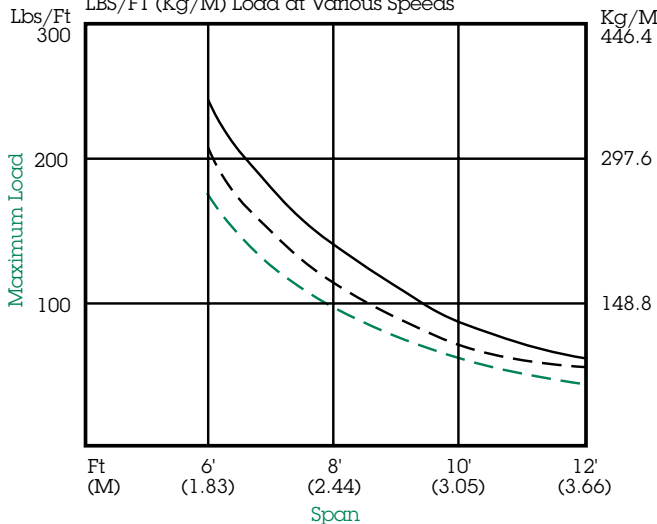
#### Ventilated Bottom\*

Inches/(mm) Deflection at Various Speeds/Loads



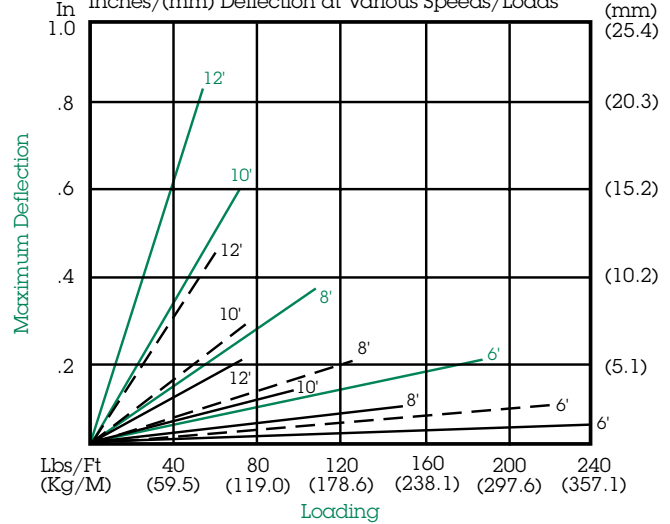
#### Solid Bottom\*

LBS/FT (Kg/M) Load at Various Speeds



#### Solid Bottom\*

Inches/(mm) Deflection at Various Speeds/Loads



\*Aluminum .063 & .080

\*Aluminum .063 & .080

## NEMA Class Ratings



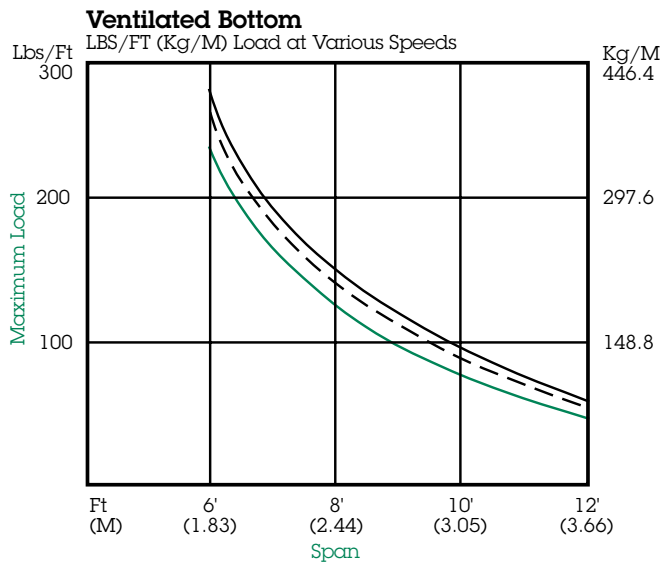
	Aluminum .063 & .080*		Steel	
	Tray	Rated for:	Tray	Rated for:
Ventilated Bottom	6A	10A, 8B, 6C	6S	12A, 10B, 8C
	64A	12A, 10B, 8C	64S	12A, 10B, 8C
	66A	12A, 10B, 8C	66S	12A, 10B, 8C
Solid Bottom	6A	12A, 10A, 8C	6S	12B, 10C
	64A	12A, 10B, 8C	64S	12B, 10C
	66A	12A, 10B, 8C	66S	12C, 10C

\* Load ratings for aluminum .063 & .050 are available from the factory.

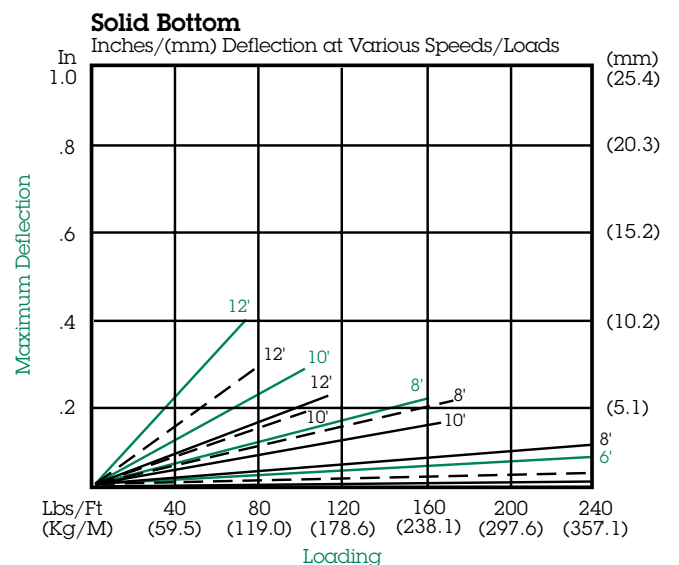
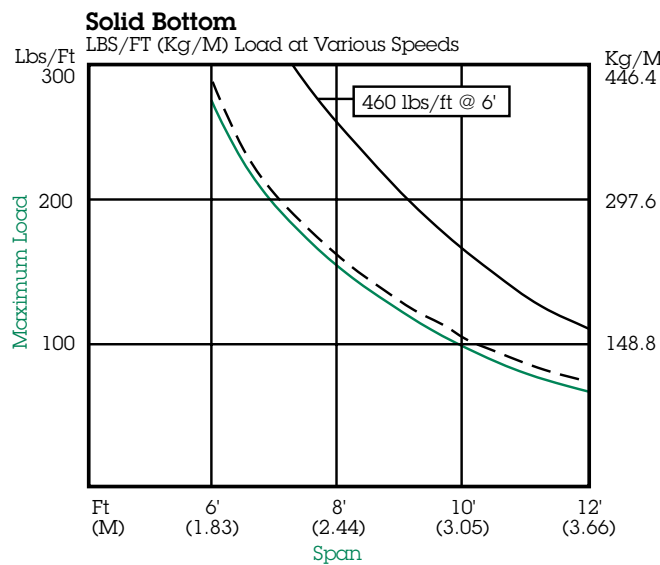
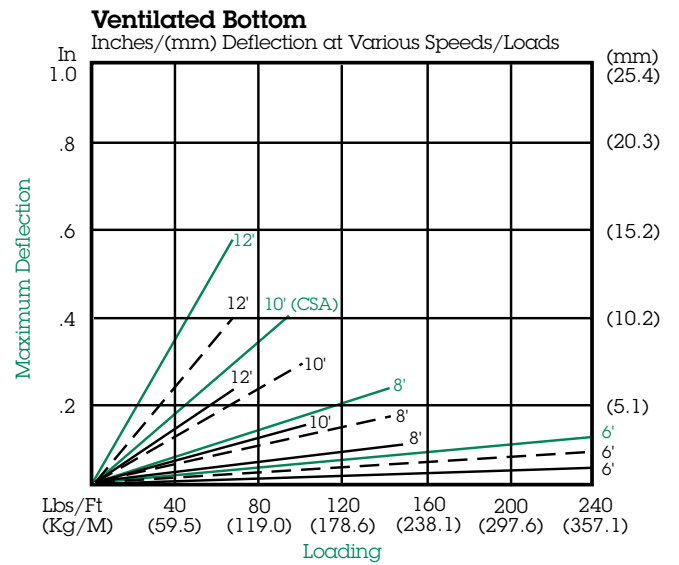
Trough

## Steel

### Maximum Loading



### Maximum Deflection





# Fittings

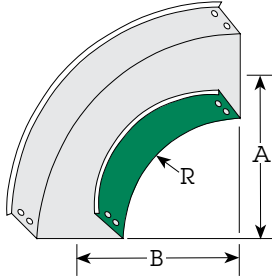
## 90° & 45° Fittings

Series 6 fittings are solid bottom with a 3" tangent for easy fit-up during installation. Bottoms are MIG welded on the outside to eliminate any weld splatter or roughness. 12" bend radius fittings are recommended for the majority of low voltage and communications cables. 30° and 60° bends are also available.

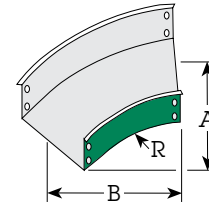
▪ See pages 1-12 to 1-15 in the Ladder Tray Section for Vertical Fitting Dimensions for 64" and 66" systems.

Trough

### 90° Horizontal Bend



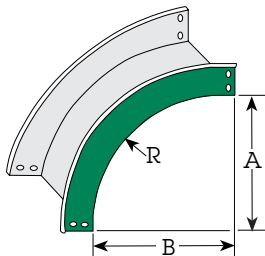
### 45° Horizontal Bend



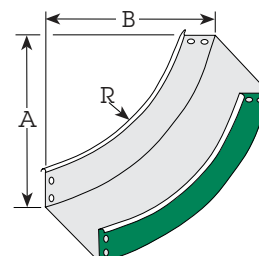
Radius R	Tray Width	Dimensions		Part Number	Cover Number
		A	B		
12 (305)	6	18 (457)	18 (457)	6 • 06030	67 • 06030
	9	19.5 (495)	19.5 (495)	6 • 09030	67 • 09030
	12	21 (533)	21 (533)	6 • 12030	67 • 12030
	18	24 (610)	24 (610)	6 • 18030	67 • 18030
	24	27 (686)	27 (686)	6 • 24030	67 • 24030
24 (610)	6	30 (762)	30 (762)	6 • 06032	67 • 06032
	9	31.5 (800)	31.5 (800)	6 • 09032	67 • 09032
	12	33 (838)	33 (838)	6 • 12032	67 • 12032
	18	36 (914)	36 (914)	6 • 18032	67 • 18032
	24	39 (991)	39 (991)	6 • 24032	67 • 24032

Radius R	Tray Width	Dimensions		Part Number	Cover Number
		A	B		
12 (305)	6	15.73 (400)	9.51 (242)	6 • 06020	67 • 06020
	9	16.79 (400)	11.45 (291)	6 • 09020	67 • 09020
	12	17.91 (455)	13.39 (340)	6 • 12020	67 • 12020
	18	19.97 (507)	17.27 (439)	6 • 18020	67 • 18020
	24	22.09 (561)	21.15 (537)	6 • 24020	67 • 24020
24 (610)	6	24.21 (615)	13.03 (331)	6 • 06022	67 • 06022
	9	25.27 (642)	14.97 (380)	6 • 09022	67 • 09022
	12	26.33 (669)	16.91 (430)	6 • 12022	67 • 12022
	18	28.45 (723)	20.79 (528)	6 • 18022	67 • 18022
	24	30.58 (777)	24.66 (626)	6 • 24022	67 • 24022

### 90° Outside



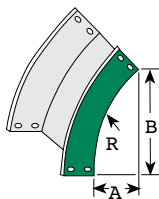
### 90° Inside



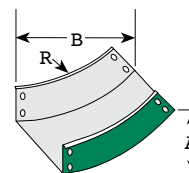
Radius R	Tray Width	Outside Vertical Bend				Inside Vertical Bend			
		Dimensions		Part Number		Dimensions—H @ 3"		Part Number	
		A	B	Bend	Cover	A	B	Bend	Cover
12 (305)	6			6 • 06050	67 • 06050			6 • 06070	67 • 06070
	9			6 • 09050	67 • 09050			6 • 09070	67 • 09070
	12	15 (381)	15 (381)	6 • 12050	67 • 12050	18 (457)	18 (457)	6 • 12070	67 • 12070
	18			6 • 18050	67 • 18050			6 • 18070	67 • 18070
	24			6 • 24050	67 • 24050			6 • 24070	67 • 24070
24 (610)	6			6 • 06052	67 • 06052			6 • 06072	67 • 06072
	9			6 • 09052	67 • 09052			6 • 09072	67 • 09072
	12	27 (686)	27 (686)	6 • 12052	67 • 12052	30 (762)	30 (762)	6 • 12072	67 • 12072
	18			6 • 18052	67 • 18052			6 • 18072	67 • 18072
	24			6 • 24052	67 • 24052			6 • 24072	67 • 24072

# Fittings

## 45° Outside



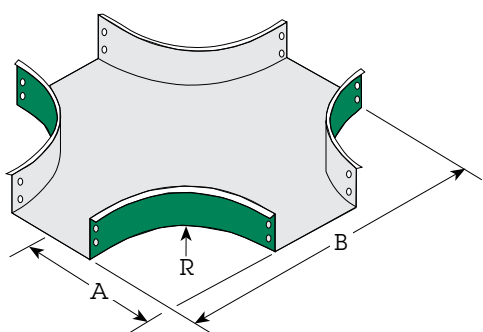
## 45° Inside



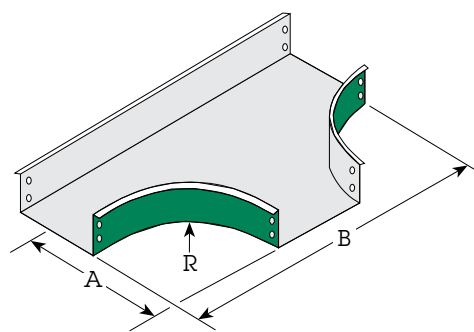
Radius R	Tray Width	Outside Vertical Bend				Inside Vertical Bend			
		Dimensions		Part Number		Dimensions— H @ 3"		Part Number	
		A	B	Bend	Cover	A	B	Bend	Cover
<b>Cover</b>									
12 (305)	6 9 12 18 24	5.63 (143)	13.61 (356)	6 • 06040 6 • 09040 6 • 12040 6 • 18040 6 • 24040	67 • 06040 67 • 09040 67 • 12040 67 • 18040 67 • 24040	6.51 (165)	15.73 (400)	6 • 06060 6 • 09060 6 • 12060 6 • 18060 6 • 24060	67 • 06060 67 • 09060 67 • 12060 67 • 18060 67 • 24060
24 (610)	6 9 12 18 24	9.15 (232)	22.09 (561)	6 • 06042 6 • 09042 6 • 12042 6 • 18042 6 • 24042	67 • 06042 67 • 09042 67 • 12042 67 • 18042 67 • 24042	10.03 (255)	24.21 (619)	6 • 06062 6 • 09062 6 • 12062 6 • 18062 6 • 24062	67 • 06062 67 • 09062 67 • 12062 67 • 18062 67 • 24062

Trough

## Cross



## Tee



Radius R	Tray Width	Dimensions		Part Number	Cover Number
		A	B		
12 (305)	6 9 12 18 24	18 (457) 19.5 (495) 21 (533) 24 (610) 27 (686)	36 (914) 39 (919) 42 (1067) 48 (1372) 54 (1549)	6 • 06080 6 • 09080 6 • 12080 6 • 18080 6 • 24080	67 • 06080 67 • 09080 67 • 12080 67 • 18080 67 • 24080
24 (610)	6 9 12 18 24	30 (762) 31.5 (800) 33 (838) 36 (914) 39 (991)	60 (1524) 63 (1600) 66 (1676) 72 (1829) 78 (1981)	6 • 06082 6 • 09082 6 • 12082 6 • 18082 6 • 24082	67 • 06082 67 • 09082 67 • 12082 67 • 18082 67 • 24082

Radius R	Tray Width	Dimensions		Part Number	Cover Number
		A	B		
12 (305)	6 9 12 18 24	18 (457) 19.5 (495) 21 (533) 24 (610) 27 (686)	36 (914) 39 (991) 42 (1067) 48 (1372) 54 (1549)	6 • 06085 6 • 09085 6 • 12085 6 • 18085 6 • 24085	67 • 06085 67 • 09085 67 • 12085 67 • 18085 67 • 24085
24 (610)	6 9 12 18 24	30 (762) 31.5 (800) 33 (838) 36 (914) 39 (991)	60 (1524) 63 (1600) 66 (1676) 72 (1829) 78 (1981)	6 • 06087 6 • 09087 6 • 12087 6 • 18087 6 • 24087	67 • 06087 67 • 09087 67 • 12087 67 • 18087 67 • 24087

# Splice Plates, Support Equipment and Accessories

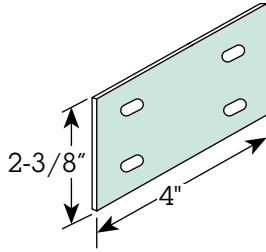
Note: All splice plates, reducers, cover bars, blind ends, etc. are shipped with necessary hardware.

Trough

## Standard Splice Plate—

Splice plates (one pair with hardware) are shipped with each straight section. Fittings are provided with the appropriate number of splice plates required. Only 4 bolts per plate and slotted hole design, make installation easy.

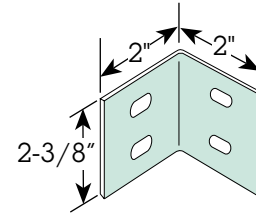
6 \* SP200



## Tray to Box Splice Plate—

A good solution for attaching tray to distribution boxes, control centers or making a non-radius 90° bend or tee.

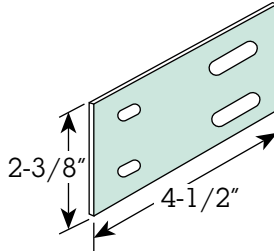
6 \* SP213



## Expansion Splice Plate—

Needed for outdoor long runs only. Call factory or your representative if in doubt or you need advice on location, etc.

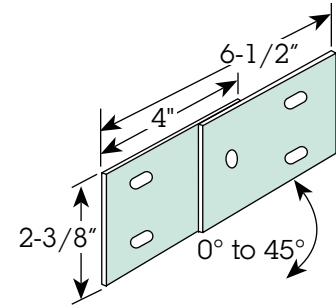
6 \* SP201



## Vertical Adjustable Splice Plates—

For field installing vertical transitions. Install on each end after rise angle is set. Then drill through center pivot hole into back plate then bolt in place. Efficient for angles to 45 degrees.

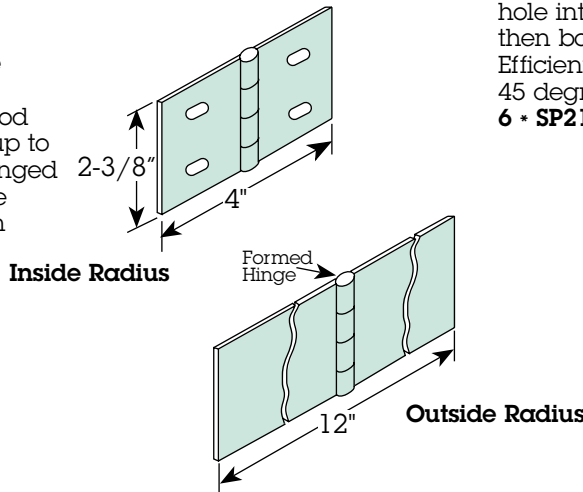
6 \* SP212



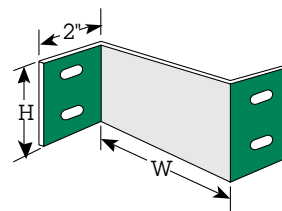
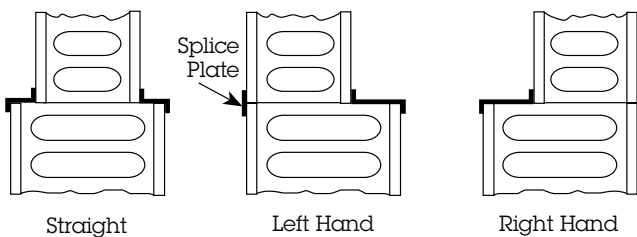
## Horizontal Adjustable Splice Plates—

An inexpensive method to field install bends up to 45 degrees. Install hinged side, set desired angle then field drill holes in long hinge plate.

6 \* SP210



## Reducers



H = 6 \* = 3" LD  
64 \* = 4" LD  
66 \* = 6" LD

Note: Complete set of hardware furnished with each reducer.

Reducers are installed on outside of tray. For right or left hand reducers, the splice plate element installs on the outside. This is a very inexpensive method of joining various widths.

Reduction "W"	Concentric (Straight)	Right or Left Hand
3	6 * 03237	6 * 03236
6	6 * 06237	6 * 06236
9	6 * 09237	6 * 09236
12	6 * 12237	6 * 12236
18	6 * 18237	6 * 18236

\*Indicates type of material—See Order Code on Page 2-6.



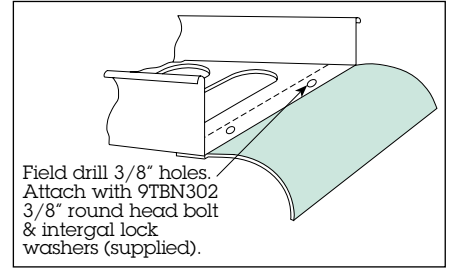
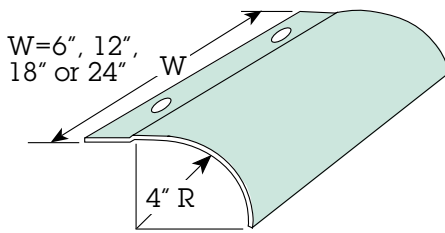
# Splice Plates, Support Equipment and Accessories

Trough

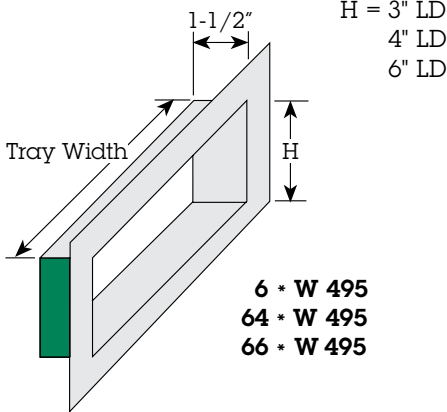
## End of Run Drop Out

**6 \* W198**

Used at end of runs when cable is dropping to a lower tray run...to prevent mechanical wear or damage to cables because of the tray edge. Use a bonding jumper to attach to vertically off-set trays to maintain grounding integrity.

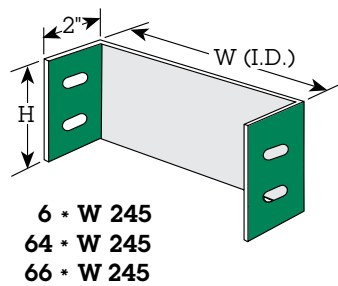


## Wall Frame



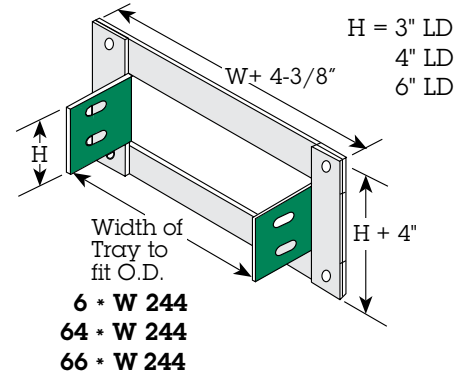
Designed to install in a wall cut-out for a finished look.  
Note: Mounting hardware not included.

## Blind Ends



These are used as an end cap or cover at the end of a run. If a more finished look is desired, install with round head bolt to outside. Note: Splice plates can also be installed on the inside of tray for a cleaner look.

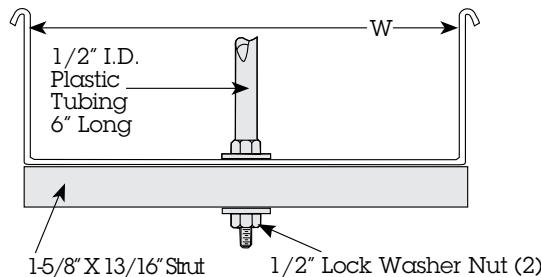
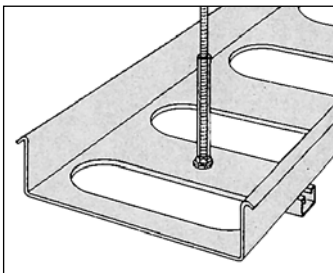
## Tray to Panel Frame



Designed to terminate tray at a control panel to reinforce the box or panel and cover the cut made in the panel.  
Note: Mounting hardware not included.

## Single Center Support

**65W263**



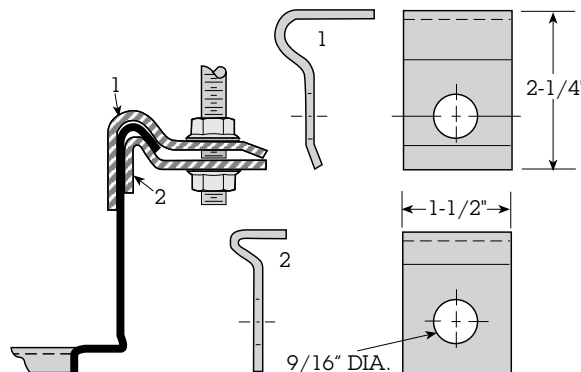
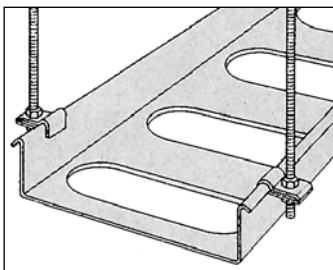
Includes strut, Nuts & Bolts and Plastic Rod Sleeve

Rod ordered separately. See page 3-12.

1/2"-13 Rod (1130 lbs. allowable load) Up to 10' span recommended

## Hanger Rod Clamps

**6SOB249**



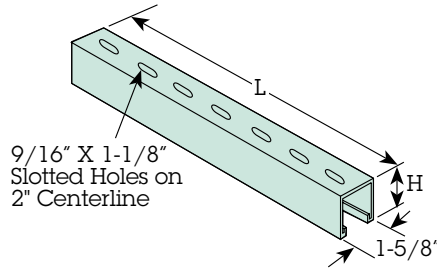
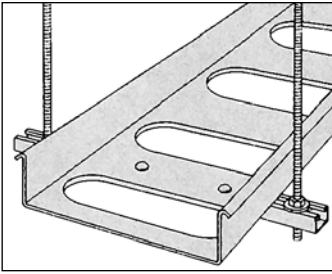
Rod ordered separately. See page 3-12.

3/8"-16 Rod (610 lbs. allowable load) Up to 12' span recommended

# Splice Plates, Support Equipment and Accessories

Trough

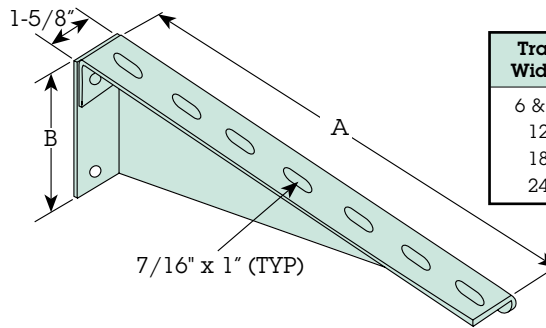
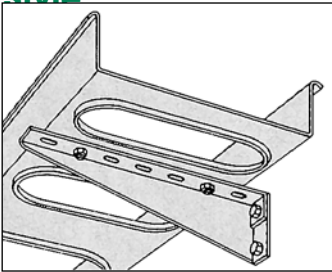
## Trapeze with Strut



Tray Width	L	H	Usable Load (lbs.)	Ga	Part Number
6	12.00	0.8125	985	14	9S12323
9	15.00	0.8125	830	14	9S15323
12	18.00	0.8125	680	14	9S18323
18	24.00	0.8125	495	14	9S24323
24	30.00	1.625	1050	14	9S30323
30	36.00	1.625	880	14	9S36323

Note: Order required hanger rods and hardware separately.

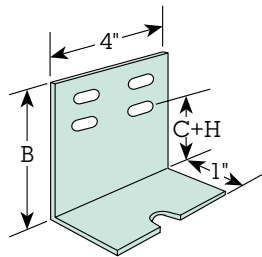
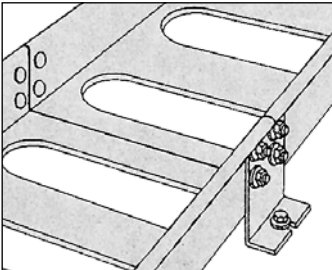
## Wall Bracket Shelf Style



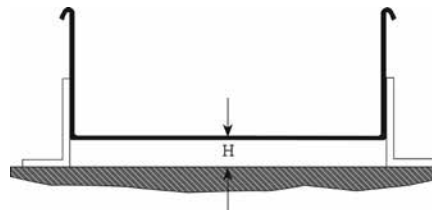
Tray Width	A	B	Uniform Load (lbs.)	Part Number
6 & 9	10.00	3.00	300	9S10322
12	16.00	4.50	300	9S16322
18	22.00	6.00	300	9S22322
24	28.00	7.50	300	9S28322

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

## Pedestal Splice Plate



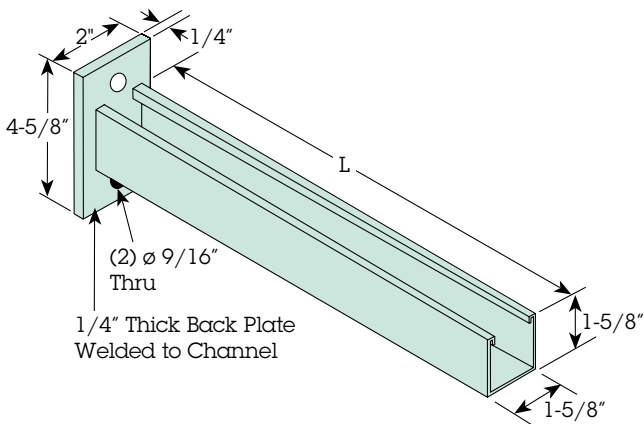
Patented



H = 0" thru 10"  
Specify Height of Tray above Floor.

Load Depth	B	C	Part Number
3	2.6875	0.875	6 • SP200-H
4	3.1875	1.375	64 • SP200-H
6	4.1875	2.375	66 • SP200-H

## 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.

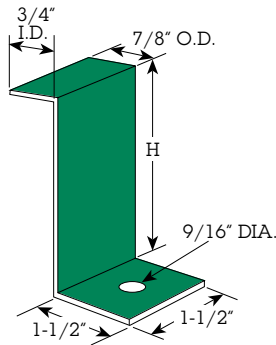
\* For hot dipped ASTM 123 galvanized steel after fabrication: specify "G" for material designation.

# Support Equipment and Accessories

## Wall Bracket Clamp

Used for holding tray to strut or wall brackets. Can be used in pairs (both sides of tray) or on one side alternating sides from support to support. Use with Hex bolt to twist nut in strut, or with bolt to nut with wall brackets.

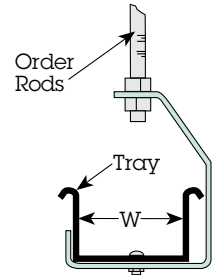
- 6 SOB 248** = 3" Load Depth
- 64SOB 248** = 4" Load Depth
- 66SOB 248** = 6" Load Depth



## Single Support Bracket

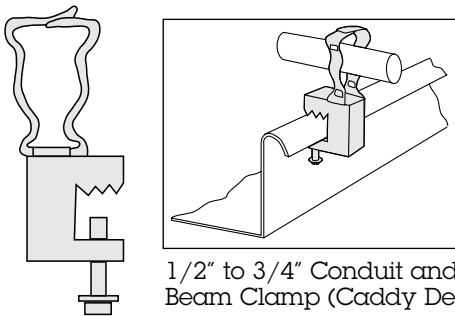
This Z bracket gives a very good single support to 6, 9 and 12" width tray (most economical for 6" width). Use with 1/2" rod with supports on 6" centers. Tray bolts directly to bracket. (Field drill 3/8" hole in tray.)

**6SW272**



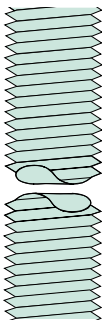
## Conduit Clamp Bracket

**9SCB424\***



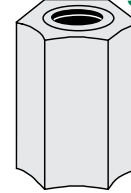
1/2" to 3/4" Conduit and Beam Clamp (Caddy Design)

## Hanger Rods



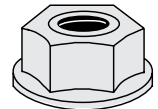
L	Part Number	
	3/8"-16	1/2"-13
12"	9S12310	9S12312
24"	9S24310	9S24312
36"	9S36310	9S36312
48"	9S48310	9S48312
72"	9S72310	9S72312
120"	9S120310	9S120312

## Hanger Rod Coupling



**9S38318** 3/8" - 16  
**9S12318** 1/2" - 13

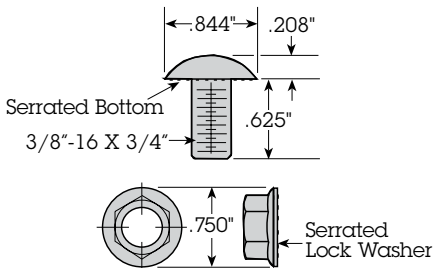
## Flanged Washer/Hex Nut



**9S38309** 3/8" - 16  
**9S12309** 1/2" - 13

## Splice Plate Nut & Bolt Assembly

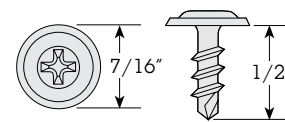
**9TBN302**



This is Chalfant's new exclusive standard splice plate nut and bolt assembly. Made from 304SS, it has a round truss head, serrated shoulder neck and integral flanged serrated lock washer hex nut.

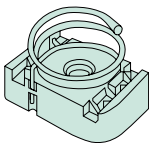
## Self-Tapping Screw

**9STK774**



Used to attach barriers and covers. Made from steel with special Dorri Tech™ coating. This TEK screw can be easily attached with a magnetic phillips head holder. Screws can be backed out but not reused if covers are removed.

## Twist Nut



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

## Misc. Accessories

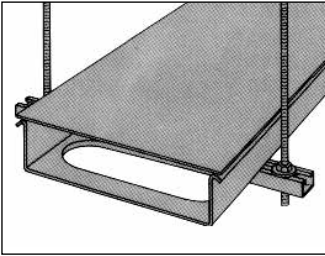
- 9S38574** 3/8" - 16 X 1" Hex Head Machine Bolt
- 9S12574** 1/2" - 13 X 1" Hex Head Machine Bolt
- 9S12578** 1 5/8" Square Washer for Strut
- 9S38307** 3/8" washer
- 9S12307** 1/2" washer
- 9S38318** 3/8" - 16 Beam Clamp - Malleable Iron Plated
- 9S12318** 1/2" - 13 Beam Clamp - Malleable Iron Plated
- 9SCB422\*** Optional Conduit Clamp Bracket

\* 9SCB424 is the recommended option for 9SCB422.



# Covers, Barriers and Accessories

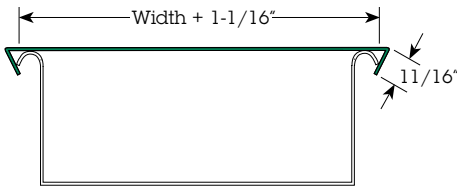
## Covers



Standard covers for Series 6 tray are flat (no flanges). If you want ventilated covers, add the suffix -V for louvered ventilation. Covers follow the number system shown on page 1-20 with a 67S/A prefix. Covers can be held to tray with Caddy Beam Clamp 9SCB424BC or with 9STK774 self-drilling/tapping screws. Cover hold downs must be ordered separately. Covers to 24" widths are made from 20-gauge G-90 coated galvanized steel or 0.040" thick 5052H32 aluminum sheet.

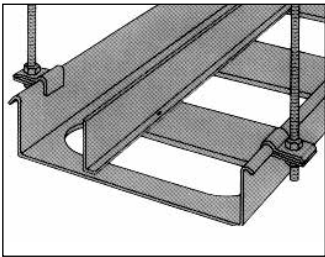
## Snap-On Covers

7 \* W010-S0



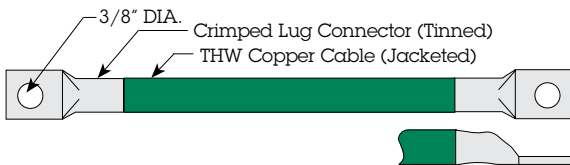
A new design Snap-On Cover is available in aluminum or steel that is tight fit to 12". Loose cover fit for 18" and 24" trays. No hardware required.

## Barriers



Barriers are popular for isolating or separating various cables. For example, telephone from computer cables or fire alarm cables from intercom cabling. Straight barriers are furnished in 12' lengths (8\*BS010-H) made of 20-gauge steel with top edge folded back or extruded aluminum with radiused edges. Barrier height equals load depth. 9STK774 steel self drilling tapping screws are included to fasten barrier to tray bottom. For horizontal bends and tees, an adjustable barrier in 4' lengths (8\*BS340-H) is furnished. Vertical fitting barriers are formed to match fittings and ordered with same fitting part code. Barriers can be installed at the factory at nominal cost to save field installation time and labor.

## Bonding Jumper



If you are using the tray as an equipment ground as classified by UL, you have to use a bonding jumper (one only with Series 6-single piece construction) for bridging adjustable splice plates and runs that aren't connected or across expansion joints.

- For **steel trays** use a 200 Amp jumper. This provides a 100 Amp equipment ground thru 18" width tray and a 200 Amp ground on 24" wide tray.
- For **aluminum trays** use a 600 Amp jumper to 18" widths and two 600 Amp jumpers to provide 1000 Amp ground for 24" wide tray. For 64A24010 and 66A24010 tray you get 1200 Amp ground.

Cable Size	Rated AMPS	Part Number
#6	200	9CBJ200
#1	600	9CBJ600