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POWER RATING

Table 1-1 **Current Carrying Capacities of Single Core 0.6/1kV Sheathed cable with TP-90 insulation at Ambient Air Temperature 40°C (referenced to AS/NZS 3008.1.1:1998 Tables 4 + 7) – FIXED INSTALLATION**

Conductor Size	Unenclosed				Enclosed			
	Spaced		Spaced from surface		Touching		Wiring enclosure in air	
								
mm²	A	A	A	A	A	A	A	A
6	61	59	60	50	47	47	47	42
10	84	81	82	69	65	65	65	58
16	110	110	110	92	86	86	86	78
25	150	145	145	125	115	115	115	110
35	185	180	175	155	145	145	145	125
50	230	220	215	190	175	175	175	155
70	290	280	275	240	225	225	220	190
95	360	350	340	300	280	280	260	230
120	420	410	395	350	325	325	310	270
150	485	470	450	405	375	375	350	310
185	570	550	520	470	435	435	400	355
240	680	660	620	560	520	520	475	420
300	790	770	720	650	610	600	—	485
400	920	900	840	760	710	700	—	560
500	1080	1050	970	870	820	810	—	650
630	1260	1230	1110	1010	950	940	—	760

Note : Derating factors may apply subject to laying conditions . Pls refer :

i. Table 1-3 Other ambient temperatures
ii. Table 1-4 Bunched circuits in air or wiring enclosures
iii. Table 1-6 for circuits of single core cables installed in trays, racks, cleats, or other supports in air

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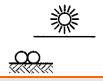
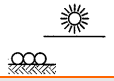
Table 1-2 **Current Carrying Capacities of Single Core 0.6/1kV Sheathed cable with TP-90 insulation at Ambient Air Temperature 40°C (reference to AS/NZS 3008.1.1:1998 Tables 15) – FLEXING**

Conductor Size	Single- & Two-core		Three- and Four-core	
	Protected from sun	Exposed to Sun	Protected from sun	Exposed to Sun
				
mm²	A	A	A	A
6	54	43	46	37
10	74	58	63	50
16	99	77	85	66
25	135	105	115	88
35	165	125	140	105
50	195	145	165	125
70	250	185	215	155
95	290	210	250	180
120	340	245	290	210
150	390	280	335	240
185	440	315	380	270
240*	510	365	445	310
300*	600	420	510	360
400*	720	500	620	425
500†	800	560	—	—

* **Single-core, two-core and three-core**
† **Single-core only**

Notes
1) Where layers of flexible cable are accommodated on a radial-type cable drum, multiply the values by a appropriate factor in Table 1-5.

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Table 1-3 Derating Factors – for variations in ambient temperature for cables in air (reference to AS/NZS 3008.1.1:1998 Table 27(1))

Ambient Temperature in °C	Conductor Temperature in °C		
	75	80	90
15	1.35	1.31	1.26
20	1.28	1.25	1.20
25	1.21	1.19	1.15
30	1.14	1.12	1.10
35	1.07	1.06	1.05
40	1.00	1.00	1.00
45	0.91	0.92	0.94
50	0.82	0.84	0.88
55	0.72	0.76	0.81
60	0.60	0.66	0.73
65	0.49	0.56	0.65
70	0.37	0.45	0.57
75	—	0.27	0.47
80	—	—	0.34
85	—	—	0.19

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Table 1-4 Derating Factors - for bunched circuits of single core cables in air or in wiring enclosures (reference to AS/NZS 3008.1.1:1998 Table 22)

Arrangement of cables		Correction Factors – Number of Circuits														
		1	2	3	4	5	6	7	8	9	10	12	14	16	18	20 or more
Bunched in air		1.00	0.87	0.75	0.72	0.70	0.67	—	—	—	—	—	—	—	—	—
Bunched on a surface or enclosed		1.00	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38
Single layer on wall or floor	Touching	1.00	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	0.70	0.70	0.70	0.70	0.70	0.70
	Spaced	1.00	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer on wall under ceiling	Touching	0.95	0.81	0.72	0.68	0.66	0.64	0.63	0.62	0.61	0.61	0.61	0.61	0.61	0.61	0.61
	Spaced	0.95	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

Table 1-5 Derating Factors – of spooled/winded cables (in accordance to AS/NZS 2008.1.1:1998 Table 15)

Number of layers	1	2	3	4
Derating Factor	0.85	0.65	0.45	0.35

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Table 1-6 Correction Factors - for circuits of single core cables installed in trays, racks, cleats, or other supports in air (reference to AS/NZS 3008.1.1:1998 Table 23)

Installation		Number of tiers or rows of cable supports	Arrangements of cables in a circuit	Correction Factors		
				Number of circuits per tier or row		
				1	2	3
Unperforated trays		1	2 or 3 cables in horizontal formation	0.95	0.85	0.84
		2		0.92	0.83	0.79
		3		0.91	0.82	0.76
Perforated trays		1	2 or 3 cables in horizontal formation	0.97	0.89	0.87
		2		0.94	0.85	0.81
		3		0.93	0.84	0.79
Ladder supports. Racks and cleats		1	2 or 3 cables in horizontal formation	1.00	0.95	0.94
		2		0.95	0.90	0.88
		3		0.95	0.89	0.85
Vertical perforated trays		1	2 or 3 cables in vertical formations	0.94	0.85	—
		2		0.92	0.83	—
Unperforated trays		1	2 or 3 cables in horizontal formation	0.98	0.96	0.94
		2		0.95	0.91	0.87
		3		0.94	0.90	0.85
Perforated trays		1	2 or 3 cables in horizontal formation	1.00	0.98	0.96
		2		0.97	0.93	0.89
		3		0.96	0.92	0.86
Ladder supports		1	2 or 3 cables in horizontal formation	1.00	1.00	1.00
		2		0.97	0.95	0.93
		3		0.97	0.94	0.90
Vertical perforated trays		1	2 or 3 cables in vertical formation	1.00	0.91	0.89
		2		1.00	0.90	0.86

Notes :

- The vertical spacing of horizontal trays and ladder supports shall be not less than 300mm
- The horizontal spacing of vertical trays mounted back to back shall be not less than 230mm