

NFPA 70®-2023 Edition
National Electrical Code®

TIA Log No.: 1691

Reference: Table 310.16

Comment Closing Date: February 10, 2023

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www.nfpa.org/70

1. Revise Table 310.16 to read as follows:

Table 310.16 Ampacities of Insulated Conductors with Not More Than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried)

Size AWG or kcmil	Temperature Rating of Conductor [See Table 310.4(A)]						Size AWG or kcmil
	60°C (140°F)	75°C (167°F)	90°C (194°F)	60°C (140°F)	75°C (167°F)	90°C (194°F)	
	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, XHWN, USE, ZW	Types TBS, SA, SIS, FEP, FEPB, MI, PFA, RHH, RHW-2, THHN, THHW, THW-2, THWN- 2, USE-2, XHH, XHHW, XHHW-2, XHWN, XHWN-2, XHHN, Z, ZW- 2	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, XHWN, USE	Types TBS, SA, SIS, THHN, THHW, THW- 2, THWN-2, RHH, RHW-2, USE-2, XHH, XHHW, XHHW- 2, XHWN, XHWN-2, XHHN	
COPPER				ALUMINUM OR COPPER-CLAD ALUMINUM			
18*	—	—	14	—	—	—	—
16*	—	—	18	—	—	—	—
14*	15	20	25	10*	—	—	14*
12*	20	25	30	15	20	25	12*
10*	30	35	40	25	30	35	10*
8	40	50	55	35	40	45	8
6	55	65	75	40	50	55	6
4	70	85	95	55	65	75	4
3	85	100	115	65	75	85	3
2	95	115	130	75	90	100	2
1	110	130	145	85	100	115	1
1/0	125	150	170	100	120	135	1/0
2/0	145	175	195	115	135	150	2/0
3/0	165	200	225	130	155	175	3/0
4/0	195	230	260	150	180	205	4/0
250	215	255	290	170	205	230	250
300	240	285	320	195	230	260	300
350	260	310	350	210	250	280	350
400	280	335	380	225	270	305	400
500	320	380	430	260	310	350	500
600	350	420	475	285	340	385	600
700	385	460	520	315	375	425	700
750	400	475	535	320	385	435	750
800	410	490	555	330	395	445	800
900	435	520	585	355	425	480	900

Size AWG or kcmil	Temperature Rating of Conductor [See Table 310.4(A)]						Size AWG or kcmil
	60°C (140°F)	75°C (167°F)	90°C (194°F)	60°C (140°F)	75°C (167°F)	90°C (194°F)	
	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, XHWN, USE, ZW	Types TBS, SA, SIS, FEP, FEPB, MI, PFA, RHH, RHW-2, THHN, THHW, THW-2, THWN- 2, USE-2, XHH, XHHW, XHHW-2, XHWN, XHWN-2, XHHN, Z, ZW- 2	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, XHWN, USE	Types TBS, SA, SIS, THHN, THHW, THW- 2, THWN-2, RHH, RHW-2, USE-2, XHH, XHHW, XHHW- 2, XHWN, XHWN-2, XHHN	
COPPER				ALUMINUM OR COPPER-CLAD ALUMINUM			
1000	455	545	615	375	445	500	1000
1250	495	590	665	405	485	545	1250
1500	525	625	705	435	520	585	1500
1750	545	650	735	455	545	615	1750
2000	555	665	750	470	560	630	2000

Notes:

1. Section 310.15(B) shall be referenced for ampacity correction factors where the ambient temperature is other than 30°C (86°F).

2. Section 310.15(C)(1) shall be referenced for more than three current-carrying conductors.

3. Section 310.16 shall be referenced for conditions of use.

*Section 240.4(D) shall be referenced for conductor overcurrent protection limitations, except as modified elsewhere in the Code.

[†]Applicable only to copper-clad aluminum conductors.

Informational Note: See 300.26, 724.49, and Article 725, Part II for sizing of 18 AWG and 16 AWG copper and 14 AWG copper-clad aluminum control conductors as referenced in 330.104 and 336.104.

Substantiation: Changes to the location of code requirements for control conductors resulted in the omission of information required to determine the size and construction of non-power-limited conductors used in these applications. To provide clear direction to Code users, Table 310.16 is revised to direct Code users to the appropriate Code sections for control conductor sizing. In Table 310.16, 14 AWG copper-clad aluminum is added to recognize the permitted use of this conductor for control conductors. The inclusion of 14 AWG copper-clad aluminum for controls in 330.104 and 336.104 without also providing appropriate ampacity information leaves users of the code without the necessary information to make safe installations. While the addition of 240.4(D)(3) has some guidance, this is not where a user would go to find an ampacity. This language is intended to mirror the permitted uses that were in the 2020 NEC, with no technical changes. There are changes to the language to improve usability of the Code.

Emergency Nature: The standard contains an error or an omission that was overlooked during the regular revision process. The NFPA Standard contains a conflict within the NFPA Standards or within another NFPA Standard. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification of the action.

This information is essential to the correct sizing of non-power-limited control conductors. The misapplication due to lack of clarity of requirements can lead to installations with hazardous conditions, hence the emergency nature and the submission of this TIA.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number, state whether you SUPPORT or OPPOSE the TIA along with your comment, and forward to the Secretary, Standards Council. [SUBMIT A COMMENT](#)