케이블 콘(주) 기술지원팀 :: 콘넥터 문의 0707-434-7701 케이블 문의 0707-434-7702

Technical Information

Current Carrying Capacity

Table 3: Lead Wire Current Carrying Capacity

AWG	90°C Neoprene, SIS	105°C Vinyl, Hypalon®	125°C XL-Dur,® Hermetic	150°C EPDM, XL-Dur, Silicone	200°C Silicone
22	10	11	12	14	16
20	13	14	15	18	21
18	18	20	22	24	28
16	24	26	28	31	35
14	35	39	42	46	54
12	40	51	55	60	68
10	55	67	72	80	90
8	80	90	97	106	124
6	105	121	131	155	165
4	140	160	172	109	220
3	165	180	194	214	252
2	190	215	232	255	293
1	220	247	266	293	344
1/0	260	286	309	339	399
2/0	300	329	355	390	467
3/0	350	380	410	451	546
4/0	405	446	481	529	629

Values (amperes) shown in this table are maximum for a single conductor in free air with an assumed ambient room temperature of 30°C (86°F).

Table 4: Current Carrying Capacity of 2 or 3 Conductors

AWG	90°C Neoprene, SIS	105°C Vinyl, Hypalon	125°C XL-Dur, Hermetic	150°C EPDM, XL-Dur, Silicone	200°C Silicone
22	6	7	8	9	10
20	8	9	10	13	15
18	14	15	16	17	20
16	18	19	20	22	25
14	25	29	31	34	36
12	30	36	39	43	45
10	40	46	50	55	60
8	55	64	69	76	83
6	75	81	87	96	110
4	95	109	118	120	125
3	110	129	139	143	152
2	130	143	154	160	171
1	150	168	181	186	197
1/0	170	193	208	215	229
2/0	195	229	247	251	260
3/0	225	263	284	288	297
4/0	260	301	325	332	346

Current carrying capacity of not more than three (3) conductors in a raceway, conduit or cable. The values (amperes) shown in this table are maximum at an assumed ambient room temperature of 30°C (86°F).

Hypalon is a trademark of DuPont.

How to Use

The choice of an appropriate conductor, with respect to current carrying capacity, usually depends on one or more factors which vary according to application. These factors include the temperature in which the lead wire operates, temperature rise of equipment, limitations of insulation, voltage drop, and location of wires as in free air or enclosed, such as formed by a compartment, tubing, or a bundle of wires.

For these reasons it is not practical to provide a general chart showing the current carrying capacity of Lead Wire for all conditions. Accordingly, the values shown in Table 3 are MAXIMUM for a single conductor in free air, based on ambient temperature of 30°C. For actual use temperatures above an ambient temperature of 30°C, reduce the maximum ampacity by use of correction factor in Table 5 to correct the values in Table 3 and Table 4.

Table 5: Correction Factors for Tables 3 & 4

Ambient Temperature (°C)	Insulation Temperature Rating				
	90°C	105°C	125°C	150°C	200°C
31 – 35	.96	1.00	1.00	1.00	1.00
36 – 40	.91	1.00	1.00	1.00	1.00
41 – 45	.87	.93	.94	.95	.97
46 – 50	.82	.93	.94	.95	.97
51 – 55	.76	.85	.87	.90	.94
56 – 60	.71	.85	.87	.90	.94
61 – 70	.58	.76	.80	.85	.90
71 – 80	.41	.65	.73	.80	.87
81 – 90	—	.53	.64	.74	.83
91 – 100	—	.38	.54	.67	.79
101 – 120	—	—	.24	.52	.71
121 – 140	—	—	—	.30	.61
141 – 160	—	—	—	—	.50
161 – 180	—	—	—	—	.35

For ambient temperatures over 30°C, multiply the ampacities shown in Table 3 or Table 4 by the appropriate correction factor to determine the maximum allowable load current.

Correction Factors for Table 4

Number of Conductors	Reduction Percentage
4 thru 6	80%
7 thru 9	70%
10 thru 20	50%
21 thru 30	45%
31 thru 40	40%
41 and above	35%

If more than three (3) conductors are in a raceway, conduit or cable, the values given in Table 4 must be reduced using the above percentages.

(Example: The ampacity for 7 through 9 conductors = 70% of the the value(s) shown in Table 4.)

견적문의 Belden114@cablecon.kr / 0707-434-7704 / Fax. 02-744-0909 / www.CableCon.co.kr