

STANDARD INFORMATION

Standard Number: UL 2157 / CSA C22.2 No. 169

Standard Name: Electric Clothes Washing Machines and Extractors

Standard Edition and Issue Date: UL 4th Edition / CSA 5th Edition Dated May 28, 2018

Date of Revision: May 28, 2018

Date of Previous Revision of Standard: UL 3rd Edition / CSA 4th Edition Revised December 22, 2017

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **April 7, 2021**

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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.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:

- New requirements for bottom accessibility
- Clarification of the Heating Test for Appliances Provided with Water Heating Features
- New test added: Liquid Spillage Test
- Glass Loading Door and Lid Test Requirements
- Lithium Button or Coin Cell Batteries used in Wireless Remote Controls with Household Appliances
- Dedicated Receptacle Requirements
- Warning Marking and Instruction Related to Washing Water Resistant Clothing
- Endurance Test for Wire Flexing
- Warm-Water Spray Function for Top Load Washing Machines

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:

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.



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CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i>
5	Info	Marking and Instructions
5.1	Info	Marking
5.1.2	Info	Appliance markings
		<i>New clause added;</i>
		A dedicated receptacle shall have a marking immediately adjacent to it identifying its use. The marking shall include the statement:
5.1.2.23		“Not a general-use receptacle – For use with _____ only”.
		A description of the pedestal or drawer-type washing machine to be connected to the receptacle, including the model number, catalog number, or other identification determined to be equivalent, and the electrical rating in volts and amperes, shall be inserted in the blank space.
5.4	Info	Operating instructions
		<i>New clause added</i>
		For vertical axis machines, the operating instructions shall be provided with instructions to the user on how to properly wash water-resistant and water-repellant type clothing, or not to wash water-resistant or water repellant-type clothing. These instructions shall include the following or equivalent:
5.4.3		“WARNING: Failure to closely follow these instructions may result in an abnormal vibrating and out-of-balance condition that could result in physical injury, property damage, and/or appliance damage.”
6	Info	Protection against accessibility to current-carrying parts
6.9		The requirements in Clauses 6.1 and 6.2 apply to the back of a freestanding appliance and to the back and sides of a recessed appliance. They do not apply to the bottom of a freestanding or recessed appliance if the front, sides, and back of the appliance extend substantially to the surface upon which the appliance rests. <u>For the bottom of a freestanding or recessed appliance if the front, sides, and back of the appliance can be positioned no more than 38.1 mm (1.5 in) above the surface upon which the appliance rests, the tip of the probe, illustrated in Figure 1, shall be inserted up to 150 mm inside the plane of the opening created between the bottom edge of the appliance and the supporting surface. If the distance between the bottom edge of the appliance and supporting surface is greater than 38.1 mm, accessibility through the opening created between the bottom of the appliance and the supporting surface shall be evaluated in accordance with Table 1.</u>



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8	Info	Power input and current <i>New clause added;</i>
8.2		An appliance provided with a dedicated receptacle shall be tested with the receptacle loaded with the intended ampere load. A pedestal or drawer-type clothes washer may be used for this load, or a simulated load may be used.
9	Info	Heating
9.1	Info	General <i>New clause added;</i>
9.1.8		An appliance provided with a dedicated receptacle shall be tested as described in Clauses 9.2 to 9.11 with the receptacle loaded with the intended ampere load during the heating test. A pedestal or drawer-type clothes washer may be used for this load, or a simulated load may be used.
9.9	Info	Water heating feature <i>New clause added;</i>
9.9.2		For appliances provided with one water inlet valve, the test shall be conducted with the water inlet valve connected to a $15 \pm 5^{\circ}\text{C}$ water supply and then to a $60 \pm 5^{\circ}\text{C}$ water supply. <i>New clause added;</i>
9.9.3		If the appliance is provided with warm-water spray function that is accessible to users when the top lid is open, and the warm-water spray is derived from the water-heating feature in the appliance, the temperature of this water shall not exceed 60°C .
14	Info	Abnormal operation <i>New section added;</i>
14.6		Liquid spillage test
14.6.1		Appliances subject to spillage of liquid in normal use shall comply with the requirements of Clause 14.6.4 using a solution comprising water containing approximately 1% NaCl and 0.6% rinsing agent. Any commercially available rinsing agent may be used. The appliance shall be leveled and 0.5 liter of the solution specified in Clause 14.6.1 shall be poured steadily over the appliance.
14.6.2		The solution shall be poured equally at each of the eight location and in the direction shown in Figure 12. The solution shall be poured from a height of approximately 1 inch (25.4 mm).



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14.6.3		The appliance shall then be operated through one complete cycle of normal operation during which the controls shall be adjusted to energize as many circuits as possible without affecting the normal function of the unit.
14.6.4		The tests in 14.6.2 – 14.6.3, shall not result in: a) a leakage current greater than 5.0 mA for cord-connected appliances; b) an insulation resistance of not less than 50, 000 Ω for permanently connected appliances; c) insulation breakdown as determined by repeating the electric strength test; or d) the obvious wetting of current-carrying materials; see note below.
16	Info	Mechanical strength
16.3		<i>New section added;</i> Glass loading doors and lids
16.3.1		A glass loading door or lid shall be made from glass that has the mechanical strength to reduce the risk of injury to persons. With respect to Clause 16.3.1, samples of the glass loading door or lid shall be subjected to the following tests:
16.3.2		a) for all surfaces, 6.8 J Impact of Clause 26.7; and b) for horizontal top surfaces: 1) the static load of Clause 26.8; and 2) the 56.7 J impact of Clause 26.9.
16.3.3		The location of the impacts and test loads on the glass surfaces shall be upon the weakest portion of the glass that is exposed to the consumer, including any edges and the transition area between the ceramic ink/paint and clear glass. This could necessitate the test being repeated on several different areas of the surface to completely evaluate the glass part.
18	Info	Internal wiring
18.5		<i>New section added;</i> Endurance test for pedestal wire flexing
18.5.1		For pedestal or drawer-type washing machines, where the operation of a movable part of an appliance can mechanically affect the wiring or other insulated parts, the part shall be operated as specified in Clauses 18.5.2 and 18.5.3. As a result of the operation, there shall be no malfunction of the movable parts that increase the risk of electrical shock, fire, or injury to person. After operation, the appliance shall comply with the electric strength requirements in Clause 13.
18.5.2		The movable part shall be subjected to 30,000 cycles of operation. For the first 20,000 cycles, any wiring or insulated current-carrying part that is flexed shall be de-energized. For the remaining 10,000 cycles, such parts shall be energized so as to represent the maximum load encountered during intended operation of the appliance.



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18.5.2		The test shall be conducted at the rate of 12 cycles/min. The part shall be operated in the intended manner so that it will reach the actual limits of travel in both directions during each cycle and under the conditions that will result in maximum wear on all parts.
19	Info	Components <i>New clause added;</i>
19.9.2		A clothes washer intended to be stacked on a pedestal or draw type clothes washer and provided with a dedicated receptacle shall comply with the requirements in Clauses 19.9.3 – 19.9.5. <i>New clause added;</i>
19.9.3		Only one receptacle shall be provided; it shall be located on the back of the appliance, and it shall be a 3-wire grounding-type receptacle, rated 15 or 20 A, 125 V. <i>New clause added;</i>
19.9.4		The circuit supplying the dedicated receptacle shall have the circuit protected by supplementary overcurrent protection, such as a fuse, circuit breaker, or similar device, having a current rating not exceeding the applicable value specified in Table 17. <i>New clause added;</i>
19.9.5		A marking identifying the pedestal or draw type clothes washer to be used with the dedicated receptacle shall be provided adjacent to the dedicated receptacle; see Clause 5.1.2.23. <i>New section added;</i>
19.20		Button or coin cell batteries of lithium technologies
19.20.1		The battery compartment of an appliance or any accessory, such as a wireless control, incorporating one or more coin cell batteries of lithium technologies, shall comply with UL 4200A, if the appliance or any accessory: a) is intended for use with one or more single cell batteries having a diameter of 32 mm (1.25 in) maximum with a diameter greater than its height; and b) the appliance is intended for household use.



CLAUSE	VERDICT	COMMENT
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New table added;

Supplementary overcurrent protective device current rating

Table 17

Maximum supplementary overcurrent protective device rating	Minimum cord conductor size rating		Minimum internal conductor size	
	A	AWG	(mm ²)	AWG
10	18	(0.82)	18 ^a	(0.82)
13	16	(1.3)	18 ^a	(0.82)
15	14	(2.1)	14	(2.1)
18	14	(2.1)	12	(3.3)
20	12	(3.3)	12	(3.3)

^aRated 90°C or 6 A maximum.

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.