

## **SUMMARY OF TOPICS**

***The following changes in requirements to the Standard for Wire Connectors, UL 486A-486B, are being proposed for preliminary review and comment only:***

- 1. For Preliminary Review Only: Addition to the Scope to Address Use of Ferrules and Adapters***
- 2. For Preliminary Review Only: Define Number of Samples***
- 3. For Preliminary Review Only: Define Min and Max Sample Size in Table 11***
- 4. For Preliminary Review Only: Clarify that Aluminum Test Conductors can be Compact, Compressed, or Concentric Stranding***
- 5. For Preliminary Review Only: Test B Flashover Clarification***
- 6. For Preliminary Review Only: Clarification of Dielectric-withstand Test Sequence***
- 7. For Preliminary Review Only: Conductor Insulation Types***

## **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: Addition to the Scope to Address Use of Ferrules and Adapters

### RATIONALE

Proposal submitted by: Robert Osborne, UL LLC

Ferrules are covered under UL 486F/CSA C22.2 No. 291, and wire connector adapters are covered under UL 486A-486B, CSA C22.2 No. 65. These products are used to "prepare" a conductor for termination. UL 486A-486B is silent on how these devices interface with and replace the wire that is part of the original evaluation and certification of the wire connector. Adding a statement to the Scope establishes a linkage between the connectors and these "accessories".

### PROPOSAL

1.1A Connectors covered by this Standard are also suitable for use with conductors that are prepared using ferrules evaluated in accordance with the Standard for Bare or Covered Ferrules (CSA C22.2 No. 291-14 / UL 486F), or wire connector adapters evaluated in accordance with this Standard, under the following conditions:

a) Ferrules and adapters are applied in accordance with their ratings and installation instructions.

b) Length of exposed conductive material maintains the strip lengths required by the connector manufacturer.

## 2. For Preliminary Review Only: Define Number of Samples

### RATIONALE

Proposal submitted by: Richard Roman, Burndy LLC

Section 8 explains the sampling requirements for the different tests. For the Dielectric withstand test, Clause 8.5.1 tells you that the min and max cross-sectional areas shall be tested when multiple conductors are used and clause 8.5.2 tell you that the largest and smallest conductor shall be tested when it involves a single conductor. Neither of these clauses or any other tells you how many specimens are needed for testing, or refers you to Table 11 for the number of test specimens.

### PROPOSAL

#### 8.5 Dielectric withstand

8.5.1 For a connector intended to secure combinations of conductors of different total cross-sectional areas, tests shall be performed on the combination of conductors of the smallest total cross-sectional area and on the combination of largest total cross-sectional area.

8.5.2 For a connector intended to secure single conductors of different sizes, tests shall be performed on specimens with the smallest and largest conductors.

8.5.3 See Table 11 for the number of test specimens.

### 3. For Preliminary Review Only: Define Min and Max Sample Size in Table 11

#### RATIONALE

Proposal submitted by: Richard Roman, Burndy LLC

For the Drop test, Clause 8.7.2 says 6 specimens shall be used with largest cross sectional area and 6 specimens with the smallest cross-sectional area, for each of the conditioning tests. Table 11 "Minimum number of specimens for test" has number 12 beside each of the conditions of the Drop test. It should be 12a in Table 11. Superscript "a" is a footnote that says "Six specimens with the maximum conductor size and six specimens with the minimum conductor size."

#### PROPOSAL

**Table 11 – Minimum number of specimens for test**  
(Clauses 8.1.1, 8.6.1, 8.7.1, 8.9.1, 8.10.1, 8.11.1, 8.12.1, and 8.13.1)

| Clause    | Test                                                                                                     | Number of specimens                                                   |
|-----------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 9.2       | Current-cycling                                                                                          | 4 of each combination of connector and test conductor(s) to be tested |
| 9.3       | Static-heating sequence                                                                                  | 4 of each combination of connector and test conductor(s) to be tested |
| 9.4       | Mechanical sequence                                                                                      | 4 of each combination of connector and test conductor(s) to be tested |
|           | Dielectric withstand<br>Thermosetting, e.g., porcelain, cold-molded melamine, phenolic, or urea-compound |                                                                       |
| 9.5.2     | Test A – as received                                                                                     | 12 <sup>a</sup>                                                       |
| 9.5.3     | Test B – as received                                                                                     | 12 <sup>a</sup>                                                       |
| 9.5.4     | Test C<br>– as received                                                                                  | 6                                                                     |
|           | Thermoplastic, e.g., vinyl or nylon                                                                      |                                                                       |
| 9.5.2     | Test A – As received                                                                                     | 12 <sup>a</sup>                                                       |
| 9.5.3     | – After oven conditioning with specimens assembled to conductor before such conditioning                 | 12 <sup>a</sup>                                                       |
| 9.5.4     | – After oven conditioning with specimens assembled to conductor after such conditioning                  | 12 <sup>a</sup>                                                       |
| 9.5.3     | Test B<br>– as received                                                                                  | 12 <sup>a</sup>                                                       |
| 9.5.4     | Test C – as received                                                                                     | 6                                                                     |
| 9.6.1     | Secureness of insulation<br>As received                                                                  | 6                                                                     |
| 9.6.3 (a) | a) Unassembled<br>– as received                                                                          | 6                                                                     |
|           | – after oven conditioning                                                                                | 6                                                                     |
| 9.6.3 (b) | b) Assembled                                                                                             |                                                                       |

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