

Subject 758

April 6, 2017

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Appliance Wiring Material, UL 758, are being proposed for preliminary review and comment only:

1. For Preliminary Review Only: AC Rated Cable to be Used in DC Systems, Revised 2.2.2

COMMENTS DUE: APRIL 20, 2017

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.

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: AC Rated Cable to be Used in DC Systems, Revised 2.2.2

RATIONALE

Proposal submitted by: Guoqing Zhang, Huawei Technologies Co., LTD

Recently, the Low Voltage DC Cable (LVDC) is emerging more and more. Please refer to IEC/SMB/SEG4.

UL 758, Style 2464 cables are installed widely. The rated voltage of the cable UL 758, Style 2464 is 300 V AC. After the UL 758, Style 2464 cable is installed, the circuits are repurposed to carry low voltage direct current (LVDC). However, the DC rated voltage of an AC-rated style is not defined in UL 758. So, what DC voltage is acceptable for the cable UL 758, Style 2464?

The peak voltage of 300 V AC is 424 V (See figure under the "Quick View" tab in "Supporting Documentation". From the view of electrical stress, the AC rated cable can be used in the DC system if the nominal voltage of the DC system is not higher than 1.41 times the root-mean-square (rms) rated voltage of the cable.

PROPOSAL

2.2.2 Unless otherwise indicated, all voltage values mentioned in this Standard are root-mean-square (rms). In a direct current system for which the nominal voltage is 600 V DC or less, the nominal voltage of the system shall be not higher than 1.41 times the root-mean-square(rms) rated voltage of the cable.

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