Steel Cable Tray

Straight Length Tray Bottom Types Available
Ladder, Ventilated and Solid Trough

Ladder

— Formed siderails are welded to 1-5/8" wide rungs to provide maximum rigidity and strength. Rung design includes exclusive Ty-Rap® cable tie slots on 1" centers

Ventilated

— A fabricated structure consisting of integral or separate longitudinal rails and a bottom having openings sufficient for the passage of air and utilizing 75% or less of the plan area of the surface to support cables. The maximum open spacings between cable support surfaces of transverse elements do not exceed 102 mm (4 in) in the direction parallel to the tray side rails (rung to rung).

Note: For load ratings of CSA Class C/NEMA 12C or less, please see an alternative ventilated series of cable tray called - One Piece found on pages 158 to 189 of this catalog.

Solid Trough

— Solid sheet welded to steel siderails below rungs. This design offers added cable protection.

Straight Section Number Selection

How to create part numbers

Thomas & Betts has created a numbering system based on the order of selection criteria. For example the first selection issue is the environment which the cable tray will be subjected to. This selection will lead to the best material for your application. For complete details on cable tray selection process, see page 10 in the technical section.

Methods

1. Select the material best suited to your environment. Refer to technical section page 10.
2. Determine the series tray using the NEMA/CSA Load/Span Designations page 11, and Sizing Cable Tray page 13.
3. Select nominal depth and width of tray based on Cable Loading. See Sizing Cable Tray page 13.
4. Select the bottom type based on cables and spacing requirements.
5. The last number is the length of the cable tray in meters or inches.

Straight Section Number Selection

SH3624L09144

Material	Series	Siderail Height	Width	Bottom Type	*Length
SP • Pre-Galvanized **SH** • Hot Dip Galvanized after fabrication **SS** • Stainless Steel 316	**1** • Series 1	3-5/8”	**09** • (9") **12** • (12") **18** • (18") **24** • (24") **30** • (30") **36** • (36")	**L06** • 6" rung spacing **L09** • 9" rung spacing **L12** • 12" rung spacing ****V** • Ventilated **S** • Solid Trough	**3** • (3 meters) **6** • (6 meters) **144** • (12 ft) **288** • (24 ft)
	1 • Series 1 **3** • Series 3	4”			
	2 • Series 2 **4** • Series 4 **5** • Series 5	5”			
	0 • Series 0 **1** • Series 1 **3** • Series 3 **4** • Series 4	6”			
	3 • Series 3	7”			

Prefix

* Series 1-3, 1-4 and 0-6 are not available in 6 meter and 288” lengths.
** For load ratings of CSA Class C/NEMA 12C or less, please see an alternative ventilated series of cable tray called - One Piece found on pages 158 to 189 of this catalog.

Straight Section Number Selection

SH1324L09-3

Prefix

Material
- **SP** • Pre-Galvanized
- **SH** • Hot Dip Galvanized after fabrication
- **SS** • Stainless Steel 316

Series
- **1** • Series 1

Siderail Height
- **3** • (3-5/8")

Width
- **06** • (6")
- **09** • (9")
- **12** • (12")
- **18** • (18")
- **24** • (24")
- **30** • (30")
- **36** • (36")

Bottom Type
- **L06** • 6" rung spacing
- **L09** • 9" rung spacing
- **L12** • 12" rung spacing
- ***V** • Ventilated
- **S** • Solid Trough

Length
- **3** • (3 meters)
- **144** • (12 ft)

* For load ratings of CSA Class C/NEMA 12C or less, please see an alternative ventilated series of cable tray called - One Piece found on pages 158 to 189 of this catalog.

Technical Specifications

All calculations and data are based on 36" wide cable trays with rungs spaced on 12" centers with tray supported as simple spans with deflection measured at the midpoint. Continuous spans may reduce deflection by as much as 50%.

Deflection factor
For lighter loads, deflection at any length can be calculated by multiplying the load by the deflection factor.
For Fittings consult pages 128 to 142

SERIES		SUPPORT SPAN (Feet) 6	8	10	12	14	16	18	20
SP1-3	Load (lb/ft)	200	112.5	72	50	-	-	-	-
SH1-3	Deflection (in.)	0.250	0.445	0.695	1.001	-	-	-	-
SS1-3	Deflection Factor	0.0013	0.0040	0.0097	0.0097	-	-	-	-

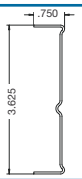
3-5/8” Straight Sections
Series 1-3
Ladder, Ventilated and Solid Trough

Steel Cable Tray

SP1-3, SH1-3, SS1-3	
W (in.)	**Wi (in.)**
6	4.5
9	7.5
12	10.5
18	16.5
24	22.5
30	28.5
36	34.5

Technical Specifications

LOAD RATINGS
1.5 Safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (siderail, rung, etc.) above and beyond published load class.

SERIES	DIMENSIONS	SIDERAIL DESIGN FACTORS • 1 PAIR	CLASSIFICATIONS NEMA	CSA	UL
SP1-3 **SH1-3** **SS1-3**		Ix = 0.804 in^4 Sx = 0.444 in^3 Area = 0.488 in^2	**12A**	**C/3M**	UL Cross Sectional Area : 0.40 in^2

Straight Section Number Selection

SH3424L09144

Prefix

Material
- **SP** • Pre-Galvanized
- **SH** • Hot Dip Galvanized after fabrication
- **SS** • Stainless Steel 316

Series
- **1** • Series 1
- **3** • Series 3

Siderail Height
- **4** • (4")

Width
- **06** • (6")
- **09** • (9")
- **12** • (12")
- **18** • (18")
- **24** • (24")
- **30** • (30")
- **36** • (36")

Bottom Type
- **L06** • 6" rung spacing
- **L09** • 9" rung spacing
- **L12** • 12" rung spacing
- ** **V** • Ventilated
- **S** • Solid Trough

***Length**
- **3** • (3 meters)
- **6** • (6 meters)
- **144** • (12 ft)
- **288** • (24 ft)

* Series 1-4 not available in 6 meters or 288” lengths.
** For load ratings of CSA Class C/NEMA 12C or less, please see an alternative ventilated series of cable tray called - One Piece found on pages 158 to 189 of this catalog.

Technical Specifications

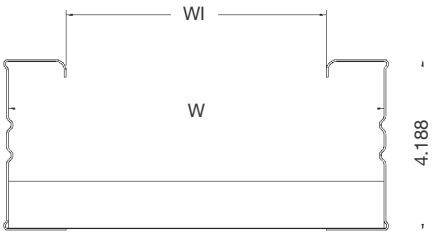
All calculations and data are based on 36" wide cable trays with rungs spaced on 12" centers with tray supported as simple spans with deflection measured at the midpoint. Continuous spans may reduce deflection by as much as 50%.

Deflection factor
For lighter loads, deflection at any length can be calculated by multiplying the load by the deflection factor.
For Fittings consult pages 128 to 142

SERIES		SUPPORT SPAN (Feet) 6	8	10	12	14	16	18	20
SP1-4	Load (lb/ft)	420	236	151	105	–	–	–	–
SH1-4	Deflection (in.)	0.420	0.473	0.756	1.155	–	–	–	–
SS1-4	Deflection Factor	0.001	0.002	0.005	0.011	–	–	–	–
SP3-4	Load (lb/ft)	956	538	344	239	176	134	106	86
SH3-4	Deflection (in.)	0.478	0.538	1.032	1.672	2.282	3.091	3.928	4.816
SS3-4	Deflection Factor	0.0005	0.001	0.003	0.007	0.013	0.023	0.037	0.056

4” Straight Sections
Series 1-4, 3-4
Ladder, Ventilated and Solid Trough

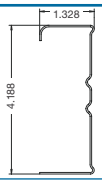
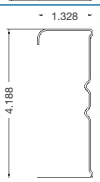
Steel Cable Tray



SP1-4, SH1-4, SS1-4 SP3-4, SH3-4, SS3-4	
W (in.)	**Wl (in.)**
6	3.34
9	6.34
12	9.34
18	15.34
24	21.34
30	27.34
36	33.34

Technical Specifications

LOAD RATINGS
1.5 Safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (siderail, rung, etc.) above and beyond published load class.

SERIES	DIMENSIONS	SIDERAIL DESIGN FACTORS • 1 PAIR	CLASSIFICATIONS NEMA	CSA	UL
SP1-4 **SH1-4** **SS1-4**		Ix = 1.974 in^4 Sx = 0.788 in^3 Area = 0.682 in^2	**12C**	**D/3M**	UL Cross Sectional Area : 0.70 in^2
SP3-4 **SH3-4** **SS3-4**		Ix = 2.224 in^4 Sx = 1.022 in^3 Area = 1.080 in^2	**20A**	**D/6M**	UL Cross Sectional Area : 0.70 in^2

Straight Section Number Selection

SH2524L09144

Material
- **SP** • Pre-Galvanized
- **SH** • Hot Dip Galvanized after fabrication
- **SS** • Stainless Steel 316

Series
- **2** • Series 2
- **4** • Series 4
- **5** • Series 5

Sidearil Height
- **5** • (5")

Width
- **06** • (6")
- **09** • (9")
- **12** • (12")
- **18** • (18")
- **24** • (24")
- **30** • (30")
- **36** • (36")

Bottom Type
- **L06** • 6" rung spacing
- **L09** • 9" rung spacing
- **L12** • 12" rung spacing
- **V** • Ventilated
- **S** • Solid Trough

Length
- **3** • (3 meters)
- **6** • (6 meters)
- **144** • (12 ft)
- **288** • (24 ft)

Prefix

Technical Specifications

All calculations and data are based on 36" wide cable trays with rungs spaced on 12" centers with tray supported as simple spans with deflection measured at the midpoint. Continuous spans may reduce deflection by as much as 50%.

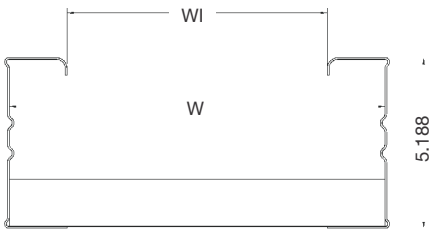
Deflection factor
For lighter loads, deflection at any length can be calculated by multiplying the load by the deflection factor.
For Fittings consult pages 128 to 142

SERIES		SUPPORT SPAN (Feet) 6	8	10	12	14	16	18	20
SP2-5	Load (lb/ft)	556	313	200	139	102	78	62	50
SH2-5	Deflection (in.)	0.193	0.344	0.537	0.773	1.052	1.375	1.740	2.148
SS2-5	Deflection Factor	0.0003	0.0011	0.0027	0.0056	0.0103	0.0176	0.0282	0.0430
SP4-5	Load (lb/ft)	833	469	298	208	153	117	92	75
SH4-5	Deflection (in.)	0.223	0.397	0.617	0.894	1.217	1.589	1.998	2.483
SS4-5	Deflection Factor	0.003	0.0008	0.0021	0.0043	0.0079	0.0136	0.0217	0.0331
SP5-5	Load (lb/ft)	111	625	298	278	204	156	92	100
SH5-5	Deflection (in.)	0.241	0.429	0.499	0.964	1.312	1.714	.617	2.678
SS5-5*	Deflection Factor	0.0002	0.0007	0.0017	0.0035	0.0064	0.0110	0.0176	0.0268

* Note: Stainless Steel 316 available, consult with T&B Sales for further information.

5” Straight Sections
Series 2-5, 4-5, 5-5
Ladder, Ventilated and Solid Trough

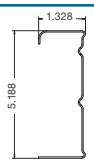
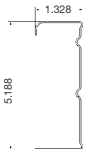
Steel Cable Tray



SP2-5, SH2-5, SS2-5 SP4-5, SH4-5, SS4-5 SP5-5, SH5-5, SS5-5	
W (in.)	**Wl (in.)**
6	3.34
9	6.34
12	9.34
18	15.34
24	21.34
30	27.34
36	33.34

Technical Specifications

LOAD RATINGS
1.5 Safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (siderail, rung, etc.) above and beyond published load class.

SERIES	DIMENSIONS	SIDERAIL DESIGN FACTORS • 1 PAIR	CLASSIFICATIONS NEMA	CLASSIFICATIONS CSA	UL
SP2-5 **SH2-5** **SS2-5**		Ix = 2.89 in^4 Sx = 1.09 in^3 Area = 0.778 in^2	**20A**	**D/6M**	UL Cross Sectional Area : 0.70 in^2
SP4-5 **SH4-5** **SS4-5**		Ix = 3.75 in^4 Sx = 1.40 in^3 Area = 1.018 in^2	**20B**	**E/6M**	UL Cross Sectional Area : 1.00 in^2
SP5-5 **SH5-5** **SS5-5***		Ix = 4.635 in^4 Sx = 1.732 in^3 Area = 1.24 in^2	**20C**	**–**	UL Cross Sectional Area : 1.00 in^2

*** Note: Stainless Steel 316 available, consult with T&B Sales for further information.**

Straight Section Number Selection

SH3624L12-6

Prefix

Material
- **SP** • Pre-Galvanized
- **SH** • Hot Dip Galvanized after fabrication
- **SS** • Stainless Steel 316

Series
- **1** • Series 1
- **3** • Series 3
- **4** • Series 4

Siderail Height
- **6** • (6")

Width
- **06** • (6")
- **09** • (9")
- **12** • (12")
- **18** • (18")
- **24** • (24")
- **30** • (30")
- **36** • (36")

Bottom Type
- **L06** • 6" rung spacing
- **L09** • 9" rung spacing
- **L12** • 12" rung spacing
- ****V** • Ventilated
- **S** • Solid Trough

***Length**
- **3** • (3 meters)
- **6** • (6 meters)
- **144** • (12 ft)
- **288** • (24 ft)

* Series 0-6 ot available in 6 meters or 288” lengths.
** For load ratings of CSA Class C/NEMA 12C or less, please see an alternative ventilated series of cable tray called - One Piece found on pages 158 to 189 of this catalog.

Technical Specifications

All calculations and data are based on 36" wide cable trays with rungs spaced on 12" centers with tray supported as simple spans with deflection measured at the midpoint. Continuous spans may reduce deflection by as much as 50%.

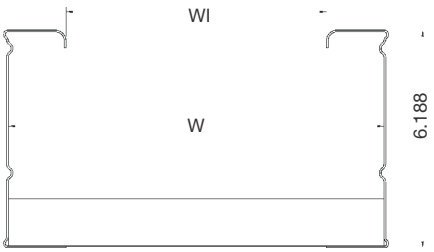
Deflection factor
For lighter loads, deflection at any length can be calculated by multiplying the load by the deflection factor.
For Fittings consult pages 128 to 142

SERIES		SUPPORT SPAN (Feet) 6	8	10	12	14	16	18	20
SP1-6	Load (lb/ft)	556	313	200	139	102	78	62	50
SH1-6	Deflection (in.)	0.126	0.224	0.349	0.503	0.685	0.895	1.132	1.398
SS1-6	Deflection Factor	0.0002	0.0007	0.0017	0.0036	0.0067	0.0115	0.0183	0.0280
SP3-6	Load (lb/ft)	833	469	300	208	153	117	93	75
SH3-6	Deflection (in.)	0.156	0.277	0.433	0.624	0.849	1.109	1.404	1.733
SS3-6	Deflection Factor	0.0002	0.0006	0.0014	0.0030	0.0055	0.0095	0.0152	0.0231
SP4-6	Load (lb/ft)	1289	725	464	322	237	181	143	116
SH4-6	Deflection (in.)	0.181	0.321	0.502	0.723	0.984	1.285	1.626	2.008
SS4-6**	Deflection Factor	0.0001	0.0004	0.0011	0.0022	0.0042	0.0071	0.0114	0.0173

**Note: Stainless Steel 316 available, consult with T&B sales for further information.

6” Straight Sections
Series 1-6, 3-6, 4-6
Ladder, Ventilated and Solid Trough

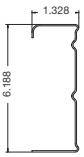
Steel Cable Tray



SP1-6, SH1-6, SS1-6 SP3-6, SH3-6, SS3-6 SP4-6, SH4-6, SS4-6	
W (in.)	**Wl (in.)**
6	3.34
9	6.34
12	9.34
18	15.34
24	21.34
30	27.34
36	33.34

Technical Specifications

LOAD RATINGS
1.5 Safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (siderail, rung, etc.) above and beyond published load class.

SERIES	DIMENSIONS	SIDERAIL DESIGN FACTORS • 1 PAIR	CLASSIFICATIONS NEMA	CSA	UL
SP1-6 **SH1-6** **SS1-6**		Ix = 4.44 in^4 Sx = 1.39 in^3 Area = 0.874 in^2	**20A**	**D/6M**	UL Cross Sectional Area : 0.70 in^2
SP3-6 **SH3-6** **SS3-6**		Ix = 5.373 in^4 Sx = 1.70 in^3 Area = 1.40 in^2	**20B**	**E/6M**	UL Cross Sectional Area : 1.00 in^2
SP4-6 **SH4-6** **SS4-6****		Ix = 7.173 in^4 Sx = 2.250 in^3 Area = 1.40 in^2	**20C**	**–**	UL Cross Sectional Area : 1.00 in^2

****Note: Stainless Steel 316 available, consult with T&B sales for further information.**

Straight Section Number Selection

SH3724L09288

Material
- **SP** • Pre-Galvanized
- **SH** • Hot Dip Galvanized after fabrication
- **SS** • Stainless Steel 316

Prefix

Series
- **3** • Series 3

Siderail Height
- **7** • (7")

Width
- **06** • (6")
- **09** • (9")
- **12** • (12")
- **18** • (18")
- **24** • (24")
- **30** • (30")
- **36** • (36")

Bottom Type
- **L06** • 6" rung spacing
- **L09** • 9" rung spacing
- **L12** • 12" rung spacing
- **V** • Ventilated
- **S** • Solid Trough

Length
- **3** • (3 meters)
- **6** • (6 meters)
- **144** • (12 ft)
- **288** • (24 ft)

Technical Specifications

All calculations and data are based on 36" wide cable trays with rungs spaced on 12" centers with tray supported as simple spans with deflection measured at the midpoint. Continuous spans may reduce deflection by as much as 50%.

Deflection factor
For lighter loads, deflection at any length can be calculated by multiplying the load by the deflection factor.
For Fittings consult page 128 to 142

SERIES		SUPPORT SPAN (Feet) 6	8	10	12	14	16	18	20
SP3-7	Load (lb/ft)	1333	750	480	333	245	188	148	120
SH3-7	Deflection (in.)	0.133	0.225	0.480	0.667	0.735	1.125	1.333	1.680
SS3-7*	Deflection Factor	0.0001	0.0003	0.001	0.002	0.003	0.006	0.009	0.014

*Note: Stainless Steel 316 available, consult with T&B sales for further information.

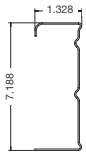
7” Straight Sections
Series 3-7
Ladder, Ventilated and Solid Trough

Steel Cable Tray

SP3-7, SH3-7, SS3-7	
W (in.)	**Wi (in.)**
6	3.34
9	6.34
12	9.34
18	15.34
24	21.34
30	27.34
36	33.34

Technical Specifications

LOAD RATINGS
1.5 Safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (siderail, rung, etc.) above and beyond published load class.

SERIES	DIMENSIONS	SIDERAIL DESIGN FACTORS • 1 PAIR	CLASSIFICATIONS NEMA	CSA	UL
SP3-7		Ix = 10.411 in^4 Sx = 2.820 in^3 Area = 1.54 in^2	**20C**	**–**	UL Cross Sectional Area : 1.50 in^2
SH3-7					
SS3-7*					

***Note: Stainless Steel 316 available, consult with T&B sales for further information.**