

# National Electrical Code Allowable Conductor Ampacity

**TABLE 310-16**

Allowable Ampacities of Insulated Conductors  
Rated 0-2000 Volts, 60° to 90°C (140° to 194°F)

NOT MORE THAN THREE CONDUCTORS in Raceway or Cable or Earth  
(Directly Buried), Based on Ambient Temperature of 30°C (86°F)

Size	Temperature Rating of Conductor		
	60°C (140°F)	75°C (167°F)	90°C (194°F)
AWG kcmil	TYPES TW†, UF†	TYPES FEPW†, RH†, RHW†, THHW†, THW†, THWN†, XHHW† USE†, ZW†	TYPES TA, TBS, SA SIS, FEP† FEPB†, MI, RHH†, RHW-2, THHN†, THHW†, THW-2, THWN-2, USE-2, XHH, XHHW† XHHW-2, ZW-2
	<b>COPPER</b>		
18	....	....	14
16	....	....	18
14	20 †	20 †	25 †
12	25 †	25 †	30 †
10	30	35 †	40 †
8	40	50	55
6	55	65	75
4	70	85	95
3	85	100	110
2	95	115	130
1	110	130	150
1/0	125	150	170
2/0	145	175	195
3/0	165	200	225
4/0	195	230	260
250	215	255	290
300	240	285	320
350	260	310	350
400	280	335	380
500	320	380	430
600	355	420	475
700	385	460	520
750	400	475	535
800	410	490	555
900	435	520	585
1000	455	545	615
1250	495	590	665
1500	520	625	705
1750	545	650	735
2000	560	665	750

**TABLE 310-17**

Allowable Ampacities of SINGLE INSULATED CONDUCTORS,  
Rated 0 through 2000 Volts, In Free Air  
Based on Ambient Air Temperature of 30°C (86°F)

Size	Temperature Rating of Conductor		
	60°C (140°F)	75°C (167°F)	90°C (194°F)
AWG kcmil	TYPE TW† UF†	TYPES FEPW†, RH†, RHW†, THHW†, THW†, THWN†, XHHW† ZW†	TYPES TA, TBS, SA SIS, FEP†, FEPB†, MI, RHH†, RHW-2, THHN†, THHW†, THW-2, THWN-2, USE-2, XHH, XHHW†, XHHW-2, ZW-2
	<b>COPPER</b>		
18	....	....	18
16	....	....	24
14	25 †	30 †	35 †
12	30 †	35 †	40 †
10	40 †	50 †	55 †
8	60	70	80
6	80	95	105
4	105	125	140
3	120	145	165
2	140	170	190
1	165	195	220
1/0	195	230	260
2/0	225	265	300
3/0	260	310	350
4/0	300	360	405
250	340	405	455
300	375	445	505
350	420	505	570
400	455	545	615
500	515	620	700
600	575	690	780
700	630	755	855
750	655	785	885
800	680	815	920
900	730	870	985
1000	780	935	1055
1250	890	1065	1200
1500	980	1175	1325
1750	1070	1280	1445
2000	1155	1385	1560

† Unless otherwise specifically permitted elsewhere in this Code, the overcurrent protection for conductor types marked with an obelisk (†) shall not exceed 15 amperes for No. 14, 20 amperes for No. 12, and 30 amperes for No. 10 copper, after any correction factors for ambient temperature and number of conductors have been applied.

**For Example:**

LAPP USA P/N 221007, 10 AWG, 6 Cond. + 1 ground, 90°C THHN  
at 30°C = 40 AMPS x .80 (Adjustment Factor) = 32 AMPS

At 40°C = 40 AMPS X .91 (Temp. Correction Factor) = 36 AMPS  
= 36 AMPS X .80 (Adjustment Factor) = 28 AMPS

**Adjustment Factors for More than Three Current-Carrying Conductors in a Raceway or Cable.** Where the number of current-carrying conductors in a raceway or cable exceeds three, the allowable ampacities shall be reduced as shown in the following table:

Number of Current-Carrying Conductors *	Percent of Values in Tables as Adjusted for Ambient Temperature if Necessary
4 through 6	80
7 through 9	70
10 through 20	50
21 through 30	45
31 through 40	40
41 and above	35

\* Does not include ground

**TEMPERATURE CORRECTION FACTORS**  
For ambient temperatures other than 30°C (86°F), multiply the allowable ampacities shown above by the appropriate factor shown below.

Ambient Temp. °C	60°C	75°C	90°C
30	1.00	1.00	1.00
40	.82	.88	.91
50	.58	.75	.82
60	....	.58	.71
70	....	.33	.58
80	....	....	.41