

Standard Information

Standard Number: UL 621

Standard Name: Ice Cream Makers

Standard Edition and Issue Date: 7th Edition Dated May 7, 2010

Date of Revision: December 11, 2015

Date of Previous Revision of Standard: 7th Edition Dated October 25, 2013

Effective Date of New/Revised Requirements

Effective Date: February 28, 2018

Impact, Overview, and Action Required

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes:

- Revisions for general requirements regarding components
- Revisions for specific requirements regarding components
- Revisions for requirements regarding refrigerant tubing
- Revisions to incorporate operating control, protective control parameter, and safety critical function requirements
- Revisions for motor and motor overload protection requirements
- Miscellaneous revisions including updated standard references, thermal equilibrium requirements, clarification of Table 31.2, and removal of R-22 references

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

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



Standards Update Notice (SUN)

Issued: March 2, 2017

Description of New/Revised Technical Requirements

Clause	Verdict	Comment
4	Info	Construction (General)
4.3		<p><i>New general requirements added for components;</i></p> <p>A component shall:</p> <ul style="list-style-type: none"> a) Comply with the safety standard covering that component; b) Be used in accordance with its rating(s) established for the intended conditions of use; c) Be used within its established use limitations or conditions of acceptability; d) Comply with the applicable requirements of this end product standard; and e) Not contain mercury. <p>Exception: A component of a product covered by this standard is not required to comply with a specific component requirement that:</p> <ul style="list-style-type: none"> a) Involves a feature or characteristic not required in the application of the component in the product, or b) Is superseded by a requirement in this standard, or c) Is separately investigated when forming part of another component, provided the component is used within its established ratings and limitations.
4.4		<p><i>New general requirements added for components that perform necessary functions;</i></p> <p>A component that is also required to perform other necessary functions, such as overcurrent protection, ground-fault circuit interruption, surge suppression, any other similar functions, or any combination thereof, shall comply additionally with the requirements of the applicable standard(s) covering products that provide those functions.</p> <p>Exception: Where these other functions are not required for the application and not identified as part of markings, instructions, or packaging for the appliance, the additional component standard(s) need not be applied.</p>
5	Info	Assembly
5.2	Info	Pressurized product system
5.2.4		<p><i>Added requirement for pressure relief devices in pressurized product system;</i></p> <p>Pressure relief devices in a pressurized product system shall be positioned, located, or baffled so that moisture discharged through the relief device will not wet uninsulated live parts.</p>
16	Info	Insulating Material
16.2		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i></p> <p>Vulcanized fiber may be used for insulating bushings, washers, separators, and barriers, but not as the sole support for uninsulated live parts where shrinkage, current leakage, or warpage may introduce a risk of fire or electric shock. Polymeric materials may be used for the sole support of uninsulated live parts <u>if found to have acceptable mechanical strength and rigidity, resistance to heat, flame resistance, dielectric voltage withstand, and other factors involved with conditions of intended service. All of these factors are to be considered with respect to thermal aging shall comply with the requirements used as direct support of live parts in the Standard for Polymeric Materials – Use In Electrical Equipment Evaluations, UL 746C.</u></p>



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16.3		<p><i>New clause added covering insulating tape;</i></p> <p>Insulating tape required for compliance with this standard shall comply with the Standard for Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape, UL 510.</p>
16.4		<p><i>New clause added covering insulating sleeving;</i></p> <p>Insulating sleeving required for compliance with this standard shall comply with the Standard for Coated Electrical Sleeving, UL 1441.</p>
16.5		<p><i>New clause added covering extruded insulating tubing;</i></p> <p>Insulating tubing required for compliance with this standard shall comply with the Standard for Extruded Insulating Tubing, UL 224.</p>
16.6		<p><i>New clause added covering film-coated wire;</i></p> <p>Film-coated wire or materials used in an insulation system that operates above Class 105 (Class A) temperatures shall comply with the Standard for Systems of Insulating Materials – General, UL 1446.</p>
17	Info	<p>Switches and Controllers</p>
17.22		<p><i>New clause added covering requirements for controls;</i></p> <p>Controls shall comply with one of the appropriate standards in Table 17.2 for its inherent safety under the specified parameters/conditions noted in Table 17.3.</p> <p>Exception: An electronic operating control (e.g. a non-protective control), the failure of which would not increase the risk of electric shock, fire, or personal injury, are not required to meet the component control requirements of Clause 17.22, but need only be subjected to the following applicable requirements of this end product standard:</p> <ul style="list-style-type: none"> a) Components (4.3, 4.4) b) Quick-Connects (11.4.7 – 11.4.9) c) Wiring (11) d) Secondary Circuits (12) e) Separation of Circuits (13) f) Current Carrying Parts (15) g) Insulating Material (16) h) Spacings (29 – 31) i) Printed Wiring Boards (26F) j) Temperature Test (43) k) Dielectric Withstand Test (44) l) Component Failure Test (63A).

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Clause	Verdict	Comment
17.23		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i></p> <p>Unless specified elsewhere in this standard, protective (safety) controls, such as temperature and pressure limiting controls, shall comply with one of the following standards: <u>protective (safety) controls where the control functions are being relied upon to reduce the risk of fire, electric shock or personal injury during abnormal operation of the equipment shall additionally comply with one of the appropriate standards in Table 17.4 using the specified functional safety test parameters/conditions.</u></p> <p>a) Standard for Temperature Indicating and Regulating Equipment, UL 873. When the control is electronic in nature, the requirements of the Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991, shall be applied;</p> <p>b) Standard for Limit Controls, UL 353;</p> <p>e) Standard for Automatic Electrical Controls for Household and Similar Use, Part 1; General Requirements, UL 60730-1 and the specific applicable Part 2 Standard.</p> <p>Calibration requirements are to be applied to protective controls. For example, a control evaluated to UL 60730-1 shall have Type 2 Action.</p>
17.24		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i></p> <p>With regards to 17.23, automatic reset protective (safety) controls shall withstand 100,000 cycles under load. Manual reset protective (safety) controls shall withstand 6000 cycles; 1000 cycles with current and 5000 cycles without current. <u>the protective (safety) functions shall be as noted in Table 17.5, unless otherwise specified.</u></p> <p>Exception: Endurance cycling requirements for compressor and motor protectors are specified in the appropriate compressor or motor standard. See Section 19.</p>
20	Info	Fuseholders
20.1		<p><i>New clause added covering new Fuseholder requirements;</i></p> <p>Fuseholders shall comply with the Standard for Fuseholders – Part 1: General Requirements, UL 4248-1, in conjunction with any of the associated Standards tabulated below, as applicable for the class of fuseholder:</p> <p>a) Standard for Fuseholders – Part 4: Class CC, UL 4248-4; or</p> <p>b) Standard for Fuseholders – Part 5: Class G, UL 4248-5; or</p> <p>c) Standard for Fuseholders – Part 8: Class J, UL 4248-8; or</p> <p>d) Standard for Fuseholders – Part 9: Class K, UL 4248-9; or</p> <p>e) Standard for Fuseholders – Part 11: Class C (Edison Base) and Type S Plug Fuse, UL 4248-11; or</p> <p>f) Standard for Fuseholders – Part 12: Class R, UL 4248-12; or</p> <p>g) Standard for Fuseholders – Part 15: Class T, UL 4248-15.</p>
20A		<p><i>New section added covering requirements for fuses, circuit breakers, and supplementary protectors</i></p> <p>Fuses, Circuit Breakers, and Supplementary Protectors</p>

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20A.1		<p>Unless otherwise specified, fuses shall comply with the Standard for Low-Voltage Fuses – Part 1: General Requirements, UL 248-1, in conjunction with any of the associated standards tabulated below, as applicable for the class of fuse:</p> <ul style="list-style-type: none"> a) Standard for Low-Voltage Fuses – Part 4: Class CC, UL 248-4; or b) Standard for Low-Voltage Fuses – Part 5: Class G, UL 248-5; or c) Standard for Low-Voltage Fuses – Part 8: Class J, UL 248-8; or d) Standard for Low-Voltage Fuses – Part 9: Class K, UL 248-9; or e) Standard for Low-Voltage Fuses – Part 11: Class C (Edison Base) and Type S Plug Fuse, UL 248-10; or f) Standard for Low-Voltage Fuses – Part 12: Class R, UL 248-11; or g) Standard for Low-Voltage Fuses – Part 15: Class T, UL 248-12. h) Standard for Low-Voltage Fuses – Part 15: Class T, UL 248-15.
20A.2		If a supplementary fuse is permitted in accordance with the requirements in this Standard, such a fuse shall comply with the Standard for Low-Voltage Fuses – Part 1: General Requirements, UL 248-1, in conjunction with the Standard for Low-Voltage Fuses – Part 14: Supplemental Fuses, UL 248-14.
20A.3		Circuit breakers shall comply with the Standard for Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures, UL 489. In addition, circuit breakers used in telecommunications circuitry shall comply with the Standard for Circuit Breakers For Use in Communications Equipment, UL 489A.
20A.4		Circuit breakers used to protect circuits having more than one ungrounded conductor and no grounded neutral shall be of the multipole common trip type arranged to open all ungrounded conductors. The use of external handle ties does not in itself constitute a common trip mechanism.
20A.5		Supplementary Protectors shall comply with the Standard for Supplementary Protectors for Use in Electrical Equipment, UL 1077.
20A.6		A supplementary protector shall not be used in place of a circuit breaker or protective control.
22	Info	Receptacles
22.1		<p><i>New clause added covering receptacles;</i></p> <p>Receptacles shall comply with the Standard for Attachment Plugs and Receptacles, UL 498.</p>
25	Info	Valves And Solenoids
25.1		<p><i>New clause added covering valves and solenoids;</i></p> <p>Electrically operated valves shall comply with the:</p> <ul style="list-style-type: none"> a) Standard for Electrically Operated Valves, UL 429; or b) Standard for Automatic Electrical Controls for Household and Similar Use; Part 1: General Requirements, UL 60730-1; and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Electrically Operated Water Valves, Including Mechanical Requirements, UL 60730-2-8 or c) Paragraphs 25.1.1 – 25.4.
26	Info	Capacitors
26.0		<p><i>New clause added covering motor capacitors;</i></p> <p>Motor Capacitors shall comply with the Standard for Capacitors, UL 810 or shall comply with 26.1 – 26.3.</p>

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26.1.0		<i>New clause added covering capacitors;</i> Capacitors shall comply with the Standard for Capacitors, UL 810 or shall comply with 26.1 – 26.4.
26.4		<i>New clause added;</i> Capacitors intended for connection directly across the line shall comply with the requirements of the Standard for Capacitors and Suppressors for Radio- and Television-Type Appliances, UL 1414 or the Standard for Fixed Capacitors for Use in Electronic Equipment, UL 60384-14.
26.5		<i>New clause added;</i> In reference to 26.4, if a capacitor complies with the Standard for Fixed Capacitors for Use in Electronic Equipment, UL 60384-14, it shall have specifications as follows: <ul style="list-style-type: none"> a) Operating voltage – Not less than 110 percent of the rated voltage of the appliance. b) For capacitors connected across the line (phase-to-phase) – Subclass X1 (≤ 4.0 kV) or X2 (≤ 2.5 kV) for impulse voltage (based on minimum Overvoltage Category of II). c) For capacitors connected from line to ground – Subclass Y1 or Y2 for any appliance having a rated voltage not exceeding 500 volts; or as an alternate, subclass Y4 if the appliance has a rated voltage not exceeding 150 volts. d) Upper category temperature – Based on the maximum capacitor surface temperature measured during the Temperature Test in Section 43, but not less than 185°F (85°C). e) Lower category temperature – Based on the minimum surface temperature for which the capacitor has been designed to operate when installed within the appliance as intended, but not greater than 14°F (minus 10°C). f) Duration of the damp-heat steady-state test – Not less than 21 days. g) Passive flammability category B or C. As an alternate, a polymeric capacitor case shall have a V-0 flame rating as described in the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94.
26A		<i>New section added;</i> Outlet Boxes, Electrical Cable, Conduit and Tubing
26A.1		Outlet boxes shall comply with the Standard for Metallic Outlet Boxes, UL 514A or the Standard for Nonmetallic Outlet Boxes, Flush Device Boxes, and Covers, UL 514C. Fittings shall comply with the Standard for Conduit, Tubing, and Cable Fittings, UL 514B. Cover plates shall comply with the Standard for Cover Plates for Flush-Mounted Wiring Devices, UL 514D.
26A.2		Aluminum or steel armored cable shall comply with the Standard for Armored Cable, UL 4. Nonmetallic sheathed cables shall comply with the Standard for Nonmetallic Sheathed Cables, UL 719.
26A.3		Flexible metal conduit shall comply with the Standard for Flexible Metal Conduit, UL 1. Rigid steel conduit shall comply with the Standard for Rigid Metal Conduit, UL 6.
26A.4		Electrical steel tubing shall comply with the Standard for Electrical Metallic Tubing, UL 797.
26B		<i>New section added;</i> Electromagnetic Interference Filters
26B.1		Electromagnetic interference filters shall comply with the Standard for Electromagnetic Interference Filters, UL 1283.



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26C		<i>New section added;</i> Relays and Contactors
26C.1		Electromagnetic relays and contactors shall comply with: a) The Standard for Industrial Control Equipment, UL 508; or b) The Standard for Switchgear and Controlgear, Low-Voltage – Part 1: General Rules, UL 60947-1, and the Standard for Switchgear and Controlgear, Low-Voltage – Part 4-1: Contactors and Motor-Starters – Electromechanical Contactors and Motor-Starters, UL 60947-4-1A.
26D		<i>New section added;</i> Optical Isolators and Semiconductor Devices
26D.1		An optical isolator shall comply with the Standard for Optical Isolators, UL 1577 if it is relied upon to provide isolation between: a) Primary and secondary circuits; b) Extra-low-voltage safety circuits; or c) Other high-voltage circuits.
26D.2		A power switching semiconductor device that is relied upon to provide isolation to ground shall comply with the Standard for Electrically Isolated Semiconductor Devices, UL 1557.
26E		<i>New section added;</i> Terminal Blocks
26E.1		Terminal blocks shall comply with the Standard for Terminal Blocks, UL 1059, and, if applicable, be suitably rated for field wiring. Exception: A fabricated part performing the function of a terminal block need not comply with UL 1059 if the part complies with the requirements of Section 10.3 (Terminals and leads), Section 15 (Current-carrying parts), Section 16 (Insulating material), and Sections 29, 30, and 31 (spacings) of this end product standard.
26F		<i>New section added;</i> Printed-Wiring Boards
26F.1		A printed-wiring board shall comply with the Standard for Printed-Wiring Boards, UL 796, and shall have a flammability level of at least V-1 when tested in accordance with the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94. Exception: This requirement does not apply to a printed-wiring board that contains only Class 2 non-safety circuits.
57	Info	Strength Tests – Pressure Containing Components
57.1		Refrigeration system All references to Refrigerant R-22 have been removed.



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63A		<p><i>New section added; Added new test for electronic operating control that do not comply with Tables 17.2 and 17.3</i></p> <p>Component Failure Test</p> <p>A single malfunction (short or open) of any circuit component, such as a resistor, capacitor, solid state device, and the like, shall not result in a risk of fire or electric shock or increased risk of personal injury.</p> <p>Clauses 63A.1 – 63A.7 includes test details.</p>
		<p>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.</p>