

2017 NFPA 70®-2017 and Proposed 2020 Editions

National Electrical Code®

TIA Log No.: 1458

Reference: 334.10(2) and (3)

Comment Closing Date: June 27, 2019

Submitter: Dale Crawford, Steel Tube Institute

www.nfpa.org/70

Proposed 2017 edition wording:

1. Revise 334.10(2) and (3) to read as follows:

334.10 Uses Permitted. Type NM, Type NMC, and Type NMS cables shall be permitted to be used in the following, except as prohibited in 334.12:

- (1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.
- (2) Multi-family dwellings permitted to be of Types III, IV, and V construction that are 4 stories or fewer.
- (3) Other structures permitted to be of Types III, IV, and V construction that are 4 stories or fewer. Cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

...

Proposed 2020 edition wording:

1. Revise 334.10(2) and (3) to read as follows:

334.10 Uses Permitted. Type NM and Type NMC cables shall be permitted to be used in the following, except as prohibited in 334.12:

- (1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.
- (2) Multi-family dwellings permitted to be of Types III, IV, and V construction that are 4 stories or fewer.
- (3) Other structures permitted to be of Types III, IV, and V construction that are 4 stories or fewer. Cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

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Substantiation: The 2002 NEC removed a 3-story limit for NM Cable in Section 334.10, replacing the requirement with a reference to building construction type, limiting the use of NM cable to Types III, IV, and V. The effect was to effectively allow NM Cable in buildings up to 4-stories. For the 2021 code changes to the International Building Code, there were 14 proposals to add Mass Timber Buildings into the IBC, increasing the allowable height of wood structures up to 18 stories. The International Code Council membership voted to add new categories of type IV buildings (mass timber) to include buildings up to 18 stories in Table 505.4. See proposal G80-18 at <http://media.iccsafe.org/code-development/2018-Complete-ICC-Public-Comment-Agenda-compressed.pdf>. An unintended consequence of this action is to drastically increase the number of floors where NM cable can be installed without the impact of these changes being able to be reviewed by the public. A review of the documentation submitted to ICC revealed

detailed analysis of fire control and egress requirements, but no recognition of the impact on wiring methods.

In deliberations for the 2002 Edition of the NEC®, Proposal 7-135 was initially rejected by CMP-7, but by the end of the process was accepted into the 2002 Edition, which recognized the Type III, IV, and V construction types where NM Cable could be installed. Inherent in those deliberations was the recognition that the prevailing limit on such buildings was 4-stories (with a few rare allowances for 5 and 6 stories). As such, the concept of NM Cable in buildings of 18 stories was never discussed or considered. There were certainly safety concerns with the limited increase in height at the time, and those concerns are still relevant today.

In order to preserve the integrity of NFPA's ANSI approved code development process, this TIA is critical. The technical merits of allowing NM cable in buildings higher than 4-stories should be fully discussed and vetted through the regular process at the 2023 NEC code-change process. The alternative will be to allow a different code, developed through a different process, to drastically alter the provisions of the National Electrical Code®. Acceptance of this TIA will insure that the NEC® development and change process works as intended.

Emergency Nature: The proposed TIA intends to accomplish a recognition of an advance in the art of safeguarding property or life where an alternative method is not in current use or is unavailable to the public.

The safe use of Type NM Cable in structures above 3 stories in height was questionable in the 2002 code cycle. This is of an emergency nature because, without it, the NEC® is effectively and drastically altered without public input or deliberation by the electrical experts on CMP-6, and will allow installations of unknown safety. The TIA is critical in maintaining the current code requirements as approved through the NFPA process.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number and forward to the Secretary, Standards Council. [SUBMIT A COMMENT](#)