NEC 310.16 — AMPACITY OF INSULATED CONDUCTORS

≤2000 V · ≤3 CCC · 30°C AMBIENT

SOURCE · NFPA 70 (NEC) 2023 EDITION · TABLE 310.16

Use this matrix to look up base ampacity. Apply temperature correction (Table 310.15(B)(1)) and conductor-count adjustment (Table 310.15(B)(3)) before sizing.

AWG / kcmil	mm²	Cu 60°C	Cu 75°C	Cu 90°C	Al 60°C	Al 75°C	Al 90°C
14 AWG	2.08	15	20	25	—	—	—
12 AWG	3.31	20	25	30	15	20	25
10 AWG	5.26	30	35	40	25	30	35
8 AWG	8.37	40	50	55	35	40	45
6 AWG	13.3	55	65	75	40	50	55
4 AWG	21.2	70	85	95	55	65	75
3 AWG	26.7	85	100	115	65	75	85
2 AWG	33.6	95	115	130	75	90	100
1 AWG	42.4	110	130	145	85	100	115
1/0 AWG	53.5	125	150	170	100	120	135
2/0 AWG	67.4	145	175	195	115	135	150
3/0 AWG	85	165	200	225	130	155	175
4/0 AWG	107.2	195	230	260	150	180	205
250 kcmil	127	215	255	290	170	205	230
300 kcmil	152	240	285	320	195	230	260
350 kcmil	177	260	310	350	210	250	280
400 kcmil	203	280	335	380	225	270	305
500 kcmil	253	320	380	430	260	310	350
600 kcmil	304	350	420	475	285	340	385
700 kcmil	355	385	460	520	315	375	425
750 kcmil	380	400	475	535	320	385	435
800 kcmil	405	410	490	555	330	395	445
900 kcmil	456	435	520	585	355	425	480
1000 kcmil	507	455	545	615	375	445	500

NOTES · USAGE

- Aluminium ratings are blank where NEC does not list the conductor (sizes <12 AWG).
- Apply derating before comparing to load: A_eff = A_base × f_temp × f_count.
- Small-conductor rule (NEC 240.4(D)) caps Cu 14/12/10 AWG breakers at 15/20/30 A, and Al 12/10 AWG breakers at 15/25 A — regardless of insulation rating.
- Continuous loads (3+ hrs at full current) require 1.25× factor on the load side before this table is consulted (NEC 210.19(A) / 215.2(A)).
- In conditions other than ≤3 ccc / 30°C ambient / dry-location raceway, additional tables apply: 310.17 (free air), 310.18–.20 (high-temperature applications).

Reference values for engineering reference only. Verify against the official NEC publication before use in design.