Metallic – Aluminum

Straight Lengths

Tray Bottom Types Ladder, ventilated and solid trough



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Ladder

• Extra wide aluminum rungs are welded to extruded aluminum I-beam side rails. Every second rung is reversed to allow for easy top or bottom mounting of cable ties and clamps. All edges and welds are rounded and smooth to prevent cable damage.

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 edge to rung edge).

Note: For load CSA Class C/3M, NEMA 8C or less, please see alternative ventilated series of cable tray called – One-Piece found on pages A160 to A191 of the catalogue.

Solid Trough

 A fabricated structure consisting of a bottom without ventilation openings within separate longitudinal side rails.

Note : Fast and easy snap-in splice plates are provided with each straight section.



Metallic – Aluminum



Straight Lengths

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 A8 in the technical section.

Methods

- 1. Select the material best suited to your environment. Refer to technical section page A8.
- 2. Determine the tray series using the NEMA/CSA Load/Span Designations page A16, and Sizing Cable Tray page A23.
- 3. Select nominal depth and width of tray based on Cable Loading. See «Sizing Cable Tray» page A23.
- 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.



A36



Metallic – Aluminum

Straight Lengths

Number Selection

Straight Section Number Selection

		AH1-6	6) 24-L	09-14	4	
A • Aluminum	H • H-Beam	1 • Series 1 ** 3 • Series 3 5 • Series 5	Side Kail Height (in.)	Width 06 • (6 in.) ** 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 (6 in. rung spacing) L09 (9 in. rung spacing) L12 (12 in. rung spacing) V (ventilated) *** S (solid trough) ***	Length 144 (12 ft.) 288 (24 ft.) 3 (3 meters) 6 (6 meters) 360 (30 ft.) †
		2 • Series 2 4 • Series 4	5			
		1 • Series 1 3 • Series 3 4 • Series 4 5 • Series 5 6 • Series 6 7 • Series 7	6	-		
		3 • Series 3 4 • Series 4	7			
		1 • Series 1**	8			

.

** Fittings not available for 8 in. side rail series 1. *** For load CSA Class C/3M, NEMA 8C or less, please see an alternative ventilated series of cable tray called - One-Piece found on pages A160 to A191 of this catalogue.

† For series 76, 47 and 18 only.

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Metallic – Aluminum

Straight Lengths

4 in. Straight Sections / Series 1-4

Ladder, ventilated and solid trough

Straight Section Number Selection

(AH1-4) 24-L09-144								
Material Prefix	Style Prefix	Series	Side Rail Height (in.)	Width	Bottom Type	Length		
A ● Aluminum	H • H-Beam	1 • Series 1 **	4	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 (6 in. rung spacing) L09 (9 in. rung spacing) L12 (12 in. rung spacing) V (ventilated) *** S (solid trough)	144 (12 ft.) 288 (24 ft.) 3 (3 meters) 6 (6 meters)		

** Series 1 is available in 12 ft. or less.

*** For load CSA Class C/3M, NEMA 8C or less, please see an alternative ventilated series of cable tray called - One-Piece found on pages A160 to A191 of this catalogue.

Technical Specifications

All calculations and data are based on 42 in. wide cable trays with rungs spaced on 12 in. 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 can be calculated by multiplying the load by the deflection factor. For Fittings consult pages A50 to A91.

Series		Support Span (Feet)									
		6	8	10	12	14	16	18	20		
AH1-4	Load (lb.)/ft.)	252	142	91	63	_	_	_	-		
	Deflection (in.)	0.284	0.506	0.790	1.138	_	_	_	-		
	Deflection Factor	0.001	0.004	0.009	0.018	_	_	_	-		



A38



Metallic – Aluminum

Straight Lengths

4 in. Straight Sections / Series 1-4

Ladder, ventilated and solid trough



Dimensions

	AH1-4								
W (in.)	Wo (in.)	Wi (in.)							
6	8.86	4.86							
9	11.86	7.86							
12	14.86	10.86							
18	20.86	16.86							
24	26.86	22.86							
30	32.86	28.86							
36	38.86	34.86							
42	44.86	40.86							

Technical Specifications

w w w . t n b . c a

Sorios	Dimensions	Side Rail Design	Classifications			
361165	DIIICIISIOIIS	Factors • 1 Pair	NEMA	CSA	UL	
AH1-4	2.00 4.12 3.04 +	lx = 2.58 in. ⁴ Sx = 1.224 in. ³ Area = 0.968 in. ²	12B, 8C	C/3 m	UL cross sectional Area : 0.60 in. ²	



Metallic – Aluminum

Straight Lengths

4 in. Straight Sections / Series 3-4, 5-4

Ladder, ventilated and solid trough

Straight Section Number Selection

) <u>24-L</u>	09-1	44	
Material	Style	Series	Side Rail Height (in.)	Width	Bottom Type	Length
A • Aluminum	H ● H-Beam	3 • Series 3 5 • Series 5	4	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 • 6 in. rung spacing L09 • 9 in. rung spacing L12 • 12 in. rung spacing V • Ventilated S • Solid trough	144 •(12 ft.) 288 •(24 ft.) 3 •(3 meters) 6 •(6 meters)

Technical Specifications

All calculations and data are based on 42 in. wide cable trays with rungs spaced on 12 in. 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 A50 to A91.

		Support Span (Feet)								
50	eries	6	8	10	12	14	16	18	20	
	Load (lb.)/ft.)	533	300	192	133	98	75	59	48	
AH3-4	Deflection (in.)	0.446	0.792	1.238	1.782	2.426	3.169	4.011	4.951	
	Deflection Factor	0.001	0.003	0.006	0.013	0.025	0.043	0.068	0.103	
	Load (lb.)/ft.)	867	488	312	217	159	122	96	78	
AH5-4	Deflection (in.)	0.474	0.843	1.317	1.897	2.581	3.372	4.267	5.268	
	Deflection Factor	0.001	0.002	0.004	0.009	0.016	0.028	0.044	0.068	





Metallic – Aluminum

Straight Lengths

4 in. Straight Sections / Series 3-4, 5-4

Ladder, ventilated and solid trough



Dimensions

	AH	3-4	AH5-4		
W (in.)	Wo (in.)	Wi (in.)	Wo (in.)	Wi (in.)	
6	8.86	4.86	8.86	4.86	
9	11.86	7.86	11.86	7.86	
12	14.86	10.86	14.86	10.86	
18	20.86	16.86	20.86	16.86	
24	26.86	22.86	26.86	22.86	
30	32.86	28.86	32.86	28.86	
36	38.86	34.86	38.86	34.86	
42	44.86	40.86	44.86	40.86	



Technical Specifications

Cariaa	Dimonsions	Side Rail Design	Classifications				
361165	Dimensions	Factors • 1 Pair	NEMA	CSA	UL		
AH3-4	4.19 4.19 3.08 Y	$lx = 3.49 in.^4$ Sx = 1.64 in. ³ Area = 1.28 in. ²	12C,16B	D/6 m	UL cross sectional Area : 1.00 in. ²		
AH5-4		$lx = 5.33 in.^4$ Sx = 2.36 in. ³ Area = 1.93 in. ²	20B,16C	E/6 m	UL cross sectional Area : 1.50 in. ²		





Metallic – Aluminum

Straight Lengths

5 in. Straight Sections / Series 2-5, 4-5

Ladder, ventilated and solid trough

Straight Section Number Selection

		<u>AH2-5</u>) 24-L	09-14	14	
Material Prefix	Style Prefix	Series	Side rail height (in.)	Width	Bottom Type	Length
A ● Aluminum	H ● H-Beam	2 • Series 2 4 • Series 4	5	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (36 in.) 36 • (36 in.) 42 • (42 in.)	L06 • 6 in. rung spacing L09 • 9 in. rung spacing L12 • 12 in. rung spacing V • Ventilated S • Solid trough	144 ●(12 ft.) 288 ●(24 ft.) 3 ●(3 meters) 6 ●(6 meters)

Technical Specifications

All calculations and data are based on 42 in. wide cable trays with rungs spaced on 12 in. 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 A50 to A91.

C		Support Span (Feet)								
361163		6	8	10	12	14	16	18	20	
	Load (lb.)/ft.)	511	288	184	128	94	72	57	46	
AH2-5	Deflection (in.)	0.277	0.493	0.771	1.110	1.510	1.973	2.497	3.083	
	Deflection Factor	0.001	0.002	0.004	0.009	0.016	0.027	0.044	0.067	
	Load (lb.)/ft.)	862	488	312	217	159	122	96	78	
AH4-5	Deflection (in.)	0.327	0.582	0.909	1.308	1.781	2.326	2.944	3.634	
	Deflection Factor	0.0004	0.001	0.003	0.006	0.012	0.020	0.032	0.049	





Metallic – Aluminum

Straight Lengths

5 in. Straight Sections / Series 2-5, 4-5

Ladder, ventilated and solid trough



Dimensions

w w w . t n b . c a

	AH	2-5	AH4-5		
W (in.)	Wo (in.)	Wi (in.)	Wo (in.)	Wi (in.)	
6	8.86	4.86	8.86	4.86	
9	11.86	7.86	11.86	7.86	
12	14.86	10.86	14.86	10.86	
18	20.86	16.86	20.86	16.86	
24	26.86	22.86	26.86	22.86	
30	32.86	28.86	32.86	28.86	
36	38.86	34.86	38.86	34.86	
42	44.86	40.86	44.86	40.86	

Technical Specifications

Quites	Dimonstrate	Side Rail Design		Classifications	
Series	Dimensions	Factors • 1 Pair		CSA	UL
AH2-5	2.00 5.02 3.94	$lx = 5.372 \text{ in.}^4$ Sx = 2.016 in. ³ Area = 1.38 in. ²	12C,16A	D/6 m	UL cross sectional Area : 1.00 in. ²
AH4-5	2.00 5.12 4.00	$lx = 7.726 \text{ in.}^4$ Sx = 2.92 in. ³ Area = 1.94 in. ²	20B	E/6 m	UL cross sectional Area : 1.50 in. ²



Metallic – Aluminum

Straight Lengths

6 in. Straight Sections / Series 1-6, 3-6

Ladder, ventilated and solid trough

Straight Section Number Selection

		<u>AH1-6</u>) <u>24-L</u>	09-14	4	
Material Prefix	Style Prefix	Series	Side rail height (in.)	Width	Bottom Type	Length
A ● Aluminum	H ● H-Beam	1 • Series 1 3 • Series 3	6	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 • 6 in. rung spacing L09 • 9 in. rung spacing L12 • 12 in. rung spacing V • Ventilated ** S • Solid trough	144 ●(12 ft.) 288 ●(24 ft.) 3 ●(3 meters) 6 ●(6 meters)

** For load ratings of CSA Class C/NEMA 8C or less, please see an alternative ventilated series of cable tray called - One-Piece found on pages A160 to A191 of this catalogue.

Technical Specifications

All calculations and data are based on 36 in. wide cable trays with rungs spaced on 12 in. 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 A50 to A91.

			Support Span (Feet)									
S	eries	6	8	10	12	14	16	18	20			
	Load (lb.)/ft.)	511	288	184	128	94	72	57	46			
AH1-6	Deflection (in.)	0.171	0.304	0.476	0.685	0.932	1.218	1.541	1.903			
	Deflection Factor	0.0004	0.001	0.003	0.005	0.010	0.017	0.028	0.041			
	Load (lb.)/ft.)	889	500	320	222	163	125	99	80			
AH3-6 Deflection (in.)		0.203	0.360	0.563	0.810	1.103	1.440	1.823	2.250			
Deflection Factor		0.0002	0.001	0.002	0.004	0.006	0.011	0.018	0.027			

A44



Metallic – Aluminum

Straight Lengths

6 in. Straight Sections / Series 1-6, 3-6

Ladder, ventilated and solid trough



Dimensions

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	AH	1-6	AH	3-6	
W (in.)	Wo (in.)	Wi (in.)	Wo (in.)	Wi (in.)	
6	8.86	4.86	8.86	4.86	
9	11.86	7.86	11.86	7.86	
12	14.86	10.86	14.86	10.86	
18	20.86	16.86	20.86	16.86	
24	26.86	22.86	26.86	22.86	
30	32.86	28.86	32.86	28.86	
36	38.86	34.86	38.86	34.86	
42	44.86	40.86	44.86	40.86	



Technical Specifications

		Cido Doil Dooinn		Classifications	
Series	Dimensions	Dimensions Factors • 1 Pair		CSA	UL
AH1-6	2.00 6.15 5.07 t	$lx = 8.702 \text{ in.}^4$ Sx = 2.706 in. ³ Area = 1.55 in. ²	12C, 16A	D/6 M	UL cross sectional Area : 1.00 in. ²
AH3-6	6.24 5.11	lx = 12.798 in. ⁴ Sx = 3.77 in. ³ Area = 2.072 in. ²	20B	E/6 M	UL cross sectional Area : 2.00 in. ²



Metallic – Aluminum

Straight Lengths

6 in. Straight Sections / Series 4-6, 5-6, 6-6, 7-6

Ladder, ventilated and solid trough

Straight Section Number Selection

	(AH5-6	6) <u>24-L</u>	09-14	4	
Material Prefix	Style Prefix	Series	Side Rail Height (in.)	Width	Bottom Type	Length
A • Aluminum	H ● H-Beam	4 • Series 4 5 • Series 5 6 • Series 6 7 • Series 7	6	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 • 6 in. rung spacing L09 • 9 in. rung spacing L12 • 12 in. rung spacing V • Ventilated S • Solid trough	144 • (12 ft.) 288 • (24 ft.) 3 • (3 meters) 6 • (6 meters)

Technical Specifications

All calculations and data are based on 42 in. wide cable trays with rungs spaced on 12 in. 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 A50 to A91.

							Cum	out Cuan (East)					
Series		· ·	0	10	10	- 14	Supj	port Span (00	04	00	00	20
		0	ð	10	12	14	10	18	20	22	24	20	28	30
	Load (lb.)/ft.)	1144	644	412	286	210	161	127	103	-	-	-	-	-
AH4-6	Deflection (in.)	0.242	0.430	0.673	0.968	1.318	1.722	2.179	2.690	-	-	-	-	-
	Deflection Factor	0.0002	0.001	0.002	0.003	0.006	0.011	0.017	0.026	-	-	-	-	-
	Load (lb.)/ft.)	-	769	492	342	251	192	152	123	-	-	-	-	-
AH5-6	Deflection (in.)	-	0.452	0.707	1.018	1.386	1.810	2.290	2.828	-	-	-	-	-
	Deflection Factor	-	0.001	0.001	0.003	0.006	0.009	0.015	0.023	-	-	-	-	-
	Load (lb.)/ft.)	-	1075	688	478	351	269	212	172	126	106	91	78	68
AH6-6	Deflection (in.)	-	0.525	0.821	1.182	1.609	2.102	2.660	3.284	3.536	4.208	4.938	5.727	6.575
	Deflection Factor	-	0.0005	0.001	0.002	0.005	0.008	0.013	0.019	0.028	0.040	0.055	0.073	0.097
	Load (lb.)/ft.)	-	-	-	-	-	-	208	169	139	117	100	86	75
AH7-6	Deflection (in.)	-	_	_	_	-	-	2.241	2.767	3.348	3.985	4.676	5.424	6.226
	Deflection Factor	-	-	-	-	-	-	0.011	0.016	0.024	0.034	0.047	0.063	0.083



Metallic – Aluminum

Straight Lengths

6 in. Straight Sections / Series 4-6, 5-6, 6-6, 7-6

Ladder, ventilated and solid trough



Dimensions

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	AH	4-6	AH5-6		AH	6-6	AH7-6		
W (in.)	Wo (in.)	Wi (in.)							
6	8.86	4.86	8.86	4.86	8.86	4.86	8.86	4.86	
9	11.86	7.86	11.86	7.86	11.86	7.86	11.86	7.86	
12	14.86	10.86	14.86	10.86	14.86	10.86	14.86	10.86	
18	20.86	16.86	20.86	16.86	20.86	16.86	20.86	16.86	
24	26.86	22.86	26.86	22.86	26.86	22.86	26.86	22.86	
30	32.86	28.86	32.86	28.86	32.86	28.86	32.86	28.86	
36	38.86	34.86	38.86	34.86	38.86	34.86	38.86	34.86	
42	44.86	40.86	44.86	40.86	44.86	40.86	44.86	40.86	



Technical Specifications

Sorios	Dimonsions	Side Rail Design		Classifications	
361165	Dimensions	Factors • 1 Pair	NEMA	CSA	UL
AH4-6		$lx = 13.78 \text{ in.}^4$ Sx = 4.05 in. ³ Area = 2.32 in. ²	20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²
AH5-6		$lx = 15.66 \text{ in.}^4$ Sx = 4.64 in. ³ Area = 2.68 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²
AH6-6	6.32 5.14	$lx = 18.854 \text{ in.}^4$ Sx = 5.53 in. ³ Area = 3.25 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²
AH7-6	6.32 5.175	$lx = 21.96 \text{ in.}^4$ Sx = 6.31 in. ³ Area = 3.82 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²



Metallic – Aluminum

Straight Lengths

7 in. and 8 in. Straight Sections

Series 3-7, 4-7, 1-8

Ladder, ventilated and solid trough

Straight Section Number Selection

	(AH3-7	') <u>24-L</u>	09-1	44	
Material	Style	Series	Side Rail Height (in.)	Width	Bottom Type	Length
A ● Aluminum	H ● H-Beam	3 • Serie 3	7	06 • (6 in.) 09 • (9 in.) 12 • (12 in.) 18 • (18 in.) 24 • (24 in.) 30 • (30 in.) 36 • (36 in.) 42 • (42 in.)	L06 • 6 in. rung spacing L09 • 9 in. rung spacing L12 • 12 in. rung spacing V • Ventilated S • Solid trough	144 •(12 ft.) 288 •(24 ft.) 3 •(3 meters) 6 •(6 meters)

Technical Specifications

All calculations and data are based on 42 in. wide cable trays with rungs spaced on 12 in. 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 A50 to A91.

							Supj	oort Span (I	Feet)					
Series		6	8	10	12	14	16	18	20	22	24	26	28	30
	Load (lb.)/ft.)	-	825	528	367	269	206	163	132	97	81	-	-	-
AH3-7	Deflection (in.)	-	0.299	0.468	0.673	0.916	1.197	1.515	1.870	2.009	2.391	-	-	-
	Deflection Factor	-	0.0004	0.001	0.002	0.003	0.006	0.009	0.014	0.021	0.029	-	-	-
	Load (lb.)/ft.)	-	-	-	-	-	-	300	243	201	169	144	124	108
AH4-7	Deflection (in.)	-	-	-	-	-	-	1.925	2.376	2.876	3.422	4.016	4.658	5.347
	Deflection Factor	-	-	-	-	-	-	0.006	0.010	0.014	0.020	0.028	0.038	0.050
	Load (lb.)/ft.)	-	-	-	-	-	-	528	428	353	297	253	218	190
AH1-8	Deflection (in.)	-	-	-	_	-	-	2.136	2.637	3.191	3.797	4.457	5.169	5.933
	Deflection Factor	_	-	-	-	-	-	0.004	0.006	0.009	0.013	0.018	0.024	0.031



Metallic – Aluminum

Straight Lengths

7 in. and 8 in. Straight Sections Series 3-7, 4-7, 1-8

Ladder, ventilated and solid trough



Dimensions

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	AH	3-7	AH	4-7	AH1-8		
W (in.)	Wo (in.)	Wi (in.)	Wo (in.)	Wi (in.)	Wo (in.)	Wi (in.)	
6	8.86	4.86	8.86	4.86	7.82	1.82	
9	11.86	7.86	11.86	7.86	10.82	4.82	
12	14.86	10.86	14.86	10.86	13.82	7.82	
18	20.86	16.86	20.86	16.86	19.82	13.82	
24	26.86	22.86	26.86	22.86	25.82	19.82	
30	32.86	28.86	32.86	28.86	31.82	25.82	
36	38.86	34.86	38.86	34.86	37.82	31.82	
42	44.86	40.86	44.86	40.86	43.82	37.82	

Technical Specifications

Series	Dimensions	Side Rail Design Factors • 1 Pair	Classifications		
			NEMA	CSA	UL
AH3-7	7.34 6.18	$lx = 25.41 \text{ in.}^4$ Sx = 6.46 in. ³ Area = 3.30 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²
AH4-7	7.490 5.954	$lx = 36.81 \text{ in.}^4$ Sx = 9.08 in. ³ Area = 4.63 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in.²
AH1-8	8.00	$lx = 58.36 \text{ in.}^4$ Sx = 13.37 in. ³ Area = 5.86 in. ²	Exceeds 20C	Exceeds E/6M	UL cross sectional Area : 2.00 in. ²

