

## STANDARD INFORMATION

**Standard Number:** UL 2251 / CSA C22.2 No. 282

**Standard Name:** Plugs, Receptacles, and Couplers for Electric Vehicles

**Standard Edition and Issue Date:** 4<sup>th</sup> / 2<sup>nd</sup> edition dated November 20, 2017

**Date of Revision:** November 20, 2017

**Date of Previous Revision of Standard:** February 22, 2013

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **November 20, 2019**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revise requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

### Overview of Changes:

- Reinstatement of the Overload Test Conditions for Connectors "Not Intended for Current Interruption"
- New requirement added to determine contact engagement length of various pins within the connector and inlet.
- New requirements added to the standard covering contact sequencing.
- Revision to the temperature test to modify the duty cycle for products rated 200 A or higher.

Specific details of new/revise requirements are found in table below.

**If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).**

### Client Action Required:

**Information** – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revise paragraphs noted in the attached or explain why these new/revise requirements do not apply to your product (s).

***Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
<i>Additions to existing requirements are underlined and deletions are shown lined out below.</i>		
7	Info	<b>Configurations</b>
7.1	Info	<b>General</b>
		<b><i>New clause added;</i></b>
7.1.5		Grounding contact length of engagement shall be 3.2 mm (0.126 inch) longer than the line contacts.
		<b><i>New clause added;</i></b>
7.1.6		Line contact length of engagement shall be 3.2 mm (0.126 inch) longer than the control pilot contact when a control pilot is present.
		<b><i>New section added;</i></b>
7.2		<b>Contact sequencing</b>
		The contact sequence during the connection process shall be:
7.2.1		<ul style="list-style-type: none"> <li>a) Grounding contact,</li> <li>b) Neutral contact N, if provided,</li> <li>c) Line contacts, AC or DC, and</li> <li>d) Control pilot contact, if provided.</li> </ul>
		The proximity contact or the connection switch contact, if any, shall make after the grounding contact and before or simultaneously with the control pilot contact. During disconnection, the order shall be reversed.
7.2.2		The neutral contact N shall make before or simultaneously with line contacts, and break after or simultaneously with line contacts.
43	Info	<b>Overload Test</b>
		<b><i>New clause added;</i></b>
43.4		A device identified as not being for current interruption (interlocked or provided with a control pilot contact) shall be tested as described in 46.2 – 46.7, except that the device shall be tested until the device is no longer functional or a maximum of three cycles as described in 46.2 – 46.7 in a break condition only. For devices rated for both AC and DC operation, a separate specimen shall be tested on each circuit. There shall not be an electrical or mechanical failure that could increase the risk of a fire or electric shock. The device shall not be used for any further tests.



CLAUSE	VERDICT	COMMENT
45	Info	<b>Temperature Rise Test</b>
45.5		For devices rated less than 200 A, the load shall be applied continuously. For EV plugs, vehicle connectors, or EV breakaway couplings rated 200 A or greater, the load shall be applied for <del>20</del> <u>30</u> minutes followed by a no-load period of 10 minutes. This cycle ( <del>20</del> <u>30</u> minutes load, 10 minutes no-load) shall be repeated until temperatures stabilize. The EV plug, vehicle connector, EV breakaway coupling, or EV receptacle, shall be coupled to a mating device that employs the same AWG size power conductors that are utilized in the EV plug, vehicle connector, EV breakaway coupling, or EV receptacle. For vehicle inlets rated 200 A or greater, the load shall be applied for a single <del>20</del> <u>30</u> minute period, with the AWG size of the power conductors sized as normally employed in the vehicle inlet.
CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.		