

Subject 1691

May 25, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Safety for Single Pole Locking-Type Separable Connectors, UL 1691, are being proposed:

1. Short Time Current testing of Single Pole Separable Connectors

2. New Supplement SA – REPLACEMENT ENCLOSURE FOR USE WITH SPECIFIC MANUFACTURER'S SINGLE POLE LOCKING – TYPE SEPARABLE ATTACHMENT PLUG and CABLE CONNECTOR

COMMENTS DUE: June 25, 2018

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 1691, UL is looking for participants in the following interest categories: AHJ, Consumer, General, Government, Supply Chain, and 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 1691 membership or are aware of potential candidates for this STP, please fill out an online application: <https://csds.ul.com/STPInfo/ApplicationHomePage.aspx>

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

1. Short Time Current testing of Single Pole Separable Connectors

RATIONALE

Proposal submitted by: Charles Kurten, UL LLC

Short time current testing described in UL 1691, the Standard for Single Pole Separable Connectors, is based upon short time current testing described in UL 467, the Standard for Grounding and Bonding. The UL 467 short time current testing takes into consideration the relationship between the test current and time according to the formula under Table 4.

For consistency with UL 467 short time current testing, this formula relationship between the applied test current and time is extended to UL 1691 grounding type devices.

PROPOSAL

2 Reference Publications

IEEE Standards

IEEE 837

Standard for Qualifying Permanent Connections Used in Substation Grounding

6.11.7 Each assembly shall be subjected to the test current and associated time as shown in Table 4. All three mated pairs shall be tested individually. When the conductor cannot maintain minimum current as defined in Table 4, the current may be reduced to a lesser value, but not less than 5000 A, provided the test time is increased to a higher value, not to exceed 1 min. The values for test current and time shall be calculated using the formula in Table 4.

Table 4
Short-time test currents

Equipment grounding conductor size		Time, s	Current, a
AWG or kcmil	(mm ²)		
6	(13.3)	6	1530
4	(21.2)	6	2450
3	(26.7)	6	3100
2	(33.6)	6	3900
1	(42.4)	6	4900
1/0	(53.5)	9	5050
2/0	(67.4)	9	6400
3/0	(85.0)	9	8030
4/0	(107)	9	10100
250 kcmil	(127)	9	12000
300	(152)	9	14300
350	(177)	9	16700
400	(203)	9	19100
500	(253)	9	23900
600	(304)	9	28700
700	(355)	9	33500
750	(380)	9	35900
800	(405)	9	38300
900	(456)	9	43100
1000	(507)	9	47900

Note: Test current values are derived from the following formula and have been rounded. To derive test current values for electrode materials other than the ones listed above, see Annex C of the Standard for Qualifying Permanent Connections Used in Substation Grounding, IEEE 837.

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