



TECHNICAL DATA

National Electrical Code

Ampacities of Insulated Conductors Rated 0 - 2000 Volts

(As Excerpted from the National Electrical Code)

Ampacities of Not More Than Three Conductors In Raceway Or Cable Or Earth (Directly Buried) Based On Ambient Temperature of 30°C (86°F)

Copper Conductors				
Size	Temperature Rating of Conductor			
	60°C	75°C		90°C
	Types	Types		Types
AWG/ kcmil	TW	RHW	TWWH	RHW TWWH
	UF	THW	XHHW	RHW-2 THWN-2
		THWN	USE	XHHW THW-2
				XHHW-2 THHN
				USE-2
14	20 t	20 t		25 t
12	25 t	25 t		30 t
10	30	35 t		40 t
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

Aluminum Conductors				
Size	Temperature Rating of Conductor			
	60°C	75°C		90°C
	Types	Types		Types
AWG/ kcmil	TW	RHW	TWWH	RHW TWWH
	UF	THW	XHHW	RHW-2 THWN-2
		THWN	USE	XHHW THW-2
				XHHW-2 THHN
				USE-2
14	–	–		–
12	20 t	20 t		25 t
10	25 t	30 t		35 t
8	30	40		45
6	40	50		60
4	55	65		75
3	65	75		85
2	75	90*		100*
1	85	100*		115*
1/0	100	120*		135*
2/0	115	135*		150*
3/0	130	155*		175*
4/0	150	180*		205*
250	170	205*		230*
300	190	230*		255*
350	210	250*		280*
400	225	270		305
500	260	310*		350*
600	285	340*		385*
700	310	375		420
750	320	385		435
800	330	395		450
900	355	425		480
1000	375	445		500
1250	405	485		545
1500	435	520		585
1750	455	545		615
2000	470	560		630

Notes on next page are part of this table and may modify the ampacities above.



TECHNICAL DATA

National Electrical Code

Ampacities of Insulated Conductors Rated 0 - 2000 Volts

(As Excerpted from the National Electrical Code)

Notes to Accompany Table:

Note 1:

Temperature	Type	Location
60°C	TW	wet or dry
	UF	wet or dry or corrosive
75°C	RHW, THW, THWN, USE, THHW, XHHW	wet or dry
90°C	RHH, THHN, XHHW, THHW	wet or dry
	THWN-2, XHHW-2, THW-2, RHW-2, USE-2	

Note 2:

- Maximum size of Type UF is 4/0 AWG
- Maximum size of Types THWN and THHN is 1000kcmil
- Maximum size of Type THHW is 1000 kcmil
- Minimum size of Single Conductor Type USE is 12 AWG Copper, 10 AWG Aluminum

Note 3:

- The allowable values in the Ampacity Table are based on temperature alone and do not take voltage drop into consideration.

The overcurrent protection shall not exceed 15 amperes for 14 AWG, 20 amperes for 12 AWG, and 30 amperes for 10 AWG copper; or 15 amperes for 12 AWG and 25 amperes for 10 AWG aluminum after any correction factors for ambient temperature and number of conductors have been applied.

Note 4:

- Where the number of current-carrying conductors in a raceway or cable exceeds three, or where single conductors or multiconductor cables are stacked or bundled longer than 24 inches without maintaining spacing and are not installed in raceways, the allowable ampacity of each conductor shall be reduced as shown in the following table:

No. of Current Carrying Conductors	% of Values in Tables are Adjusted for Ambient Temperature if Necessary
4 thru 6	80
7 thru 9	70
10 thru 20	50
21 thru 30	45
31 thru 40	40
41 and above	30

The above derating factors do not apply to conductors in nipples having a length not exceeding 24 inches.

Note 5:

For ambient temperatures other than 30°C, multiply the ampacities by the appropriate factors shown below:

Ambient Temperature °C	Conductor Temperature			Ambient Temperature °F
	60°C	75°C	90°C	
21-25	1.08	1.05	1.04	70-77
26-30	1.00	1.00	1.00	78-86
31-35	0.91	0.94	0.96	87-95
36-40	0.82	0.88	0.91	96-104
41-45	0.71	0.82	0.87	105-113
46-50	0.58	0.75	0.82	114-122
51-55	0.41	0.67	0.76	123-131
56-60	—	0.58	0.71	132-140
61-70	—	0.33	0.58	141-158
71-80	—	—	0.41	159-176

In dwelling units, conductors, as listed below, shall be permitted to be utilized as 120/240 volt, 3 wire, single phase service-entrance conductors, service lateral conductors and feeder conductors that supply the total load to a dwelling unit and installed in raceway or cable with or without an equipment grounding conductor. The grounded conductor shall be permitted to be not more than two AWG sizes smaller than the undergrounded conductors provided the requirements of Sections 215-2, 220-22 and 230-42 are met.

RHH - RHW - THHW - THW - THWN - THHN - XHHW - USE		
Copper AWG	Aluminum AWG	Service Rating in Amps
4	2	100
3	1	110
2	1/0	125
1	2/0	150
1/0	3/0	175
2/0	4/0	200
3/0	250 kcmil	225
4/0	300 kcmil	250
250 kcmil	350 kcmil	300
350 kcmil	500 kcmil	350
400 kcmil	600 kcmil	400