












# Cable Tray Selection - Strength

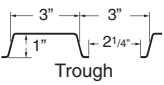
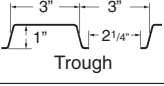
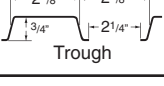
## Load Capacity

### Ladder Type Rungs

Rung Type	Design Factors	Material Type	Single Rung Uniform Load Capacity (in Lbs.) with safety factor of 1.5						
			Tray Width						
			6	9	12	18	24	30	36
	$I_x = .0361 \text{ in.}^4$ $S_x = .0707 \text{ in.}^3$	Aluminum				766	575		
	$I_x = .0432 \text{ in.}^4$ $S_x = .0877 \text{ in.}^3$	Aluminum					594	495	
	$I_x = .0249 \text{ in.}^4$ $S_x = .0528 \text{ in.}^3$	Steel	2912	1941	1456	971	728		
	$I_x = .0312 \text{ in.}^4$ $S_x = .0661 \text{ in.}^3$	Steel						749	624
	$I_x = .0450 \text{ in.}^4$ $S_x = .0787 \text{ in.}^3$	Aluminum Strut Rung	3328	2219	1664	1109	832	666	555
	$I_x = .0445 \text{ in.}^4$ $S_x = .0782 \text{ in.}^3$	Steel Strut Rung	5172	3448	2586	1724	1293	1034	862
	$I_x = .0130 \text{ in.}^4$ $S_x = .0344 \text{ in.}^3$	Redi-Rail	1480	987	740	493	370	296	224
	$I_x = .0039 \text{ in.}^4$ $S_x = .0134 \text{ in.}^3$	Steel Series 1	981	654	491	327	245		
	$I_x = .0047 \text{ in.}^4$ $S_x = .0164 \text{ in.}^3$	Steel Series 1						230	192
	$I_x = .0353 \text{ in.}^4$ $S_x = .0708 \text{ in.}^3$	Aluminum Marine Rung	2996	1997	1498	999	749	599	499
	$I_x = .0347 \text{ in.}^4$ $S_x = .0685 \text{ in.}^3$	Steel Marine Rung	4530	3020	2265	1510	1133	906	755

Cable Tray Selection

### Corrugated Bottoms (Ventilated and Solid)

Bottom Type	Design Factors	Material Type	Single Rung Load Capacity (in Lbs.) with safety factor of 1.5						
			Tray Width						
			6	9	12	18	24	30	36
	$I_x = .0455 \text{ in.}^4$ $S_x = .0898 \text{ in.}^3$	Aluminum	3141	2029	1491	970	726	660	594
	$I_x = .0348 \text{ in.}^4$ $S_x = .0667 \text{ in.}^3$	Steel	2973	1946	1445	955	711	650	590
	$I_x = .0185 \text{ in.}^4$ $S_x = .0503 \text{ in.}^3$	Series 148 Steel	2645	1763	1323	881	661		

# Cable Tray Selection - Strength

## Load Capacity

Calculate each anticipated load factor, then add them to obtain a total load.  
 (Example: Working Load = Cable + Concentrated + Wind + Snow + Ice Loads).  
 The Working Load should be used, along with the maximum support spacing, to select a span/load class designation from Table 3. Table 4 (page 31) contains the most common load/span class designations per the US and Canadian metallic cable tray standard, CSA, C22.2 No. 126.1-98 First Addition, NEMA VE 1-1998.

**Table 3 - These Loading Classes Are Historical and Supplied For Reference Only**

Load Class		Class Designations for lengths of									
		ft 8	m (2.4)	ft 10	m (3.0)	ft 12	m (3.7)	ft 16	m (4.9)	ft 20	m (6.0)
25	37	--		A		--		--		--	
45	67	--		--		--		--		D	
50	74	8A		--		12A		16A		20A	
65	97	--		C		--		--		--	
75	112	8B		--		12B		16B		E or 20B	
100	149	8C		--		12C		16C		20C	
120	179	--		D		--		--		--	
200	299	--		E		--		--		--	

Note: 8A/B/C, 12A/B/C, 16A/B/C, and 20A/B/C were the traditional NEMA designations. A, C, D, and E were the conventional CSA designations. Actual tested loadings per span will be stated on the product labels.

# Cable Tray Selection - Strength

Table 4 - B-Line Cable Tray Load Classes

Aluminum Copper free						Steel HDGAF/Pre-Galvanized									
Series	Load Depth	Load		Span		Former Classes		Series	Load Depth	Load		Span		Former Classes	
		lb/ft	(kg/m)	ft	(m)	NEMA	CSA			lb/ft	(kg/m)	ft	(m)	NEMA	CSA
H14AR	3	86	(128)	12	(3.7)	12B	D <sub>1</sub> (3m)	148*	3	51	(76)	12	(3.7)	12A	C <sub>1</sub> (3m)
24A	3	126	(187)	12	(3.7)	12C	D <sub>1</sub> (3m)	248*	3	103	(153)	12	(3.7)	12C	D <sub>1</sub> (3m)
34A	3	80	(119)	20	(6.1)	20B	E (6m)	346*	3	63	(94)	20	(6.1)	20A	D <sub>1</sub> (6m)
H15AR	4	102	(152)	12	(3.7)	12C	D <sub>1</sub> (3m)	444*	3	91	(135)	20	(6.1)	20B	E (3m)
25A	4	50	(74)	20	(6.1)	16B	D <sub>1</sub> (6m)	156*	4	76	(113)	12	(3.7)	12B	C <sub>1</sub> (3m)
35A	4	121	(180)	16	(4.9)	20B	E (3m)	258*	4	109	(162)	12	(3.7)	12C	D <sub>1</sub> (3m)
H16AR	5	114	(170)	12	(3.7)	12C	D <sub>1</sub> (3m)	356*	4	69	(103)	20	(6.1)	16C	D <sub>1</sub> (6m)
26A	5	51	(76)	20	(6.1)	20A	D <sub>1</sub> (6m)	358*	4	62	(92)	20	(6.1)	20A	D <sub>1</sub> (6m)
36A	5	84	(125)	20	(6.1)	20B	E (6m)	454*	4	106	(158)	20	(6.1)	20C	E (6m)
46A	5	103	(153)	20	(6.1)	20C	E (6m)	166*	5	77	(115)	12	(3.7)	12B	C <sub>1</sub> (3m)
H46A	5	167	(248)	20	(6.1)	167# @ 20'	131 kg/m (7.6m)	268*	5	110	(164)	12	(3.7)	12C	D <sub>1</sub> (3m)
H17AR	6	100	(149)	12	(3.7)	12B	D <sub>1</sub> (3m)	368†	5	59	(88)	20	(6.1)	20A	D <sub>1</sub> (3m)
37A	6	80	(119)	20	(6.1)	20B		366*	5	75	(112)	20	(6.1)	20B	E (6m)
47A	6	100	(149)	20	(6.1)	20C		464* †	5	123	(183)	20	(6.1)	119# @ 20'	E (6m)
H47A	6	149	(222)	20	(6.1)	149# @ 20'		176*	6	86	(128)	12	(3.7)	12B	137 kg/m (3.7m)
57A	6	102	(152)	30	(9.1)	102# @ 30'	152 kg/m (9.1m)	378*	6	51	(76)	20	(6.1)	20A	D <sub>1</sub> (3m)
S8A	6	161	(240)	30	(9.1)	161# @ 30'	240 kg/m (9.1m)	476*	6	77	(115)	20	(6.1)	20B	D <sub>1</sub> (6m)
Data-Track	All	120	(179)	9.8	(3.0)			574*	6	130	(193)	20	(6.1)	117# @ 20'	E (6m)
Half Rack	All	25	(37)	9.8	(3.0)			348†	3	125	(186)	12	(3.7)	12C	C <sub>1</sub> (3m)
Verti-Rack	All	100	(149)	12	(3.7)			358†	4	62	(92)	20	(6.1)	20A	89 kg/m (6.1m)
Multi-Tier	All	140	(208)	10	(3.1)			FT1.5X12	1 1/2	11	(16)	8	(2.4)		
								FT2X2	2	20	(30)	8	(2.4)		
								FT2X4	2	27	(40)	8	(2.4)		
								FT2X6	2	27	(40)	8	(2.4)		
								FT2X8	2	27	(40)	8	(2.4)		
								FT2X12	2	27	(40)	8	(2.4)		
								FT2X16	2	27	(40)	8	(2.4)		
13F	2	145	(216)	8	(2.4)	8C		FT2X18	2	27	(40)	8	(2.4)		
24F	3	156	(232)	12	(3.7)			FT2X20	2	27	(40)	8	(2.4)		
36F	5	88	(131)	20	(6.1)			FT2X24	2	27	(40)	8	(2.4)		
46F	5	141	(210)	20	(6.1)			FT2X30	2	27	(40)	8	(2.4)		
H46F	5	152	(226)	20	(6.1)			FT2X36	2	27	(40)	8	(2.4)		
48F	7	125	(187)	20	(6.1)			FT4X4	4	36	(53)	8	(2.4)		
								FT4X6	4	46	(68)	8	(2.4)		
								FT4X8	4	47	(70)	8	(2.4)		
								FT4X12	4	47	(70)	8	(2.4)		
								FT4X16	4	47	(70)	8	(2.4)		
								FT4X18	4	47	(70)	8	(2.4)		
								FT4X20	4	47	(70)	8	(2.4)		
								FT4X24	4	50	(74)	8	(2.4)	8A	
								FT4X30	4	50	(74)	8	(2.4)	8A	
								FT6X8	6	43	(64)	8	(2.4)	8A	
								FT6X12	6	48	(71)	8	(2.4)	8A	
								FT6X16	6	50	(74)	8	(2.4)	8A	
								FT6X18	6	50	(74)	8	(2.4)	8A	
								FT6X20	6	55	(82)	8	(2.4)	8A	
								FT6X24	6	60	(89)	8	(2.4)	8A	

\* G denotes CSA Type 1 (HDGAF) or P denotes CSA Type 2 (Mill-Galvanized)

† SS4 (Type 304 Stainless) or SS6 (Type 316 Stainless)