

Subject 486C

October 5, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Splicing Wire Connectors, UL 486C, are being proposed for preliminary review and comment only:

- 1. For Preliminary Review Only: Clarify that Aluminum Test Conductors can be Compact, Compressed, or Concentric Stranding***
- 2. For Preliminary Review Only: Correction to Paragraph 9.2.3***
- 3. For Preliminary Review Only: Conductor Insulation Type***

COMMENTS DUE: October 19, 2018

This proposal is for review and comment only (no ballot at this time). Please note that comments on a preliminary review document will not receive a response from the proposal author through CSDS. Instead, the proposal author will be asked to review the comments and adjust the proposals and/or supporting rationale as the author determines to be appropriate. The preliminary review process is an informal mechanism that provides authors with the opportunity to refine their proposals before they advance to the next stage in UL's standards development process.

In some cases, the author of the proposals may choose to discontinue them. In this case, the author need not do anything after preliminary review has ended. Normally, the next step in the process is the more formal STP ballot and stakeholder review process. Only comments posted during the STP ballot and stakeholder review process will be provided with a response in CSDS.

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 486, UL is looking for participants in the following interest categories: Commercial/Industrial User, Consumer, Government, Supply Chain, Testing & Standards. Definitions for these interest categories are available on the Standards STP Internet site:

<http://ulstandards.ul.com/develop-standards/participation/interest-categories/>

If you are interested in applying for STP 486 membership or are aware of potential candidates for this STP, please contact the STP Project Manager at Mitchell.Gold@ul.com.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

- 1. For Preliminary Review Only: Clarify that Aluminum Test Conductors can be Compact, Compressed, or Concentric Stranding**

RATIONALE

Proposal submitted by: Robert Osborne, UL LLC

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In a Bulletin dated July 24, 2009 (reference Item 8), a proposal was submitted with the following Rationale:

UL 486C currently specifies the use of aluminum test conductors that are no longer commercially available. This limits or precludes the testing of new connectors due to the difficulty of obtaining test conductors. It also creates a costly and difficult manufacturing issue for cable manufacturers when asked to produce special conductor types. A NEMA Task Force was formed to discuss changes to UL 486A-B and UL 486C that would solve the test conductor availability problem. The attached proposal changes the requirements for the aluminum test conductors to include AA-1350 aluminum conductors of any stranding, temper or iron content (footnote c). This will partially harmonize the standard with the Canada requirements, which do not specify the temper or iron content. Neither the cable nor connector manufacturers could find any technical or safety reason to limit the temper, iron content or stranding of the AA-1350 test conductors. The task force agreed that the use of any type of AA-1350 should produce the same test results.

Changes to Table 9 were processed, but Clause 7.1.12 was not revised. The result is that Clause 7.1.12 is not coordinated with the updated requirement in Table 9. This proposal restores consistency between these requirements by allowing the use of compact, compressed, or concentric stranded aluminum test conductors.

PROPOSAL

7.1.12 Tests conducted on a connector with compact-stranded copper conductors shall be considered representative of concentric and compressed stranded copper conductors of the same size. Tests conducted on a connector with compact, compressed or concentric-stranded aluminum conductors shall represent tests with compact, concentric and compressed stranded aluminum conductors of the same size. See Table 9.

2. For Preliminary Review Only: Correction to Paragraph 9.2.3

RATIONALE

Proposal submitted by: Robert Osborne, UL LLC

During the last revision to Clause 9.2.3, item "b" was inadvertently dropped. This revision corrects that error.

Note that "b" is what's missing. What is shown in the "Proposal Text" as "c" is now "b" in the newest edition of the Standard.

PROPOSAL

9.2.3 The current-off times may be reduced after the first 25 cycles of testing to the maximum time it takes any connector to reach a stable temperature during the current-off period. Forced-air cooling may be used to reduce the current-off time with the concurrence of those concerned. This current-off period shall be determined as follows:

- a) For all iterations of the first 25 cycles of operation, the time to stabilization for the current-off time shall be recorded.