

Table 13-1: Power ampacity to single core and multi core cables acc. to NEC (USA)

Abstract of NEC Tabelle 310-16

Allowable ampacity (in Ampere) of insulated conductors, rated 0 – 2000 Volts, 60 °C to 90 °C, NOT MORE THAN THREE CONDUCTORS in raceway or cable over Earth (direct burial), based on ambient temperature of 30 °C

Abstract of NEC Tabelle 310-17

Allowable Ampacity (in Ampere) of SINGLE INSULATED CONDUCTORS, rated 0 – 2000 Volts, in free air, based on ambient temperature of 30 °C

Conductor size		Temperature Rating of Conductor			Conductor size		Temperature Rating of Conductor		
AWG or kcmil (MCM)	60 °C (140 °F)	75 °C (167 °F)	90 °C (194 °F)	AWG or kcmil (MCM)	60 °C (140 °F)	75 °C (167 °F)	90 °C (194 °F)		
18	-	-	14	18	-	-	18		
16	-	-	18	16	-	-	24		
14	20*	20*	25*	14	25*	30*	35*		
12	25*	25*	30*	12	30*	35*	40*		
10	30	35*	40*	10	40*	50*	55*		
8	40	50	55	8	60	70	80		
6	55	65	75	6	80	95	105		
4	70	85	95	4	105	125	140		
3	85	100	110	3	120	145	165		
2	95	115	130	2	140	170	190		
1	110	130	150	1	165	195	220		
1/0	125	150	170	1/0	195	230	260		
2/0	145	175	195	2/0	225	265	300		
3/0	165	200	225	3/0	260	310	350		
4/0	195	230	260	4/0	300	360	405		
250	215	255	290	250	340	405	455		
300	240	285	320	300	375	445	505		
350	260	310	350	350	420	505	570		
400	280	355	380	400	455	545	615		
500	320	380	430	500	515	620	700		
600	355	420	475	600	575	690	780		

* **Note:** Unless otherwise specifically permitted elsewhere in the NEC, the overcurrent protection for conductor types marked with an * shall not exceed 15 amperes for AWG 14, 20 amperes for AWG 12 and 30 amperes for AWG 10, after any correction factors for ambient temperature and numbers of conductors have been applied.

Correction factors for ambient temperatures other than 30 °C				Correction factors for more than three current-carrying conductors in a raceway or cable.	
Ambient temperature in °C	60 °C	75 °C	90 °C	Number of current-carrying conductors	Correction factor
21 – 25	1.08	1.05	1.04	4 up to 6	0.80
26 – 30	1.00	1.00	1.00	7 up to 9	0.70
31 – 35	0.91	0.94	0.96	10 up to 20	0.50
36 – 40	0.82	0.88	0.91	21 up to 30	0.45
41 – 45	0.71	0.82	0.87	31 up to 40	0.40
46 – 50	0.58	0.75	0.82	41 and more	0.35
51 – 55	0.41	0.67	0.76		
56 – 60	-	0.58	0.71		
61 – 70	-	0.33	0.58		
71 – 80	-	-	0.41		

Note: Power ampacity of cables & wires in industrial machinery, see chapter 12 of the NFPA 79 Edition 2007.

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