

## STANDARD INFORMATION

**Standard:** UL 817 SUN

**Standard ID:**

Cord Sets and Power-Supply Cords [UL 817:2015 Ed.12+R:22Sep2021]

**Previous Standard ID:**

Cord Sets and Power-Supply Cords [UL 817:2015 Ed.12+R:28Jul2021]

Cord Sets and Power-Supply Cords [UL 817:2015 Ed.12+R:23Jun2021]

Cord Sets and Power-Supply Cords [UL 817:2015 Ed.12+R:15Feb2021]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **September 22, 2023**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

All reports need to be certified to the September 22, 2021 revision prior to the effective date.

### Overview of Changes:

#### June 23, 2021

- Adding and Revising Requirements to Address General Use Extension Cord Sets Employing Wireless Charging
- Adding and Revising Requirements to Address Rotating Outlets

#### July 28, 2021

- Addition of Hospital Grade Cords

#### September 22, 2021

- Braided Cords for Use in Outdoor Use Cord Sets and Power Supply Cords

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

***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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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>
<b>The following changes reflect the June 23, 2021 revision:</b>		
1	Info	<b>Scope</b> <i><b>New clause added;</b></i>
1.6		Cord sets employing assembled enclosures provided with means for mounting or intended for use in furniture are covered by the Standard for Furniture Power Distribution Units, UL 962A. <i><b>New clause added;</b></i>
1.7		Cord sets employing assembled enclosures, standard configuration outlets, and a surge protective device (SPD) are covered by the Standard for Surge Protective Devices, UL 1449. <i><b>New clause added;</b></i>
1.8		These requirements also cover general-use extension cord sets employing supplementary charging circuits and induction power transmitters. See Supplementary charging circuits and induction power transmitters, 9.8.
9	Info	<b>Other Components</b>
9.8	Info	<b>Supplementary charging circuits and induction power transmitters</b> <i><b>New clause added;</b></i>
9.8.3		Induction power transmitters shall comply with the performance requirements of the Standard Induction Power Transmitters and Receivers for use with Low Energy Products, UL 2738.
9.8.4		The construction and performance of an enclosure of a supplementary charging circuit or an induction power transmitter shall comply with the requirements of electrical, fire, and mechanical enclosures, of the Standard for Information Technology Equipment – Safety – Part 1: General Requirements, UL 60950-1 or the Standard for Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements, UL 62368-1.
9.8.5		A general use extension cord employing a supplementary charging circuit shall be marked in accordance with 21.1.15.



CLAUSE	VERDICT	COMMENT
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10	Info	<b>Assembly</b>
10.7	Info	<b>Extension cord sets</b>
10.7.6	Info	<b>Ratings</b>

*New section added;*

10.7.6.4 **General use extension cords employing supplementary charging circuits and/or induction power transmitters**

General use extension cords are permitted to employ supplementary charging circuits or induction power transmitters or both in accordance with 9.8. See standard for details.

*New table added;*

**Number of permitted outlets, outputs, and circuits for devices employing supplementary charging circuits and/or induction power transmitters**

Table 10.13A

Cord Size, AWG (mm <sup>2</sup> )	Max. No. of NEMA outlets	Max. No. of supplementary charging circuit outputs		Max. no. of induction power transmitter circuits
		Type USB-A or USB-B	Type USB-C	
18 (0.82)	1	2	1	1
16 (1.31)	2	3	1	1
14 (2.08)	3	5	1	1
12 (3.31)	3	5	1	1

21	Info	<b>Extension Cord Sets</b>
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21.1	Info	<b>General</b>
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*New clause added;*

21.1.15 A required marking for a general use extension cord employing a supplementary charging circuit shall be durable, legible, and permanent and located where plainly visible on or directly adjacent to the connector with the rated voltage and current using the symbols as indicated in 20.1(b). A marking shall be considered permanent if it is:

- a) Die-stamped into the unit,
- b) Molded as part of the unit, or
- c) Indelibly stamped or printed on a tag or pressure sensitive adhesive-backed label. An adhesive-backed label shall comply with the requirements in the Standard for Marking and Labeling Systems, UL 969, and be for the temperature,



CLAUSE	VERDICT	COMMENT
		type of surface, and environment, such as indoor or outdoor, for which it is intended.
		<b><i>New clause added;</i></b>
21.1.16		The height and depth of lettering of the required markings shall be as follows: a) Upper case letters shall not be less than 1/12 inch (2.1 mm) in height. b) Lower case letters shall not be less than 1/16 inch (1.6 mm) in height. c) The letters of the text shall be in a color contrasting with the background color or shall be recessed or raised against their background at least 0.2 mm (0.008 inch).
		<b><i>New clause added;</i></b>
21.1.17		A general use extension cord employing an induction power transmitter shall be durably, legibly, and permanently marked in accordance with 21.1.15 (a) through (c) on or directly adjacent to the supporting surface with the rated voltage and current using the symbols as indicated in 20.1(b) and the following or equivalent: "Wireless Charging Device". Letter heights shall be as indicated in 21.1.16 (a) through (c).
Supplement SD	Info	<b>ROTATING PLUGS AND OUTLETS</b>
	Info	<b>CONSTRUCTION</b>
SD2	Info	<b>General</b>
		<b><i>New clause added;</i></b>
SD2.2		In addition to the requirements under this heading, a rotating outlet employing slip rings shall comply with all of the applicable construction requirements elsewhere in this standard for cord connectors.
		<b><i>New clause added;</i></b>
SD2.3		Rotating outlets shall be of the 5-15R, 5-20R, 6-15R, or 6-20R.
SD4	Info	<b>Flammability</b>
SD4.1		A polymeric material used to enclose or support slip rings shall have a flame class rating <u>in accordance with the requirements of the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94, of HB, V-2, V-1, V-0, VTM-2, VTM-1, or VTM-0 when employed in a rotating attachment plug and V-2, V-1, V-0, VTM-2, VTM-1, or VTM-0 when employed in a rotating outlet</u> <del>accordance with the requirements of the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94.</del> The flame class rating of the material shall be judged at the minimum thickness employed at the walls and barriers in the device which are critical to the functioning of the insulation or enclosure of the device.



CLAUSE	VERDICT	COMMENT
		Exception: A polymeric material that complies with either the 12 mm or 20 mm (3/4-inch) flame flammability test described in Standard for Polymeric Materials – Use in Electrical Equipment Evaluations, UL 746C, is not required to have a flammability class rating.
SD11	Info	<b>Rotational Endurance Test</b> <i>New clause added;</i>
SD11.2A		Each outlet sample is to be mounted and a mating configuration attachment plug inserted into the device. The body of the plug is to be grasped and rotated manually or by machine in the outlet. Alternatively, the body of the outlet may be grasped and rotated. For devices employing more than one outlet in a single enclosure, the testing may be conducted on one outlet of each of six separate enclosures or multiple outlets within one enclosure.
SD12	Info	<b>Temperature Test</b> <i>New clause added;</i>
SD12.2		Following the Rotational Endurance Test, the same rotating outlet samples are to be subjected to the Temperature Test as specified in 14.5. <i>New section added;</i>
SD13A		<b>Dielectric Voltage-Withstand Test</b> Following the Dielectric Voltage Withstand Test, Section SD13, the same six representative rotating outlet devices shall be subjected to this test. See standard for details. <i>New section added;</i>
SD13B		<b>Fault Current Test</b> Following the Dielectric Voltage Withstand Test, Section SD13, the same six representative rotating outlet devices shall be subjected to this test. See standard for details.
<b>The following changes reflect the July 28, 2021 revision:</b>		
10	Info	<b>Assembly</b>
10.12	Info	<b>Hospital grade power-supply cords, extension cords, and cord sets</b>
10.12.3	Info	<b>Hospital grade cord sets</b>



CLAUSE	VERDICT	COMMENT
		<b><i>New clause added;</i></b>
10.12.3.3		Hospital grade cord sets shall employ flexible cord of the Type SJO, SJT, SJTO, SVO, SVT, SVTO, or other jacketed type cord of equal or harder usage or an equivalent Appliance Wiring Material.
<b>The following changes reflect the September 22, 2021 revision:</b>		
6	Info	<b>Fittings – General</b>
6.7	Info	<b>Outdoor-use fittings</b>
		<b><i>New clause added;</i></b>
6.7.4		<p>A fitting rated 250 V or less and 30 A or less or a joint or other enclosure intended for use in:</p> <p>a) outdoor power supply cords;  b) outdoor cord sets;  c) outdoor extension cord sets; or  d) outdoor special use power supply cords and cord sets;</p> <p>employing braided flexible cord types SPT-1W, SPT-2W, SJTW, STW, SJEW, or SEW with "-B" suffix, where the braid extends inside the device, the braid shall be terminated such that there is a minimum of 6.4 mm (1/4 in) of insulating material separating the braid from any live part, and the power supply cord or cord set shall comply with the Rain test, 11.13.</p>
10	Info	<b>Assembly</b>
		<b>Types of flexible cord, cable, and wire for power-supply cords and cord sets</b>
Table 10.1		<p>NOTES:</p> <p><u>18 – Flexible cord constructions that have been evaluated to the Standard for Flexible Cords and Cables, UL 62 requirements for a "-B" suffix, shall be identified with the "-B" designation appearing on the cord jacket or on a marker tape beneath the braid.</u></p>
		Note: Only modified sections of the table are shown.
10.1	Info	<b>Power-supply cords</b>
10.1.1	Info	<b>General</b>
		<b><i>New clause added;</i></b>
10.1.1.7		An outdoor-use power-supply cord employing SPT-1W, SPT-2W, SJTW, STW, SJEW, or SEW type flexible cord with "-B" suffix shall comply with 6.7.4.
10.7	Info	<b>Extension cord sets</b>



CLAUSE	VERDICT	COMMENT
10.7.1	Info	<b>Construction – Outdoor-use assemblies</b>
		<i>New clause added;</i>
10.7.1.4		An outdoor-use cord set employing SPT-1W, SPT-2W, SJTW, STW, SJEW, or SEW type flexible cord with "-B" suffix shall comply with 6.7.4.
		<b>Flexible cord for extension cord sets<sup>c</sup></b>
Table 10.8		<sup>c</sup> Flexible cord constructions that have been evaluated to the Standard for Flexible Cords and Cables, UL 62 requirements for a "-B" suffix, shall be identified with the "-B" designation appearing on the cord jacket or on a marker tape beneath the braid.
		Note: Only modified sections of the table are shown.
11	Info	<b>Attachment plugs and cord connectors</b>
		<i>New section added;</i>
11.13		<b>Rain test for fittings, joints, and other enclosures employing cords with decorative braids</b>
		An assembly consisting of a fitting, joint, or enclosure constructed in accordance with 6.7.4 shall be tested as described in 11.13.2 – 11.13.5. The construction shall prevent water from reaching current-carrying parts. See standard for details.
	Info	<b>MARKING</b>
20	Info	<b>General</b>
		<i>New clause added;</i>
20.9		Cord sets and power supply cords constructed in accordance with 6.7.4, employing a flexible cord with a "-B" suffix, shall be marked to indicate the complete flexible cord type. Such marking shall appear as required in Sections 20, 21, 22, 30, 31, and 32, as applicable.