STANDARDS UPDATE NOTICE (SUN)
ISSUED: September 19, 2025

STANDARD INFORMATION

Standard: UL 1017 / CSA C22.2 No. 243
Standard ID:
Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [UL 1017:2025 Ed.11]
Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [CSA C22.2#243:2025 Ed.7]
Previous Standard ID:
Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [UL 1017:2017 Ed.10+R:14Mar2023]
Vacuum Cleaners, Blower Cleaners, And Household Floor Finishing Machines [CSA C22.2#243:2017 Ed.6]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **March 26, 2027**

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 Reports not updated to this version by the effective date above will be withdrawn.

This standard contains Functional Safety requirements.

Overview of Changes:

- Double insulation changes
- Addition of requirements for pin and sleeve terminals
- Button-cell lithium batteries
- Updates for motor polymeric motor insulation systems
- Interlock endurance test
- General purpose transformer testing
- Update attachment plug rating to align with appliance rating
- Cord length of household extraction type floor cleaners
- Ash vacuum cleaners
- Mechanical Valve Operation for input test
- Class H insulation temperature limits

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
		Additions to existing requirements are underlined and deletions are shown ~~lined out~~ below.
4	Info	**Construction**
4.2	Info	**Enclosures**
4.2.1	Info	**Mechanical strength and flammability**
4.2.1.8		Polymeric parts employed to enclose uninsulated live parts or insulated live parts whose insulation is less than 0.7 mm (0.028 in), or equivalent, shall be subjected to the tests in 5.21 and shall have a flammability rating or comply with the testing as specified below: a) For a portable attended, household appliance: 1) Minimum flammability rating of HB, or HBF for foamed materials, in accordance with CSA C22.2 No. 0.17 and UL 94; 2) Needle flame test in accordance with CSA C22.2 No 0.17; 3) 12 mm or 20 mm (3/4 inch) flame test in accordance with UL 746C; 4) Glow-wire test at 550 °C in accordance with UL 746C; 5) Minimum 550 Glow wire flammability index (GWFI) in accordance with IEC 60695-2-12; or 6) Minimum 575 Glow wire ignitability temperature (GWIT) in accordance with IEC 60695-2- 13. b) For other portable appliances: 1) Minimum flammability rating of V-2 2) Needle flame test in accordance with CSA C22.2 No. 0.17; or 3) 12 mm or 20 mm (3/4 inch) flame test in accordance with UL 746C. c) For a stationary or fixed appliance; 1) Minimum 5VA in accordance with CSA C22.2 No. 0.17 and UL 94; or 2) 127 mm (5 inch) flame test in accordance with UL 746C.
4.2.6	Info	**Button batteries or coin cell batteries**
4.2.6.1		***New clause added;*** To reduce the risk of injury due to battery ingestion, the battery compartment of an appliance or any accessory, such as a wireless control, incorporating one, or more replaceable coin cell batteries 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) or less with a diameter greater than its height; and b) Is intended for household use.

CLAUSE	VERDICT	COMMENT
4.3	Info	**Mechanical assembly**
4.3.3		***New section added;*** **Additional requirements for ash vacuum cleaners** The ash vacuum cleaner dirt receptacle (e.g. metal tank or pail) shall be sheet steel, minimum 0.6 mm (0.024 in.) thick. Thinner wall sections may be used if the material meets the requirements of the Physical abuse test of 5.19.3. The dirt receptacle shall not sustain damage that allows ash to escape the receptacle. See standard for details.
4.5	Info	**Supply connections**
4.5.1	Info	**Cord-connected equipment**
4.5.1.6		***New clause added;*** Except as specified in 4.5.1.7, supply cords and cord sets shall: a) Have a voltage rating not less than the rated voltage of the appliance; b) Have an ampacity not less than the current rating of the appliance; and c) Employ flexible cords as specified in Table 4.2 or a type at least as serviceable.
Table 4.2		***New table added;*** **Cord Types**

Appliance	Type of cord
Automotive and garage	S, ST[a,b]
Household, indoor use	SV, SVT[e]
Household, outdoor use	[c]
Commercial vacuum cleaners or blower cleaners	SJ, SJT[d]
Central vacuum cleaner	SJ, SJT
Household, indoor use, vacuum cleaner with steam-cleaning attachment, where temperatures are more than 121 °C (250 °F) on any surface that the cord is likely to touch when the appliance is used as intended	HPD, HPN, HSJ, HSJOO, or HSJO
Docking or charging stations of automatic battery-powered floor cleaners including those with a suction function	SPT-2
[a] An oil-resistant cord shall be used when the equipment is likely to be subjected to grease or oil. [b] Type SJ, or SJT cord is usable when the appliance is intended to be installed or used in a separate room provided for the purpose. [c] A household use vacuum cleaner and a household use, floor supported vacuum cleaner with an integral port provided for use as a blower, both intended	

CLAUSE	VERDICT	COMMENT
		primarily for indoor use and occasional outdoor use and marked according to item 3 or 5 of Table 11.1 shall employ a Type SV or SVT cord. A household use vacuum cleaner intended primarily for outdoor use and a household blower cleaner intended for outdoor use shall employ a SJW or SJTW cord. [d] Cord marked with suffix "W" (such as, SJTW) shall be used when the appliance is intended for outdoor use. [e] Type SPT-1, -2, or -3; or SP-1, -2, or -3 cord may be used in locations that are protected or otherwise prevent the cord from being subjected to the same level of wear and abuse as the power cord, such as for an external connecting cord permanently attached to a wand.
4.5.1.17		***New clause added;*** Except as specified in 4.5.1.19, a household-use floor finishing machine and a household extraction-type floor cleaning machine shall be provided with either a cord set (detachable power supply cord) or a power supply cord (nondetachable) not less than 4.57-m (15-ft) long. A hand-held household extraction-type floor cleaning machine shall be provided with either a cord set (detachable power supply cord) or a power supply cord (nondetachable) not less than 3.05-m (10-ft) long.
4.5.1.20		***New clause added;*** The length of an attached flexible power supply cord is measured from the face of the attachment plug cap to the point at which the cord enters the appliance. The length of a cord set (detachable power supply cord) is measured including the fittings.
4.7	Info	**Internal wiring and external interconnections**
4.7.5	Info	**External interconnections**
4.7.5.6		Single and multipole connectors used between electrical equipment that are intended for connection and disconnection of electrical attachments by the user, other than those that are overmolded, shall have suitable voltage and current ratings, and be suitably rated to make and break the particular load in accordance with CSA C22.2 No. 182.3 and UL 1977.
4.7.5.8		***New clause added;*** Pin and sleeve assemblies overmolded with an elastomeric material, such as PVC, shall be suitable for the application and shall make connection with a sliding action. These assemblies shall provide adequate contact pressure and shall not deteriorate in normal use. The effectiveness of the pressure between pins and sleeve shall not depend upon the resiliency of the insulating material in which they are mounted. These assemblies shall comply with 5.32.
4.8	Info	**Electrical insulation**
4.8.2		Except as specified in 4.8.3, polymeric material employed to support a live part, in direct contact with a live part, or within 0.8 mm (1/32 in) from a live part shall be

CLAUSE	VERDICT	COMMENT
		rated for use at the operating temperature involved as specified in 5.21.10, have suitable resistance to flame as specified in 4.2.2.1, and shall have the following material properties, (a) – (d): a) Insulating properties: 1) Volume resistivity of at least 50 × 106 Ω-cm; or 2) Compliance with the end-product leakage-current requirements (5.3) with the leakage current measurement taken from accessible surfaces of the polymeric material in question. If the polymeric part in question is not accessible, the leakage current shall be measured in accordance with 5.3.4 and 5.3.5. b) Resistance to tracking: 1) Comparative tracking index (CTI), determined in accordance with UL 746A or IEC 60112, of at least 100 V (PLC 4 – see note (a) of Table 4.4); or 2) Proof tracking index (PTI) determined in accordance with IEC 60112 of at least 100;
4.9	Info	**Motors**
4.9.1	Info	**General**
4.9.1.11		***New clause added;*** Motors used for ash vacuum cleaners shall be of the bypass type, or a through-flow provided with an over-temperature protective device, and shall be provided with a minimum Class B (130 °C) motor insulation system and shall be of the: a) Bypass type; or b) Through-flow type provided with an over-temperature protective device.
4.9.3	Info	**Overload protection**
4.9.3.2		Thermal motor protection shall comply with the applicable requirements in CSA C22.2 No. 77 and UL 1004-3 except as follows: d) For fixed appliances, the overcurrent protection of 4.9.3.10 may be used in place of thermal motor protection. e) For other than fixed appliances, overcurrent protection, such as fuses or supplementary protectors, may be used in place of thermal motor protection if: 1) The supplementary protector/motor combination complies with the running-overload and locked-rotor protection requirements in CSA C22.2 No. 77 and UL 1004-3, as applicable; and 2) The overcurrent protection device complies with 4.17.
4.9.3.3		Impedance motor protection shall comply with the applicable requirements in CSA C22.2 No. 77 and UL 1004-2, when the motor is tested as used in the product under stalled-rotor conditions.

CLAUSE	VERDICT	COMMENT
4.10	Info	**Switches, relays, and similar controls**
4.10.2	Info	**Ratings**
4.10.2.5		Switches shall also be rated with respect to endurance as follows: c) Interlock switches required for compliance with this Standard: 10,000 cycles for products intended for household use only and 50,000 cycles for other products.
4.11	Info	**Controls – End product test parameters**
4.11.3	Info	**Operating controls (regulating controls)**
4.11.3.1		***New clause added;*** Operating controls shall comply with CSA E60730-1 and UL 60730-1 and any relevant Part 2 standard. However, electronic operating controls may instead be evaluated to this Standard in which case it shall be evaluated for the endurance cycles in 4.11.3.2(a) unless otherwise specified.
4.11.4	Info	**Protective controls (limiting controls)**
4.11.4.1		***New clause added;*** Protective controls shall comply with CSA E60730-1 and UL 60730-1 and any relevant Part 2 standard including cycle requirements in 4.11.4.5 and tests in 4.11.4.2, unless otherwise specified in this Standard. However, electronic protective controls may instead be evaluated to this Standard as specified in 4.11.4.
4.14	Info	**Receptacles**
14.14.17		A general-use receptacle for use on a nominal 120 V circuit shall have the grounded supply conductor connected to the terminal that is substantially white in color or otherwise marked to indicate that it is intended for connection to the grounded supply conductor. The grounded supply conductor shall be identified with a continuous white or grey covering or by three continuous white stripes along the entire length of the conductor.
4.15	Info	**Spacings**
4.15.3		***Title has changed*** ~~**Spacings on printed wiring boards**~~ **Alternate spacings – Clearances and creepage distances**

CLAUSE	VERDICT	COMMENT
4.16	Info	**Grounding and bonding**
4.16.3		If a grounding means is provided, whether required or not, it shall be in accordance with 4.16.4 and if the appliance is cord connected it shall comply with the requirements in 4.16.5. All exposed noncurrent-carrying metal parts and all noncurrent-carrying metal parts within the enclosure that are exposed to contact during any user servicing operation and are likely to become energized shall be reliably connected to the means for bonding/equipment grounding. Connections shall meet the requirements for the ground impedance test in CSA C22.2 No. 0.4. Hinged or pivoting joints are not considered acceptable for bonding unless they are provided with an additional conductive connection, such as a bonding jumper. Rotating motor components that have metal-to-metal bearing surfaces are not required to have additional means of bonding.
4.17	Info	**Protective devices**
4.17.17		***New clause added;*** A thermal link, required for compliance with this Standard, shall comply with the applicable requirements of CSA E60691 and UL 60691.
4.17.18		***New clause added;*** The thermal link, required for compliance with this Standard, shall be capable of opening the circuit in the intended manner without causing the short-circuiting of live parts and without causing live parts to become grounded to the enclosure when the appliance is connected to a circuit of voltage in accordance with 5.1.2 and operated in a normal position to cause abnormal heating.
4.17.19		***New clause added;*** To determine compliance with 4.17.18, the appliance shall be operated five times as described in 4.17.18 with separate thermal links. During this test any other thermally operated control devices in the product shall be short-circuited. Each of the five thermal links shall perform acceptably. During the test, the enclosure shall be connected through a 3-A fuse to a supply conductor not containing the thermal link.
4.19	Info	**Protection against injury to persons**
4.19.6	Info	**Strength of handles**
4.19.6.2		***New clause added;*** The strength of handles test is not applied to handles that are intended for use in removing a part for cleaning or servicing only and not intended for carrying the appliance.

CLAUSE	VERDICT	COMMENT
5	Info	**Tests**
5.2	Info	**Normal loads**
5.2.1	Info	**General**
5.2.1.3		For the tests, the appliance shall be operated continuously with a clean dust bag or filter, if provided, in place. For each condition, the appliance shall be operated until constant temperatures are attained. If an appliance is obviously not intended for continuous operation, the temperature test may be conducted so that it will take into consideration the probable intermittent or short-time operation of the appliance. Other than docking stations with a vacuum function, for products with a timer, such as a coin-operated machine, the appliance shall be operated using a duty cycle with a time of operation equivalent to the maximum operating time allowed by the timer followed by a 2-minute off time until constant temperatures are attained. Docking stations with a vacuum function are operated for three cycles with a 2- minute off time between cycles.
5.2.2	Info	**Portable vacuum cleaners**
5.2.2.2		For upright type vacuum cleaners with an integral port for connection of above floor cleaning tools, the hose shall be connected to this attachment port, whether the hose is permanently connected or detachable, and the air intake at the end of the hose shall be used for this test condition. For other vacuum cleaners, if the hose is permanently connected or the appliance cannot be operated without a hose connected to the air intake, the hose shall be connected, and the air intake at the end of the hose shall be used for this test condition. However, if agreeable to those concerned, a non-detachable hose may be removed for this test, and a detachable hose shall remain attached if recirculation could occur.
5.2.2.4		***New clause added;*** If it is not possible to measure sealed suction due to the technology employed in the vacuum cleaner, the alternative method using mean air flow described in 5.2.2.5 may be used. Examples of such vacuum cleaners include those using electronics to provide continuous steady power, vacuum cleaners employing automatic (not user controlled) performance booster functions, and vacuum cleaners designed to shut off within 15 – 20 seconds of the air intake becoming sealed.
5.2.2.5		***New clause added;*** Using a suitable air flow measuring instrument, measure and record the airflow (CFM) with the vacuum cleaner air intake completely open. Airflow is considered to be zero with the air intake completely sealed. The Mean Air Flow point is 50 % of the air flow measured with the vacuum cleaner air intake completely open. While monitoring the air flow, the vacuum cleaner air intake is then reduced until the average air flow point is reached, as measured with the a flow meter as close to the air intake as possible.

CLAUSE	VERDICT	COMMENT
5.2.2.7		A vacuum cleaner employing a motor-driven brush (or similar device) shall be additionally operated on the test carpet described in 5.2.1.2. However, a vacuum cleaner employing a motor-driven brush (or similar device) intended for use on a hardsurface shall be tested on a previously polished composition-tile floor. During operation, the product shall be moved forward and backward on the carpet simulating normal use. If a carpet height adjustment is provided, it shall be adjusted in accordance with the instructions provided with the product to the lowest position for the test carpet.
5.2.4	Info	**Motorized nozzles**
5.2.4.3		***New clause added;*** A motorized nozzle intended for use on a hard surface only shall be tested on a previously polished composition-tile floor.
5.2.6	Info	**Floor finishing machines**
5.2.6.2	Info	**Household extraction type**
5.2.6.2.1		***New clause added;*** Household extraction type carpet cleaners are tested while being moved simulating normal use on carpet as described in 5.2.1.2. However, those intended for use on hard floors only, are tested on the hard floor as specified in 5.2.4.3.
5.9	Info	**Severe operating conditions**
5.9.2	Info	**Central vacuum cleaners – Blocked and open inlet**
5.9.2.1		A central vacuum cleaner shall be operated as described in 5.9.2.2. The temperature of the windings of a Class A (105) insulated motor shall not exceed: a) 140 °C (284 °F) for Class A (105) insulated motors; b) 165 °C (329 °F) for Class B (130) insulated motors; c) 190 °C (374 °F) for Class F (155) insulated motors; or d) 215 °C (419 °F) for Class H (180) insulated motors.
5.10	Info	**Abnormal operation**
5.10.8		***New section added;*** **Ash vacuum cleaners** The ash vacuum cleaner is prepared for operation according to: See standard for details.

CLAUSE	VERDICT	COMMENT
5.12	Info	**Resistance to moisture**
5.12.2	Info	**Wet pick-up**
5.12.2.4		During the tests of 5.12.2.3, the temperatures of the motor winding shall not exceed: a) 140 °C (284 °F) for Class A insulated motors; b) 165 °C (329 °F) for Class B insulated motors; c) 190 °C (374 °F) for Class F insulated motors; or d) 215 °C (419 °F) for Class H insulated motors.
5.12.8	Info	**Polymeric fluid-handling components**
5.12.8.1	Info	**General**
5.12.8.1.2		Except as specified in 5.12.8.1.3 and 5.12.8.1.4, to determine if an appliance using a PFHC complies with 5.12.8.1.1, a 6.4-mm (1/4-in) diameter hole shall be drilled in the PFHC in any location that can result in the solution reaching a live part, film-coated wire, or insulation. For tubing with an inside diameter of less than 6.4 mm (1/4 in), the size of the hole drilled in the tubing shall be equal to the inside diameter of the tubing. The hole shall then be plugged, and the reservoir shall be filled to 50 ±5 % of its capacity with the solution described in 5.12.4.2. The plug shall then be removed so that all of the solution flows out. The component shall be in its intended position, and the appliance shall be in the position that during intended use allows maximum exposure to the solution. For a component, such as tubing, attached to the output of a pump and the pump itself, the pump shall be operated until the reservoir is empty.
5.12.8.1.6		***New clause added;*** An attachment intended to facilitate a cleaning operation with liquid and intended to be stored on the appliance, shall be placed on the appliance in the intended storage position(s) during the test of 5.12.8.1.2.

CLAUSE	VERDICT	COMMENT
5.12.8.2	Info	**PFHC used in household extraction-type floor cleaning machines – Mold stress and impact testing**
5.12.8.2.1		With reference to 5.12.8.1.3 and 5.12.8.1.4, if deterioration, breakage, or the like of a PFHC can result in the risk of fire or electric shock, samples of the PFHC shall be subjected to the following tests. As a result of these tests, there shall be no leakage such that the appliance does not comply with the requirements of 5.12.8.1.1. a) One sample shall be subjected to the mold stress-relief distortion test as described in 5.21.3; and b) One sample shall be subjected to an impact test as described in 5.19.2 or 5.19.3, as follows: 1) For a floor-supported appliance, the impact test shall be as described in 5.19.3 if the PFHC location can be exposed to a blow in normal use. Reservoirs or tanks shall be subjected to the ball impact test while empty and in normal use position; or 2) For other than floor-supported appliances, the impact test shall be as described in 5.19.2 with the component in its intended position. c) In addition, for a reservoir intended to be removed from the appliance for filling and emptying, the drop impact test described in 5.19.2 shall be conducted on the reservoir separate from the appliance with the reservoir filled to maximum capacity, or to its fill line, if provided, with water prior to each drop.
5.12.8.3	Info	**PFHC used in household extraction-type floor cleaning machines for use only with proprietary fluids – PFHC conditioning**
5.12.8.3.1	Info	**Reservoir, tank, tubing, and similar**
5.12.8.3.1.2		***New clause added;*** Except for a part such as a boot, diaphragm, seal or gasket complying with 5.12.5.2, three samples of the PFHC shall be subjected to the one of the following tests: a) The cycled fluid conditioning specified in 5.12.8.3.1.6; b) The static fluid conditioning specified in 5.12.8.3.1.7; c) The boiling immersion conditioning specified in 5.12.8.3.1.8; or d) The immersion conditioning specified in 5.12.8.3.1.9.
5.12.8.3.2	Info	**Pumps used in household extraction-type floor cleaning machines for use only with proprietary fluids – Conditioning and testing**
5.12.8.3.2.3		The pump shall be continuously cycled ON for 8 min and OFF for 2 min for 7 days while pumping a solution consisting of three times the recommended concentration of the proprietary fluid in water or, for a pump containing only the proprietary fluid during normal operation, the test solution shall consist of 100 % proprietary fluid. The test fluid shall be heated to a temperature of 10 °C (18 °F) above the temperature to which the PFHC is subjected during normal operation,

CLAUSE	VERDICT	COMMENT
		but not less than 70 °C (158 °F). The pump may be tested in its intended position separate from the appliance.
5.21	Info	**Polymeric enclosure parts**
5.21.7	Info	**Abnormal operation – Polymeric enclosure parts**
5.21.7.3		***New clause added;*** If a manual or automatic reset motor-protective device operates during the test, the test shall be continued for four operations (three resets, four trips) of a manual reset protective device or until ultimate results for an automatic reset protective device. The protective device shall then be defeated, except for electronically commutated motors, and the test continued until ultimate results, unless the device consists of one of the following: a) A thermally protected motor or electronically protected motor complying with 4.9.3.2 or 4.9.3.4, respectively. b) An electronic protective control suitable for the horsepower or full-load and locked rotor current of the load controlled complying with 4.11.4. c) An electromechanical temperature-sensitive device, such as a thermostat, with a suitable horsepower rating or full-load and locked rotor current ratings, a minimum endurance level of 6000 cycles, and complying with the requirements for: 1) An automatic or manual reset appliance temperature limiting control in CSA C22.2 No. 24 and UL 60730-2-9; or 2) A thermal cut-out in CSA-E60730-2-9 and UL 60730-2-9. d) A supplementary protector, with a suitable horsepower rating or full-load and locked rotor current ratings and complying with CSA C22.2 No. 235 and UL 1077.
5.21.10	Info	**Thermal aging**
5.21.10.1		A material used for the enclosure or an insulating material supporting, in contact with or close proximity to live parts as specified in 4.8.2 shall be resistant to thermal degradation at the maximum temperature to which it is exposed during normal use of the appliance.
5.32	Info	***New section added;*** **Testing of overmolded pin and sleeve assemblies** Pin and sleeve assemblies as described in 4.5.2.3 and 4.7.5.8 and mounted in their respective appliance housings shall additionally be tested as described in 5.32.2 – 5.32.3. Conditioning of the pin and sleeve assembly shall not cause softening of the material as determined by handling immediately after the conditioning, nor shall there be shrinkage, warpage, or other distortion of the enclosure or damage that results in any of the following: See standard for details.
6	Info	**Double Insulation**

CLAUSE	VERDICT	COMMENT
6.18	Info	**Investigation of armature employing reinforced insulation**
6.18.2		The three samples mentioned in 6.18.1 shall first be conditioned in an oven for 500 h at a temperature of: a) 120 °C (248 °F) for a Class A system; b) 140 °C (284 °F) for a Class B system; c) 175 °C (347 °F) for a Class F system; or d) 200 °C (392 °F) for a Class H system.
7	Info	**Rechargeable Battery-Powered Appliances**
7.1	Info	**General**
7.1.2		In reference to Indent A of Annex D of UL 2595 / CSA C22.2 No. 0.23, except as specified elsewhere in UL 2595 / CSA C22.2 No. 0.23, the following requirements in this end product standard do not apply or are amended as indicated below: a) The clauses specified in Table 7.1 do not apply. b) For 5.18, the compliance criteria is as specified in 17.2 of UL 2595 / CSA C22 No. 0.23. The appliance shall remain energized under maximum normal load during the test by one of the following methods: 1) Using a fully charged battery until the applicable number of cycles is completed; or 2) Using a DC power supply set at the maximum voltage. c) The testing of 5.19 and, for appliances for outdoor use, 5.21.4, applies to the appliance, but the acceptance/compliance criteria of the mechanical strength test in Section 15 of UL 2595 / CSA C22.2 No. 0.23 shall be applied. d) 5.21.3 is applied, but the ball pressure test in 21.2 of UL 2595 / CSA C22.2 No. 0.23 may be used in place of the Mold Stress Test and the compliance criteria for either test is as specified in UL 2595 / CSA C22.2 No. 0.23. e) 5.21.10 is applied, but only in reference to the external temperatures recorded during the heating test of UL 2595 / CSA C22.2 No. 0.23. f) For 8.4.1, the test voltages of 8.16 of UL 2595 / CSA C22.2 No. 0.23 shall be applied. g) For 11.4.7, 11.4.18, 11.4.21, 12.2, and Table 11.1, the marking or instruction requirements that pertain to the risk of electric shock only apply to products operating at hazardous voltages (e.g. Items 1 – 13 and 16). Items related to the risk of fire or explosion (e.g., items 14, 15, and 16 of Table 11.1) shall apply as indicated. h) For 11.4.16 and 11.4.17 and 11.4.18, the statement "Unplug Before Cleaning or Servicing" shall be replaced with "Disconnect Battery Pack Before Cleaning or Servicing", or the equivalent and the battery operated appliance shall incorporate a means for disconnecting the battery(s) without the use of tools. With respect to 11.4.16, an appliance provided with a reliable off position and the power switch is provided with a means to prevent actuation, in order to prevent inadvertent operation during servicing, shall replace the statement “Unplug Before Servicing” by “Engage Power Switch Lock-off Before Servicing” or the equivalent. This

CLAUSE	VERDICT	COMMENT
		marking is not required if the means to prevent actuation of the power switch is self-restoring when the power switch actuator is put into the off position. Note: A switch complying with Section 18 of UL 2595 / CSA C22.2 No. 0.23 or an electronic control with an off condition evaluated as a safety critical function are considered to provide a reliable off position. i) Requirements pertaining to "live" parts or "live" conductors are applicable where failure could result in risk of fire, electric shock, or failure of a safety critical function.
7.1.7		With respect to Indent F of Annex D of UL 2595 / CSA C22.2 No. 0.23, during the abnormal tests of the of Annex D of UL 2595 / CSA C22.2 No. 0.23, the appliance shall be operated with the intake ports uncovered and with no additional mechanical load for those tests where applicable. In addition to the abnormal conditions specified in UL 2595, vacuums with a steam cleaning function, shall also be operated dry continuously with all automatic temperature controls or protective devices shunted out of the circuit, except as specified in 5.2.8.5, until ultimate results. If provided, low water sensing circuits not evaluated as safety critical functions shall also be defeated.
7.1.8		With respect to Indent G of Annex D of UL 2595 / CSA C22.2 No. 0.23, the safety-critical functions (SCFs) identified in Table 7.2 of this end product standard replace those specified in UL 2595 / CSA 22.2 No. 0.23. In addition, all safety critical functions shall be maintained at any operating voltage (including battery low voltage) and meet requirements of 16.15 of UL 2595 / CSA C22.2 No. 0.23.
7.1.12		***New clause added;*** With respect to Indent K of Appendix D of UL 2595 / CSA C22.2 No. 0.23, the conditioning of the appliance with respect to moisture resistance shall be as in 5.12 as applicable, the acceptance criteria of 5.12 being replaced by those specified in 26.3 and 26.4 of UL 2595 / CSA C22.2 No. 0.23. Separable or detachable battery packs for appliances covered by this Standard require no additional testing of the battery pack to liquid ingress other than that which would be experienced in testing as attached to the appliance.
7.2	Info	**Automatic battery-powered floor cleaners**
7.2.3		With respect to Indent A of Appendix D of UL 2595 / CSA C22.2 No. 0.23, in the application of 12.2.6 and 12.2.7 of this end-product standard, an automatic battery-powered floor cleaner shall also be provided with the following cautionary instructions or the equivalent regarding proper room preparation before using the appliance: g) Be aware of the potential trip hazard in the area an automatic floor cleaner is being operated.

CLAUSE	VERDICT	COMMENT
7.2.5		With respect to Indent G of Appendix D of UL 2595 / CSA C22.2 No. 0.23, additional safety-critical functions (SCFs) for automatic battery-powered floor cleaners are in Table 7.3 of this end-product standard. In addition, all safety critical functions shall be maintained at any operating voltage (including battery low voltage) and meet requirements of 16.15 of UL 2595 / CSA C22.2 No. 0.23.
7.2.7 7.2.8 7.2.9 7.2.10 7.2.11 7.2.12 7.2.13 7.2.14 7.2.15 7.2.16 7.2.17 7.2.18 7.2.19 7.2.20 7.2.21		***New clauses added;*** See standard for details.
7.3		***New section added;*** **Calculated energy metho** The impact energy of the automatic battery-powered floor cleaner is calculated as follows: Sew standard for details.
7.4		***New section added;*** **Measurement method** Alternatively to 7.3.1, the impact force shall not exceed the values in 7.4.2 using the method of 7.4.2 and the contact surface shall be designed as in 7.4.5 as to limit the contact pressure. See standard for details.
8	Info	**Current-Carrying Hoses and Accessory Electrified Wall Valves**
8.1	Info	**Scope**
8.1.3		***New clause added;*** These requirements are not applicable for products where failure of the hose insulation does not result in a risk of fire, electric shock or failure of a safety critical function.

CLAUSE	VERDICT	COMMENT
8.2	Info	**Construction – General**
8.2.1		A current-carrying hose, as covered by these requirements, consists of individually insulated copper, copper-clad steel, or steel-reinforced copper conductors that are additionally insulated by the hose structure. The external hose structure shall insulate the conductors from contact by the user. In addition, for wet pick-up current-carrying hoses, the internal hose structure shall insulate the conductors. The conductors may be used for structural support of the hose. However, the grounding conductor need not be individually insulated if separated from current carrying conductors by minimum 0.78 mm (1/32 in) thickness of the hose structure insulation (see 8.18).
8.10	Info	**Limited overcurrent test**
8.10.2		***New clause added;*** The limited overcurrent test is not required on current-carrying hoses with a length equal to or greater than 3 m (10 ft) and a minimum 22 AWG (0.33 mm2) or larger high-line-voltage conductors and a length equal to or greater than 3 m (10 ft) shall be if it is provided with a 7 A fuse rated no more than 7 A in the live ungrounded conductor.
9.7		***New section added;*** **Appliances generating radiated energy other than ultraviolet**
9.7.1		Appliances having a laser generating radiated energy shall comply with Code of Federal Regulations, CFR 21, Part 1040, Chapter 1, Subchapter J in addition to Consolidated Regulations of Canada, CRC C.1370.
9.7.2		Appliances having light sources for illumination purposes shall comply with 6.3 of UL 62841-1 / CSA C22.2 No. 62841-1. This requirement does not apply to light sources for user indication purposes.
11	Info	**Marking**
11.1	Info	**General**
11.1.8		***New clause added;*** The following shall be marked with a distinctive catalog number or the equivalent if packaged and marketed separately from the basic appliance: a) An electrical attachment, b) A non-electrical attachment with air-driven parts or intended for wet pick-up applications on a dry pick-up vacuum cleaner, and c) A proprietary fluid. See 12.7 as it relates to cleaning fluid designations.

CLAUSE	VERDICT	COMMENT
11.3	Info	**Details**
11.3.15		***New clause added;*** For appliances with a GFCI, the following statement, or equivalent, shall be included as a marking near the GFCI, or as an instruction in the manual: "Press the TEST button (then RESET button) every month to assure proper operation."
11.4	Info	**Cautionary**
11.4.33		Vacuum cleaners intended for R/V or marine vessel installation shall be marked in an area that is visible prior to installation with the following or equivalent wording: WARNING – To Reduce the Risk of Fire – Do not install in any area where explosive vapors or fumes might be present or in areas requiring ignition protection".
11.4.34		***New clause added;*** An ash vacuum cleaner as described in 3.9 shall be marked with the following or equivalent: "WARNING – To reduce the risk of fire or heat damage – Do not place the dust container on flammable or polymeric surfaces, including carpeting and vinyl tile. The dust container must be cleaned and emptied before and after each use.
12	Info	**Instruction Manual**
12.1	Info	**General**
12.1.3		***New clause added;*** The instructions shall indicate if the appliance is a utility vacuum cleaner.
12.1.6		***New clause added;*** The instructions and warning statements required by 12.1 – 12.7 shall be provided in an instruction sheet, manual, booklet, or similar printed material and shall be repeated in electronic media instructions if provided. All other instructions may be provided in electronic format.
12.2	Info	**Instructions pertaining to a risk of fire, electric shock, or injury to persons**
12.2.7		The following instructions shall be included in the list of items in addition to the items in 12.2.6 for the appliances indicated. When more than one item applies to the appliance, all applicable items for the appliance type shall be included: h) For an electrified wall valve: 1) For a wall valve as described in 8.2.6, "Connect only (hose manufacturer's name) current-carrying hose, Cat. No. __ to this wall valve." For other wall valves, "Connect only a Type A current-carrying hose to this wall valve." 2) "Do not install a wall valve outdoors." 3) "Do not use with a damaged hose. Return hose to a service center." 4) "To unplug, grasp, and pull on the hose connection. Do not unplug by pulling on the hose."

CLAUSE	VERDICT	COMMENT
		5) "Do not handle the hose or hose connector with wet hands." o) For an ash vacuum cleaner: 1) “This appliance is intended to pick up of cold ash from fireplaces, chimneys, ovens, ashtrays, and similar places of ash accumulation.” 2) “Do not pick up hot, glowing or burning ash. Pick up cold ash only.” 3) “The dust container must be emptied and cleaned before and after each use.” 4) “Do not use paper dust bags when picking up ash.” “Do not rest the ash vacuum cleaner on flammable or polymeric surfaces, including carpeting and vinyl tile.”