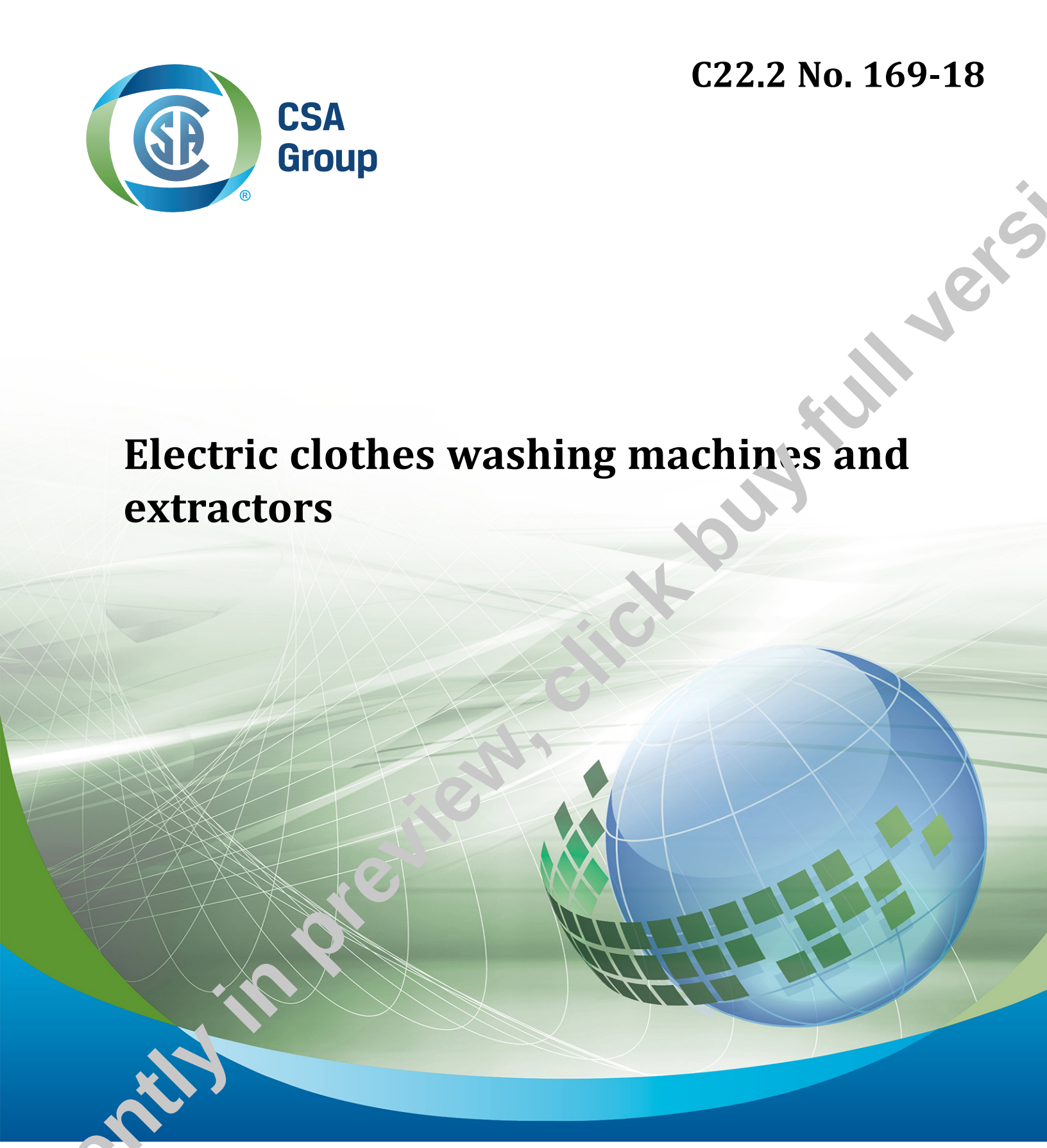
C22.2 No. 169-18

CSA Group

Electric clothes washing machines and extractors



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Revision History

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Update No. 1 — September 2019	**Revision symbol (in margin)**
Cover, copyright page, Preface, Clauses 14.6.4 and 26.1.4, and Tables 8 and 9 • Update your copy by inserting these revised pages. • Keep the pages you remove for reference.	|

Standard for Safety for Electric Clothes Washing Machines and Extractors

5th Edition, Dated May 28, 2018

Summary of Topics

This revision September 20, 2019 is being issued to incorporate several miscellaneous corrections.

No Text on This Page

CSA Group
CSA C22.2 No. 169-18
Fifth Edition

Underwriters Laboratories Inc.
UL 2157
Fourth Edition

Electric Clothes Washing Machines and Extractors

May 28, 2018

(Title Page Reprinted: September 20, 2019)

ANSI/UL 2157-2019

Commitment for Amendments

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This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through September 20, 2019. The most recent designation of ANSI/UL 2157 as an American National Standard (ANSI) occurred on September 20, 2019. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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PREFACE

This is the harmonized CSA Group and UL Standard for Electric Clothes Washing Machines and Extractors. It is the fifth edition of CSA C22.2 No. 169, and the fourth edition of UL 2157. This edition of CSA C22.2 No. 169 supersedes the previous edition published in 2015. This edition of UL 2157 supersedes the previous edition published in 2015. This harmonized standard has been jointly revised on September 20, 2019. For this purpose, CSA Group and UL are issuing revision pages dated September 20, 2019.

The major differences between this edition and the previous edition include the clarification of the risk of electrical shock and fire definitions and the revision of requirements for instruction manual, operating instructions, protection against accessibility to current-carrying parts, power input and current heating test, electric strength test, abnormal operation test, polymeric materials. The new edition also incorporates the new requirements for nichrome wire test, glass loading doors and lids, endurance test for pedestral wire flexing, botton or coin cell batteries of lithium techniologies and plumbing requirements for household laundry equipment.

This harmonized standard was prepared by the CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee for Laundry Standards and Association of Home Appliance Manufacturers (AHAM) are gratefully acknowledged.

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

This standard was reviewed by the CSA Subcommittee on Clothes Washers - Household and Commercial, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products, and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

Level of Harmonization

This standard is published as an identical standard for CSA Group and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

Reasons for Differences From IEC

This standard provides requirements for electric clothes washing machines and extractors for use in accordance with the electrical installation codes of Canada and the United States. This standard does not employ any IEC standard for base requirements

14.3.4 The vessel mentioned in Clause 14.3.3 shall be flat-bottomed, be of any convenient dimensions, and have a 1.6 mm diameter hole in the bottom. A tube of rubber or similar flexible material shall be attached to the bottom of the vessel beneath the hole. The tube shall have an inside diameter of 9.5 mm, and shall be of whatever length is necessary for conditioning as described.

14.3.5 To determine whether the appliance complies with the requirements in Clause 14.3.1 with respect to the malfunction of the timer switch or a float or a pressure-operated switch or other devices, the appliance shall be operated through one complete cycle of normal operation. The timer switch shall then be defeated and 5 g of a low-sudsing-type detergent shall be added per litre of water in the appliance at the highest level of fill during normal operation. The appliance shall be operated in the intended manner. If a means is not provided to preclude overfilling of the appliance, the fill shall be continued for an additional 15 min following the first evidence of overflow from the tub. If a second device is provided to preclude overfilling, the actuation of this device shall terminate the test. If both a timer and fill switch are provided, a second test shall be conducted as described above, with the timer operating normally and with the fill switch defeated.

14.3.6 For vertical axis spin extractors, the water outlet shall be obstructed and the container loaded with a saturated normal load. A quantity of 0.25 L of water shall then be added and the motor switched ON for 1 min.

14.3.7 Spin extractors intended for rinsing shall be tested with an additional 10 L of water poured into the clothes container within 20 s while the container is spinning, and a further 10 L while the extractor is standing still.

14.4 Oversudsing

14.4.1 To determine whether an appliance complies with the requirements in Clause 14.3.1, the appliance shall be levelled prior to the test and shall be operated through one complete cycle of normal operation. This shall be followed by an additional cycle, with the selector switches set to give the maximum flow of water at the maximum temperature. A high-sudsing detergent shall be gradually added during the fill portion of the cycle, or during the first 3 min of agitation, in whatever amount is required to result in oversudsing. Oversudsing is considered to occur when the suds overflow the stationary tub, if possible, or come up and out of the loading opening or any other opening.

14.5 Auxiliary reservoirs

14.5.1 Liquid overflowing from an auxiliary reservoir (such as a reservoir for bleach, rinse additive, or cleaning agent) shall not wet uninsulated current-carrying parts or film-coated wire, and shall not wet electrical insulation that might be adversely affected by the liquid normally used in the reservoir.

14.5.2 To determine whether an appliance complies with the requirement in Clause 14.5.1, water shall be poured into the reservoir through an orifice 9.5 mm in diameter. The reservoir shall be filled to the level recommended by the manufacturer, if such level is plainly marked; otherwise, the reservoir shall be filled to maximum capacity. Additional water, equal to 50% of the volume just mentioned, but not more than 0.47 L, shall then be poured into the reservoir. Ordinarily, determination of whether uninsulated current-carrying parts have become wet as a result of the overflow shall be by means of visual inspection, but this may be supplemented by an insulation-resistance test, an electric strength test, or both, if necessary.

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.

14.6.2 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.

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).

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 Clause 14.3.2.

14.7 Nichrome wire test

14.7.1 If specified by Clause 26.6.3.2(b), an electrical connection shall be tested as specified in Clauses 14.7.2 to 14.7.10. Each connection shall be evaluated using one connector sample. Multiple connections may be independently evaluated within the same appliance if they are located such that they do not influence the outcome or evaluation of the test. As a result of the test, there shall be no evidence of ignition of the cheesecloth referenced in Clause 14.7.4 as indicated by broken threads of the cheesecloth. Browning of the cheesecloth is acceptable provided that all individual threads are unbroken.

Note: Cheesecloth fibres may become brittle after exposed to heat. Care should be taken to prevent breakage of fibres during inspection. Fibres broken during inspection are not considered as a non-compliance.

14.7.2 The test shall be considered inconclusive and then repeated if there is evidence of:

a) fracture or shorting of the nichrome wire prior to completion of the test; or

b) a shift in the position of the nichrome wire sufficient to alter the severity of the test.

Note 1: In certain instances in which the oxidation of iron or steel resulting from the exposure of the metal to air and moisture is not likely to be appreciable and the thickness of metal and temperature are also factors, surfaces of sheet-steel and cast-iron parts within an enclosure, there could be instances where protection against corrosion is not required.

Note 2: Bearings, laminations, or minor parts of iron or steel, such as washers, screws, or the like, need not be protected against corrosion.

25.2 If deterioration or breakage of a liquid container provided as a part of an appliance would result in a risk of fire, electric shock, or injury to persons, the container shall be of a material that is resistant to corrosion by the liquid intended to be contained.

26 Polymeric materials

26.1 General

26.1.1 The requirements of Clause 26 apply to polymeric materials, including thermoset materials, used as enclosures, functional polymeric parts, decorative parts, nonfunctional polymeric parts, or liquid containers.

26.1.2 Some tests may be eliminated or modified if specimen testing as part of a previous test program indicates that the polymeric material is acceptable for the properties being investigated.

26.1.3 The tests that may be conducted are identified in Table 8. Table 9 specifies the tests applicable to the polymeric part being evaluated. Table 10 specifies the tests applicable to a polymeric part that is subjected to a solution or solution vapour.

26.1.4 Polymeric material employed to support a live part, in direct contact with a live part, or in the vicinity of a live part, as noted below, shall be rated for use at the operating temperature involved and shall have the following material properties determined in accordance with CAN/CSA C22.2 No. 0.17 and UL 746C:

a) volume resistivity of at least 50×10^6 ohm-cm:

Note 1: This volume resistivity requirement is applicable to polymeric materials that serve as insulation between uninsulated live parts of opposite polarity, or between uninsulated live parts and (1) dead metal parts that may be grounded in service or (2) any surface exposed to user contact.

Note 2: In lieu of volume resistivity requirement the leakage current test of Clause 10 may be conducted to determine compliance.

b) comparative tracking index (CTI) of at least 175 volts (PLC 3 – see note (a) of Table 13) for a moderately contaminate environment; and

Note 1: This CTI requirement is applicable when the polymeric material surface is:

1) in contact with uninsulated live parts of opposite polarity that are spaced less than 12.7 mm (over surface), or in contact with an uninsulated live part that is spaced less than 12.7 mm (over surface) from either a dead metal part that may be grounded in service or any surface exposed to user contact;

2) located less than 0.8 mm (through air) from an uninsulated live part; or

3) located less than 0.8 mm (through air) from uninsulated live parts of opposite polarity that are spaced less than 12.7 mm (over surface) or an uninsulated live part that is spaced less than 12.7 mm (over surface), from either a dead metal part that may be grounded in service or any surface exposed to user contact.

Note 2: See C22.2 No.0.17 Clause 6.5 or UL 746C, Figure 6.1, examples 2, 3, and 4, if additional clarification is needed.

c) a high current arc ignition (HAI) and hot-wire ignition (HWI) as specified in Table 13.

Note 1: The HAI requirement is applicable for a polymeric material that is in contact with uninsulated live parts; or within 0.8 mm from a non-arcing uninsulated live part, or within 12.7 mm from an arcing uninsulated live part).

Note 2: The HWI requirement is applicable to a polymeric material that is in contact with, or within 0.8 mm from an uninsulated live part.

26.1.5 In reference to Clause 26.1.4, the high current arc ignition of a material need not be evaluated as specified in Clause 26.1.4(c) when:

a) the spacing over the surface of the material is at least 12.7 mm between:

i) live parts of opposite polarity; and

ii) live parts and grounded noncurrent-carrying metal;

b) the material is evaluated by conducting the end-product arc resistance test of UL 746C using the power (current, voltage and power factor) of the circuit in the washer; or

c) the live parts are part of a low power circuit, where the maximum power available does not exceed 15 W.

26.1.6 In reference to Clause 26.1.4, the hot wire ignition of a material need not be evaluated as specified in Clause 26.1.4(c) when:

a) the material is evaluated by conducting the abnormal overload test or end-product glow-wire test of UL 746C; or

b) the live parts are part of a low power circuit, where the maximum power available does not exceed 15 W.

26.1.7 In reference to Clause 26.1.4, foamed thermoplastic material employed for sound reduction that is in direct contact with an uninsulated live part or is within 0.8 mm of an uninsulated live part shall be rated HF-1 and is not required to be evaluated for CTI, HWI, and HAI.

26.1.8 With respect to Clause 26.1.4(b), if suitable measures are taken to protect the environment from contamination, the material shall have a comparative tracking index of at least 100 V (PLC 4) for a relatively clean environment.

Table 4
Sizes of flat surfaces surrounding connection openings

(See Clause 20.2.7.)

Nominal diameter of opening, mm	Corresponding conduit trade size, in	Minimum width of surrounding flat surface, mm
22.23	1/2	3.38
28.17	3/4	3.96
34.93	1	5.03

Table 5
Minimum acceptable size of bonding conductor on an appliance intended to be permanently connected to the power supply

(See Clause 22.2.9.)

Rating of branch-circuit overcurrent device to which appliance will be connected, A	Size of bonding conductor, AWG (mm^2)[a]	
	Copper wire	Aluminum wire
15	14 (2.1)	12 (3.3)
20	12 (3.3)	10 (5.3)
30	10 (5.3)	8 (8.4)
40	10 (5.3)	8 (8.4)
60	10 (5.3)	8 (8.4)

[a] Or equivalent cross-sectional area.

Table 6
Duration of overcurrent test

(See Clauses 22.2.11 and 22.2.12.)

Rating or setting of branch-circuit overcurrent-protective device, A	Test time, min
≤ 30	4
> 30 ≤ 60	6
> 60 ≤ 100	8
> 100 ≤ 200	10

Table 7
Minimum spacings

(See Clauses 24.1.1, 24.1.3, 24.1.5, 26.4.1, 26.7.1, 26.8.1, 26.9.1, and 26.13.1.)

Spacing involved	Spacings, mm			
	≤ 300 V		> 300 ≤ 600 V	
	Through air	Over surface	Through air	Over surface
a) At field wiring terminals[a] between current-carrying parts				
1) of opposite polarity and between current-carrying parts and non-current-carrying metal parts other than the enclosure	6.3	9.5	9.5	12.5
2) and the enclosure	12.5	12.5	12.5	12.5
b) At points other than field wiring terminals and closed-in points between current-carrying parts				
1) of opposite polarity and between current-carrying parts and non-current-carrying metal parts other than enclosures	1.6	1.6	6.3	6.3
2) and the enclosure	6.3	6.3	12.5	12.5
c) At closed-in points, such as screw-and- washer construction of an insulated terminal mounted in metal between current-carrying parts and non-current-carrying metal parts	1.6	1.6	2.4	2.4

[a] These spacings do not apply to connecting straps or buses extending away from wiring terminals. Such spacings are investigated under the requirements of (b) of this Table.

Table 8
Polymeric materials test summary

(See Clause 26.1.3.)

Test No.	Test
1	Long-term exposure tests, Clause 26.2.
2	Immersion test No. 1 (1 000 h, dilute solution), Clause 26.3.
3	Immersion test No. 2 (1 000 h, 100% solution), Clause 26.3.
4	Immersion test No. 3 (168 h, dilute solution), Clause 26.3.
5	Mould stress-relief test (7 h), Clause 26.4.
6	Horizontal burning rate test, Clause 26.5.
7	Flammability test, Clause 26.6.
8	6.8 J impact test (ambient and low temperature), Clause 26.7.
9	Static load test (890 N), Clause 26.8.
10	56.7 J impact test, Clause 26.9.
11	Thermal cycling test, Clause 26.10.
12	Hot-wire-ignition test, Clause 26.11.
13	Thermal ageing test, Clause 26.12.
14	Volume resistivity test, Clause 26.13.
15	Enclosure flammability - large mass consideration, Clause 26.14.
16	Abnormal operation test on enclosures, Clause 26.15.
17	Abnormal operation test on functional polymeric parts, Clause 26.16.
18	Abnormal operation test on parts wetted only during an abnormal condition, Clause 26.17.
19	High-current arc-ignition test, Clause 26.18.

Table 9
Tests on a polymeric part

(See Clause 26.1.3.)

Group[a]	Description	Applicable test number[b]
1	A decorative or nonfunctional part	6, 15[c]
2	A functional polymeric part subjected to a temperature of not more than 65°C and not subjected to impact	5, 6, 15[c], 17
3	A functional polymeric part subjected to a temperature of not more than 65°C and subjected to impact	5, 6, 8, 9[e], 10[e], 15[c], 17
4	A functional polymeric part subjected to a temperature of more than 65°C and not subjected to impact	5, 6, 13[i], 15[c], 17
5	A functional polymeric part subjected to a temperature of more than 65°C and subjected to impact	5, 6, 8, 9[e], 10[e], 13[i], 15[c], 17
6	A part serving as an enclosure or supplementary enclosure and subjected to a temperature of not more than 65°C	5, 7[f,h], 8, 9[e], 10[e], 12, 15[c], 16
7	A part serving as an enclosure or supplementary enclosure and subjected to a temperature of more than 65°C	5, 7[f,h], 8, 9[e], 10[e], 12, 13[i], 15[c]
8	A part spaced less than the distances specified in Clause 26.1.4 (b and c) [j]	14, 19[g]

[a] If a polymeric part falls into more than one test group, separate samples shall be subjected to the tests required for each group.

[b] These requirements do not fully cover a plated plastic part if loss of bond strength between the plastic substrate and the metal coating could result in a reduction of electrical spacings, reduction in mechanical strength, or reduction in resistance to flammability. A plated plastic part shall be the subject of a separate investigation.

[c] These tests do not apply to an appliance readily movable from one place to another.

[d] This test shall be conducted only on an external part having a dimension greater than 1.83 m or a projected surface area greater than 0.93 m^2

[e] This test may be waived for a console.

[f] An enclosure provided with a liner of vulcanized fibre, metal foil, or other material intended to reduce the flammability of the enclosure shall be tested with the liner in place, and the flame shall be applied to the liner.

[g] Additional consideration shall be given to an appliance protected by an overcurrent device rated more than 30 A.

[h] Wash-water tubs need only comply with Test No. 6 if the material for the lid complies with Test No. 7. A lid need only comply with Test No. 6 if the material of the wash-water tub complies with Test No. 7.

[i] Material used within its temperature index based on historical data or a long-term thermal ageing programme need not be subjected to Test No. 13.

[j] See also 26.1.4.

Table 10
Additional tests on a polymeric part subjected to wash-water, wash-water vapour, concentrated detergent, or other solutions

(See Clauses 26.1.3 and 26.3.1.)

Group[a]	Description	Applicable test number[b,c]
A	A part that serves as a wash-water tub	1
B[d]	A part that serves as a wash-water carrier, hose fitting, sump, pump drain valve, diverter valve, or the like	2, 11
C	A part, such as a dispenser, subjected to concentrated detergents or other solutions	3, 11
D	A part subjected to casual splashing of water or vapour or a part subjected to wash water or vapour during intended operating conditions	4
E	A part subjected to wetting only during an abnormal condition, such as flooding or oversudsing	19

Table 10 Continued on Next Page

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Table 10 Continued

Group[a]	Description	Applicable test number[b,c]
[a] If a polymeric part falls into more than one test group, a separate sample shall be subjected to the test required for each group. [b] These requirements do not fully cover a plated plastic part if loss of bond strength between the plastic substrate and the metal coating may result in a reduction of electrical spacings, reduction in mechanical strength, or reduction in resistance to flammability. A plated plastic part shall be the subject of a separate investigation. [c] A complete assembly, consisting of the part to be evaluated and associated fittings, could be required to be tested to evaluate resistance to liquid leakage. [d] Tests for this group may be omitted if the long-term exposure test, Clause 26.2, is conducted.		

Table 11
Temperatures for oven conditioning

(See Clause 26.12.2.)

Maximum operating temperature of polymeric enclosure part, °C	Oven temperature, °C
> 65 ≤ 75	85
> 75 ≤ 85	95
> 85 ≤ 95	105
> 95	[a]
[a] A polymeric part subjected to a temperature higher than 95°C shall have a temperature index, based on historical data or a long-term thermal ageing program, that indicates its acceptability for use at the temperature involved. This part shall be the subject of a separate investigation.	

Table 12
Production line test conditions

(See Clauses 27.3.2 and 27.3.5.)

Appliance rating, V	Condition A			Condition B		
	Potential, V		Time, s	Potential, V		Time, s
	AC	DC		AC	DC	
≤ 250	1 000	1400	60	1200	1700	1
> 250 ≤ 600	1 000 + 2V	1400 + 2.8V	60	1200 + 2.4V	1700 + 3.4V	1
V = maximum marked voltage.						

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This ANSI/UL Standard for Safety consists of the Fourth Edition. The most recent designation of ANSI/UL 2157 as an American National Standard (ANSI) occurred on May 28, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com.

To purchase UL Standards, visit UL's Standards Sales Site at http://www.shopulstandards.com/HowToOrder.aspx or call toll-free 1-888-853-3503.

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INTRODUCTION

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PREFACE

This is the harmonized CSA Group and UL Standard for Electric Clothes Washing Machines and Extractors. It is the fifth edition of CSA C22.2 No. 169, and the fourth edition of UL 2157. This edition of CSA C22.2 No. 169 supersedes the previous edition published in 2015. This edition of UL 2157 supersedes the previous edition published in 2015.

The major differences between this edition and the previous edition include the clarification of the risk of electrical shock and fire definitions and the revision of requirements for instruction manual, operating instructions, protection against accessibility to current-carrying parts, power input and current, heating test, electric strength test, abnormal operation test, polymeric materials. The new edition also incorporates the new requirements for nichrome wire test, glass loading doors and lids, endurance test for pedestral wire flexing, botton or coin cell batteries of lithium techniologies and plumbing requirements for household laundry equipment.

This harmonized standard was prepared by the CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee for Laundry Standards and Association of Home Appliance Manufacturers (AHAM) are gratefully acknowledged.

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

This standard was reviewed by the CSA Subcommittee on Clothes Washers - Household and Commercial, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products, and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

This standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

> **Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.**

Level of Harmonization

This standard is published as an identical standard for CSA Group and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

Reasons for Differences From IEC

This standard provides requirements for electric clothes washing machines and extractors for use in accordance with the electrical installation codes of Canada and the United States. This standard does not employ any IEC standard for base requirements

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

1 Scope

1.1 This Standard applies to electric clothes washing machines and extractors intended to be used in nonhazardous locations in accordance with the Canadian Electrical Code, Part I (CE Code), and the (U.S.) National Electrical Code (NEC), on circuits having a nominal voltage not exceeding 600 V.

Note: Wherever practical, for convenience, the term "appliance" has been used in lieu of "clothes washer "or "machine".

1.2 This Standard applies to both cord-connected and permanently connected appliances. The appliances covered by this Standard are intended for use by the general public not specifically trained in the use of the appliance, regardless of the mode by which its operation is initiated. They are for use in household and commercial purposes, including appliances provided with coin-, ticket-, or card-operated mechanisms, wringer washers, tumbler, agitator and spinner machines, combination washer-dryers, and extractors of the centrifugal type.

1.3 This Standard does not apply to industrial and institutional type appliances. Industrial or institutional appliances are covered under the scope of Electric Washing Machines, CSA C22.2 No. 53, or Electric Commercial Clothes-Washing Equipment, UL 1206.

Note: Industrial and institutional type appliances are not intended for use by the general public, but only by trained or supervised personnel.

2 Definitions

Note: For the purpose of this Standard, the following definitions apply.

2.1 APPLIANCE, CORD-CONNECTED – an appliance that is connected to the electrical supply by a cord set or by a power-supply cord terminating in an acceptable attachment plug.

2.2 APPLIANCE, HOUSEHOLD TYPE – an appliance commonly used in, but not restricted to, a single-family dwelling.

2.3 APPLIANCE, PERMANENTLY CONNECTED – an appliance that is connected to the electrical supply by means other than a supply cord and an attachment plug.

2.4 APPLIANCE, RECESSED – an appliance intended to be:

a) supported by the floor; and

b) located immediately adjacent to a wall in the rear or located immediately adjacent to a wall, a cabinet, or another appliance on each side.

If the construction permits, a countertop can cover the appliance and adjacent cabinets and appliances. A recessed appliance is not intended for permanent attachment to the building structure or to adjacent cabinets or appliances.