



NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

MEMORANDUM

(AMENDMENT)

TO: National Electrical Code® Correlating Committee
FROM: Sarah Caldwell, *Technical Committee Administrator*
DATE: July 11, 2019
SUBJECT: Amendment 70-22 Ballot on the Proposed 2020 Edition of the *National Electrical Code*®

At the NFPA Technical Meeting (Tech Session) held June 20, 2019, the *National Electrical Code*® was amended by the acceptance of the following:

Amendment 70-22: Accept an Identifiable Part of Public Comment No. 1406

The Amendment DID NOT achieve the necessary 2/3 affirmative vote of Code-Making Panel 6. As a result, the recommendation of the Code-Making Panel is included on the attached Amendment Ballot Text.

The attached Amendment Ballot Text reflects the action taken on the floor for Certified Amending Motion No. 70-22 and the results of the ballot by the Code-Making Panel. The ballot is being submitted to the Correlating Committee to determine if any correlation issues will be created from the recommendation and pursuant to Section 4.6 and Table 1 of the *Regulations Governing the Development of NFPA Standards*.

Ballots can be accessed through the following link: [NFPA Ballot Link](#). Please complete the ballot on or before **July 15, 2019 by 11:59PM (ET)**.

IMPORTANT NOTE: A comment must be included. If you vote Agree, simply add “Agree” to the comment field. A Disagree or Abstain vote requires a comment.

REMINDER: You must hit SUBMIT to SAVE your work. The system session will time you out after 60 minutes; any work not submitted at that time will not be saved! You may return to finish or change your ballot at any time up to the closing date. Ballot comments exceeding 4,000 characters must be submitted in a Word document via email, to Sarah Caldwell at scaldwell@nfpa.org.

The transcripts from the Annual 2019 NFPA Tech Session are available at www.nfpa.org/techsession.

The return of ballots is required by the Regulations Governing the Development of NFPA Standards.

AMENDMENT BALLOT TEXT

Code-Making Panel 6
NFPA 70, *National Electrical Code*[®]
Amendment No. 70-22: Accept an Identifiable Part of
Public Comment No. 1406
June 2019

IF YOU AGREE TO SUPPORT AMENDMENT 70-22 as recommended by the membership by vote at Tech Session, the recommended text reads as follows (*changes shown legislatively to the Second Draft*):

310.3 (B) Conductor Material.

Conductors in this article shall be of aluminum, copper-clad aluminum, or copper unless otherwise specified.

Solid aluminum conductors 8, 10, and 12 AWG shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. Stranded aluminum conductors 8 AWG through 1000 kcmil marked as Type RHH, RHW, XHHW, XHHN, XHWN, THW, THHW, THWN, THHN, service entrance Type SE Style U, and SE Style R shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. For a copper-clad aluminum conductor, the copper shall form a minimum of 10 percent of the cross-sectional area of a solid conductor or each strand of a stranded conductor. The aluminum core of a copper-clad aluminum conductor shall be made of an AA-8000 series electric grade aluminum alloy conductor material. Copper-clad aluminum conductors shall be listed.

IF YOU DISAGREE WITH THE RECOMMENDATION FOR AMENDMENT 70-22 by the membership by vote at Tech Session, the recommended text is shown clean below. If no previous edition text exists, the text is simply deleted.

310.3 (B) Conductor Material.

Conductors in this article shall be of aluminum, copper-clad aluminum, or copper unless otherwise specified.

Solid aluminum conductors 8, 10, and 12 AWG shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. Stranded aluminum conductors 8 AWG through 1000 kcmil marked as Type RHH, RHW, XHHW, THW, THHW, THWN, THHN, service-entrance Type SE Style U, and SE Style R shall be made of an AA-8000 series electrical grade aluminum alloy conductor material.



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MEMORANDUM

(AMENDMENT)

TO: Code-Making Panel 6

FROM: Sarah Caldwell, *Technical Committee Administrator*

DATE: July 10, 2019

SUBJECT: Final Results Amendment 70-22 Letter Ballot on the Proposed 2020 Edition of the *National Electrical Code*[®].

In accordance with the *Regulations Governing the Development of NFPA Standards*, the final results show the Amendment **HAS NOT** achieved the 2/3 majority vote needed to recommend approval of the Association Action by the Technical Committee. As a result, the recommendation to the Standards Council is to return to previous edition text.

13 Members Eligible to Vote
2 Ballots Not Returned (*Mercier, Noel*)

The number of votes needed to recommend approval of the Association Action is **8**.
(13 eligible to vote - 2 not returned - 0 abstentions = $11 \times 0.66 = 7.26$)

The attached report shows the number of affirmative, negative, and abstaining votes as well as the explanation of the vote.

The transcripts from the Annual 2019 NFPA Tech Session are now available at:
www.nfpa.org/techsession.

AMENDMENT BALLOT TEXT

Code-Making Panel 6
NFPA 70, *National Electrical Code*[®]
Amendment No. 70-22: Accept an Identifiable Part of
Public Comment No. 1406
June 2019

IF YOU AGREE TO SUPPORT AMENDMENT 70-22 as recommended by the membership by vote at Tech Session, the recommended text reads as follows (*changes shown legislatively to the Second Draft*):

310.3 (B) Conductor Material.

Conductors in this article shall be of aluminum, copper-clad aluminum, or copper unless otherwise specified.

Solid aluminum conductors 8, 10, and 12 AWG shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. Stranded aluminum conductors 8 AWG through 1000 kcmil marked as Type RHH, RHW, XHHW, XHHN, XHWN, THW, THHW, THWN, THHN, service entrance Type SE Style U, and SE Style R shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. For a copper-clad aluminum conductor, the copper shall form a minimum of 10 percent of the cross-sectional area of a solid conductor or each strand of a stranded conductor. The aluminum core of a copper-clad aluminum conductor shall be made of an AA-8000 series electric grade aluminum alloy conductor material. Copper-clad aluminum conductors shall be listed.

IF YOU DISAGREE WITH THE RECOMMENDATION FOR AMENDMENT 70-22 by the membership by vote at Tech Session, the recommended text is shown clean below. If no previous edition text exists, the text is simply deleted.

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Amendment No. 70-22: Accept an Identifiable Part of Public Comment No. 1406 Note: A DISAGREE vote would recommend previous edition text. Where no previous edition text exists the text is simply deleted.

Eligible to Vote: 13

Not Returned : 2

Charles David Mercier, Borgia Noel

Vote Selection

Agree

Susan L. Stene

Kenneth Riedl

Todd Crisman

Joseph W. Cross

Disagree

George A. Straniero

Timothy Earl

Christel K. Hunter

Votes **Comments**

4

Agree

Agree

I support proposed Amendment 70-22 that will require Copper-Clad aluminum conductors to be listed.

Agree

7

Copper Clad Aluminum is covered by a Recognized Component program by UL. CCA used as conductor material on Listed insulated conductor types covered by the NEC must comply with the conductor requirements covered by the Product Safety Standard for the wire type or otherwise be covered by the Recognized Component program. Listing of the bare electrical conductor is not necessary.

To my knowledge, this would be the first case of requiring a listing for the conductor itself. Wherever the code currently requires listing it is for the insulated conductor, and generally listing for a specific application (wet areas, for instance). I'm hesitant to start requiring separate listings for the metal conductor.

Listing of bare conductors and the metal within insulated conductors has never been required within the NEC. This matter should be addressed in the product safety standard process. Additionally, the suggested language for this code section if the ballot does not pass should reflect the language that the code-making panel approved in the second draft.

David Carroll

In the new text it states solid aluminum conductors shall be made of an AA-8000 series ELECTRICAL grade aluminum alloy and aluminum core of a copper-clad aluminum conductor shall be made of an AA-8000 series ELECTRIC grade aluminum alloy conductor. What is the difference between electrical and electric grade? Also every other motion to separate aluminum and copper-clad aluminum in the code failed. There is no reason to separate the two in this paragraph.

Dennis A. Nielsen

For the addition of "copper-clad aluminum conductor shall be listed" this was not included in the first draft and second revision reports. This would be covered by Article 110.3 B and C and other parts of the code, e.g. cable types as it is typical for an insulated conductor to pass minimum testing required by a product standard through a National Recognized Testing Laboratory for listing the product.

Chris J. Fahrenthold

We did not accept to add this during the code making cycle and I still do not accept it.

Kelly Lamp

This listing requirement should not be included in the NEC but resides in product specs. No other conductor material alone is required to be listed and is simply a recognized component of a listed assembly, cable, or insulated conductor. In an article by the submitter of the NITMAM he states, "The number of processes in the world that can produce industrial grade CCA is only two, and the technology is very closely held", which would significantly reduce the options of other manufacturers getting a "listed" product but yet may produce one that meets product spec guidelines. This process will be vetted through the code development process where the normal public proposal and comment process allows all interested parties to oversee the proposal, substantiation, and rationale process. This is not an issue of public safety if not adopted outside of the established vetting process.

Abstain

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