

## STANDARD INFORMATION

**Standard Number:** UL 498

**Standard Name:** Attachment Plugs and Receptacles

**Standard Edition and Issue Date:** 16<sup>th</sup> Edition Dated April 28, 2017

**Date of Revision:** April 28, 2017

**Date of Previous Revision of Standard:** 15<sup>th</sup> Edition Dated July 7, 2016

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **April 28, 2019**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revised 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

### Overview of Changes:

- Additional requirements for Combination wire binding/pressure-wire terminals
- Additional requirements for enclosures
- New section added for Separable Face Assembly

Specific details of new/revised 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/revised paragraphs noted in the attached or explain why these new/revised 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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 <u>underlined</u> and deletions are shown <del>lined out</del> below.</i>
	Info	<b>All Devices</b>
12	Info	<b>Terminals</b>
12.5		<b><i>New section added;</i></b>
		<b>Combination wire binding/pressure-wire terminals</b>
12.5.1		A receptacle or inlet employing a combination wire binding/pressure-type terminal shall be limited to 10, 12 or 14 AWG conductors. The terminals shall comply with the applicable performance requirements as specified in the Standard for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors, UL 486E.
12.5.2		A receptacle or inlet employing a combination wire binding/pressure-wire terminal for connection to copper branch circuit conductors only, shall comply with the general performance requirements for receptacles, as specified in Sections 110 – 125 and 90, Combination Wire Binding/Pressure Wire-Type Terminals, or the general performance requirements for inlets, Sections 85 – 88, and 90 as applicable.
12.5.3		In addition to the requirements in 12.5.2, a receptacle rated 15 or 20 A and employing a combination wire binding/pressure-type terminal for connection to aluminum branch circuit conductors shall also comply with the CO/ALR Type requirements contained in 35.1.
	Info	<b>Attachment Plugs and Inlets</b>
17	Info	<b>Enclosure</b>
17.1	Info	<b>General</b>
		<b><i>New clause added;</i></b>
17.1.4		The body of an inlet employing a combination wire binding/pressure wire-type terminal shall employ integrally formed channels/guides within the body to:  a) Properly position individual conductor; and b) Provide a means to reduce the likelihood of the conductor(s) being displaced from under the terminal ring when conductor(s) are to be installed.  Compliance shall be determined by the Terminal Strength Test, Section 123.
	Info	<b>Receptacles</b>
28	Info	<b>Enclosure</b>



***New clause added;***

The body of a receptacle employing a combination wire binding/pressure wire-type terminal shall employ integrally formed channels/guides within the body to:

28.2

- a) Properly position individual conductor; and
- b) Provide a means to reduce the likelihood of the conductor(s) being displaced from under the terminal ring when conductor(s) are to be installed.

Compliance shall be determined by the Terminal Strength Test, Section 123.

Info **Inlets**

Info **Pressure Wire Terminals**

***New section added;***

90

**Combination Wire Binding/Pressure Wire-Type Terminals**

90.1

In addition to the requirements as specified in Sections 85 – 88, an inlet rated less than 20 A and also employing a combination wire binding/pressure wire-type terminal for field connection to copper branch circuit conductors, intended for mounting in or on an outlet box, shall comply with the Strength of Insulating Base Test, Section 91, and with the applicable performance requirements in the Standard for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors, UL 486E:

90.2

The copper test conductors to be used in these tests are to be selected in accordance with Table 90.1.

**Copper test conductor sizes**

Table 90.1

Device rating, A	Conductor size, AWG
15	14 solid 14 stranded 12 solid 12 stranded
20	12 solid 12 stranded 10 solid 10 stranded

Info **Receptacles**

118

Info **Temperature Test**

118.1

Info **Contact and terminal temperature**

***New subclause added;***

118.1.4 c)

Ampacities for copper conductors temperature rated at 75°C (167°F) for a receptacle rated greater than 30A, and 100 A or less, for use on copper conductors only and marked in accordance with Table 193.4.

Info **Pressure-Wire Terminals**

***New section added;***

127

**Combination Wire Binding/Pressure Wire-Type Terminals**



- 127.1 In addition to the requirements in Sections 110 – 125, a receptacle rated less than 20 A and also employing a combination wire binding/pressure wire-type terminal for field connection to copper branch circuit conductors shall comply with the Strength of Insulating Base Test, Section 128, and with the applicable performance requirements in the Standard for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors, UL 486E.
- 127.2 The copper test conductors to be used in these tests shall be selected in accordance with Table 127.1.

**Copper test conductor sizes**

Table 127.1	<b>Device rating, A</b>	<b>Conductor size, AWG</b>
	15	14 solid 14 stranded 12 solid 12 stranded
	20	12 solid 12 stranded 10 solid 10 stranded

**Supplement SE Info RECEPTACLES WITH INTEGRAL POWER SUPPLY WITH CLASS 2 OUTPUT CONNECTORS**

SE4 ***New section added;***

**Separable Face Assembly**

SE4.1 A receptacle with integral power supply with one or more Class 2 outputs that employ a separable face assembly shall be formed and assembled so that it may be installed, in accordance with the installation instructions, into its specified receptacle, without risk of fire or electric shock. Risk of fire or electric shock is determined by compliance with the construction and performance requirements herein and the applicable requirements of the Standard for Attachment Plugs and Receptacles, UL 498.

SE4.2 A separable face assembly shall not require the installer to remove, defeat, or replace any factory installed securement means (such as a rivet).

SE4.3 A separable face assembly shall be constructed such that when separated from the receptacle, there shall not be any exposed contact to live parts as determined by the articulate probe with web stop shown in UL 498 Figure 9.1.

Exception: With the separable face assembly removed from the receptacle (device), exposed output of the Class 2 power supply may be accessible to contact by the articulate probe with web stop.

SE4.4 A separable face assembly shall be configured in such a manner (i.e. keyed) to prevent incorrect arrangement or positioning.

SE4.5 A separable face assembly shall be mechanically secured to the receptacle (device) by a latch or the like to prevent unintentional separation from the receptacle during normal use. The securement means may additionally rely on the flush device cover plate for mechanical support, but not as the sole means of securement to the receptacle (device).



SE4.6	A separable face assembly that also covers the ANSI/NEMA slot configuration shall be investigated to the applicable UL 498 requirements with and without the separable face assembly secured to the receptacle.
SE4.7	The Class 2 power supply shall be contained within the receptacle (device) assembly only.
SE4.8	A separable face assembly may be provided as a replacement part. See Section SE14, User Instructions (Separable Face Assembly as a Replacement Part), for details.

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.