

STANDARD INFORMATION

This SUN establishes Continued Certification for currently Listed UL 250 Listing Reports and introduces UL 60335-2-24 as the superseding standard.

Superseded Standard: UL 250 / CSA C22.2 No. 63 (10th Ed) Household Refrigerators and Freezers

Superseding Standard: UL 60335-2-24 / CSA C22.2 No. 60335-2-24 (2nd Ed) Household and Similar Electrical Appliances - Safety - Part 2-24: Particular Requirements for Refrigerating Appliances, Ice-Cream Appliances and Ice-Makers

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **March 31, 2019**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement:

Appliances certified to UL 250 are transitioning to UL 60335-2-24 (Second edition published 2017/04/28). This change was driven by the need for harmonization rather than driven by safety issues. Due to this, Intertek is implementing a Continuing Certification Process for existing products certified to UL 250 and/or CSA C22.2 No. 63 10th Ed. No action is needed, and the certification will remain active under the previous UL 250/CSA C22.2 No. 63 10th Ed as long as the appliance is not modified in a manner that changes construction, components, or technical specifications.

If the appliance is modified, an attempt has been made to minimize the steps necessary to transition an already certified UL 250/CSA C22.2 No 63 product to a 60335-2-24 certified product. The Impact Table below will aid in determining if a limited or full evaluation to UL 60335-2-24 / CSA C22.2 No. 60335-2-24 (2nd Ed) is required. Please note requests for new products, making revisions to existing compressors, or the addition of alternate compressors, will require full evaluation to UL 60335-2-24 / CSA C22.2 No. 60335-2-24 (2nd Ed).



Impact Table

Modification or Addition to an existing product certified to UL 250 / CSA C22.2 No. 63 10 th Ed	Required Evaluation to UL 60335-2-24 / CSA C22.2 No. 60335-2-24 (2 nd Ed)
Modification of model or addition of a similar model in existing product family	Follow Limited Evaluation – Page 3
Modification of construction	
Modification or addition to a component	
Modification of technical specifications such as appliance input rating, temperature ratings, or component ratings.	
Modification or change in compressor	Full Evaluation – Page 6
Addition of alternate compressor	
New product	

Overview of Changes: Specific details of new/revised requirements are found in the standard information tables 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.



STANDARD INFORMATION

SECTION PARAGRAPH CLAUSE	LIMITED EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
All	For revised products with a change other than a compressor, only the requirements indicated need to be considered. For new products and alternate compressors, move to the section titled Full Evaluation on page 6.	Action Not Required
Note	The 2nd edition of UL 60335-2-24 is to be used in conjunction with the 5th edition of UL 60335-1	Note
Marking and Instructions		
7	7.15 DV – Refrigerators having insulation using a flammable blowing agent are marked with the refrigerant type, lettering 16.2 mm high.	New requirement (when flammable refrigerant is used)
Heating		
11	No more “Freestanding” installation. Need to test as recessed. Probably no need for re-test if clearances are adequate.	New requirement (if freestanding)
Moisture Resistance		
15	15.102 – Conduct internal spillage test But not if there are no electrical components on walls	New requirement
Leakage Current and Electric Strength		
16	These tests are conducted after the 93% humidity and other moisture conditionings.	New requirement
Abnormal Operation		
19	19.4, 19.5 – May have to run the shorted heater test on refrigerators with defrost heaters. 19.11.3 – Protective Electronic Circuits. Need not review if PEC evaluated to 60730, 873, 991, etc. However, 508C protection is no longer an option.	New requirement
Stability and Mechanical Hazards		
20	Note clause 20.101DV was added to the 2nd edition. This is the stability test from UL 250, so refrigerators will not need to meet the more onerous stability	New requirement



SECTION PARAGRAPH CLAUSE	LIMITED EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
	<p>test from IEC 60335-2-24, clauses 20.101 – 20.104 (Refrigerator un-weighted, door weighted, open door).</p> <p>20.105DV – Reference to Annex 101.DVB; “Ice Dispenser Durability”. See below.</p>	
	<p>Construction</p> <p>22.5 (Pt 1) – Plug shock test, appliances with capacitors 22.11 (Pt 1) – Non detachable snap fit parts test 22.46 (Pt 1) – Software in Protective Circuits, Class B or C 22.47 (Pt 1) – Water pressure test for ice makers and drinking water systems 22.48 (Pt 1) – Backsiphonage requirements 22.101 – Torque test on lampholders 22.103 – Water pressure test, ice makers</p>	New requirement
23	<p>Internal Wiring</p> <p>23.7 (Pt 1) – Use green/yellow wire for earthing conductors.</p>	New requirement
30	<p>Resistance to Heat, Fire, and Tracking</p> <p>This clause is applicable, so we would be looking at traditional IEC glow wire (or V materials) for certain non-metallic parts of the appliance. However, since UL 60335-2-24 2nd edition specifically references the 5th edition of UL 60335-1, non-metallic parts of UL Certified components do not have to be evaluated to clause 30.</p> <p>30.101DV – Appliances must comply with the additional requirements of Annex 101.DVD.</p> <p>101.DVD.1 – Polymeric enclosures of uninsulated live parts shall be 5V (no change)</p> <p>101.DVD.5 – Non-metallic Material Flammability in Proximity to Electrical Connections</p> <p>101.DVD.6 – Nichrome Wire Test</p>	New requirement
101.DVB	<p>Ice Dispenser Durability</p> <p>Refrigerators with ice dispensers will need to be evaluated and tested.</p>	New requirement
101.DVD.5 101.DVD.6	<p>Non-Metallic Material Flammability in Proximity to Electrical Connections; Nichrome Wire Test</p>	New requirement



SECTION PARAGRAPH CLAUSE	LIMITED EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
	<p>Non-metallic material near electrical connections will need to be evaluated. Either meet pre-selection material requirements or conduct nichrome wire “forced ignition” test.</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>	



SECTION PARAGRAPH CLAUSE	FULL EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
All	For new products, modification of compressors or addition of alternate compressors, all of the following impact requirements need to be considered.	Action Not Required
Note	The 2nd edition of UL 60335-2-24 is to be used in conjunction with the 5th edition of UL 60335-1	Note
1	Scope – Ice Makers are added to the scope.	New requirement
	General Conditions for Tests	New requirement
5	Run-in for 24 hours before any tests are conducted	Impact
5	Test ambient(s) different. 43C for some input and heating tests	New requirement
	Classification	Impact
6	Same except for climate classes 6.101DV – Appliances are treated as Tropical Class “T” (but not marked as such)	New requirement
	Marking and Instructions	New requirement
7	7.15 DV – Refrigerators having insulation using a flammable blowing agent are marked with the refrigerant type, lettering 16.2 mm high.	Impact (when flammable refrigerant is used)
	Power Input and Current	New requirement
10	Similar test, obtaining current at rated voltage; ambient slightly different (43 vs 40). Thermostat set to lowest setting Slightly different % limitations, depending if refrigerator is combined or motor-operated.	Impact
	Heating	New requirement
11	No more “Freestanding” installation. Need to test as recessed. Probably no need for re-test if clearances are adequate.	Impact (if freestanding)



SECTION PARAGRAPH CLAUSE	FULL EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
11	<p>Per 5.7 and 6.101DV, the test is conducted at 43 C.</p> <p>Temperature limits slightly different. For example, the IEC temperature rise limit for bare metal is 41 C (48-7 due to Class T) rather than 45 (85-40) in UL 250.</p>	<p>New requirement</p> <p>Impact</p>
13	<p>Leakage Current and Electric Strength at Operating Temperature</p> <p>13.2DV.1 (Pt 1) – Limit for cord-connected stationary = 0.75mA</p> <p>Circuit is different, no S1/S2, 1.06V. Meter is different.</p> <p>13.3 - Electric Strength – see Table 4 Basic = 1000, Supplementary = 1250, Reinforced = 2500 UL is typically 1250 V, so acceptable</p> <p>13.1DV.1 (Pt 1) – Protective impedance and radio interference filters not to be disconnected before carrying out tests</p>	<p>New requirement</p> <p>Impact</p>
14	<p>Transient Overvoltages – not required if minimum clearances met.</p>	<p>New requirement</p>
15	<p>Moisture Resistance</p> <p>15.102 – Conduct internal spillage test But not if there are no electrical components on walls</p>	<p>New requirement</p> <p>Impact</p>
15	<p>Moisture Resistance</p> <p>15.3 – Humidity conditioning at 93% 15.103 – External Spill Test (very similar to UL 250) 15.106 – Component Wash Test (with Simpson 228)</p>	<p>New requirement</p> <p>Impact</p>
16	<p>Leakage Current and Electric Strength</p> <p>These tests are conducted after the 93% humidity and other moisture conditionings.</p>	<p>New requirement</p> <p>Impact</p>
19	<p>Abnormal Operation</p> <p>19.4, 19.5 – May have to run the shorted heater test on refrigerators with defrost heaters.</p> <p>19.11.3 – Protective Electronic Circuits. Need not review if PEC evaluated to 60730, 873, 991, etc. However, 508C protection is no longer an option.</p>	<p>New requirement</p> <p>Impact</p>
19	<p>Abnormal Operation</p>	<p>New Requirement</p>



SECTION PARAGRAPH CLAUSE	FULL EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
	19.11 – Review electronic circuits to see if fault tested.	Impact
	Abnormal Operation	New requirement
19	19.104 – Lamp Distortion. No retest necessary under the current edition 1. New edition 2 might need retest because door is almost closed.	No Impact
	Stability and Mechanical Hazards	New requirement
20	Note clause 20.101DV was added to the 2nd edition. This is the stability test from UL 250, so refrigerators will not need to meet the more onerous stability test from IEC 60335-2-24, clauses 20.101 – 20.104 (Refrigerator un-weighted, door weighted, open door). 20.105DV – Reference to Annex 101.DVB; “Ice Dispenser Durability”. See below.	No Impact
	Construction	New requirement
22	22.5 (Pt 1) – Plug shock test, appliances with capacitors 22.11 (Pt 1) – Non detachable snap fit parts test 22.46 (Pt 1) – Software in Protective Circuits, Class B or C 22.47 (Pt 1) – Water pressure test for ice makers and drinking water systems 22.48 (Pt 1) – Backsiphonage requirements 22.101 – Torque test on lampholders 22.103 – Water pressure test, ice makers	Impact
	Internal Wiring	New requirement
23	23.7 (Pt 1) – Use green/yellow wire for earthing conductors.	Impact
	Components	No Impact
24	24DV (Pt 1) – Component requirements replaced by standards listed in Annex DVA. In general, if they complied with UL 250, will comply with UL 60335-2-24 (this will change when UL 60335-2-24 is used with the 6th edition of UL 60335-1)	
	Components	New requirement
24	24.1.3, 24.1.4 – Might need to look at switch and control endurance. For example, 24.1.3 of 2-24 requires 50,000 cycles for door switches. Note per 3rd paragraph of 24.1.4 (Pt 1), automatic controls need not be endurance tested if the appliance meets the standard with the component short-circuited. Also, the note in 24.1.3 indicates the declared number of operating cycles is only applicable for switches required for compliance with this	Impact



SECTION PARAGRAPH CLAUSE	FULL EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
	standard.	
	Terminals for External Conductors	New requirement
26	If the product complied with UL 250, it will comply with UL 60335-2-24. Many U.S. style cords are considered to be “Type X with specially prepared cord”.	Impact
	Provision for Earthing	New requirement
27	Essentially the same, except 27.2ADV.2 (Pt 1) – If one binding post is used for both a bonding conductor and an earthing conductor, the nut securing the earthing conductor shall not also be relied upon to secure the bonding conductor. Typically earthing first, then nut, then bonding conductor, then another nut	No Impact
	Provision for Earthing	New requirement
27	27.5 (Pt 1) – Bonding path resistance. New test.	Impact
	Screws and Connections	New requirement
28	Essentially the same, but per 28.3 (Pt 1), thread-cutting (self-tapping) screws should not be used if they are likely to be operated by the user or installer. Also, when using space-threaded (sheet metal) screws, two shall be used if used for earthing continuity.	Impact
	Resistance to Heat, Fire, and Tracking	New requirement
	This clause is applicable, so we would be looking at traditional IEC glow wire (or V materials) for certain non-metallic parts of the appliance. However, since UL 60335-2-24 2nd edition specifically references the 5th edition of UL 60335-1, non-metallic parts of UL Certified components do not have to be evaluated to clause 30.	Impact
30	30.101DV – Appliances must comply with the additional requirements of Annex 101.DVD. 101.DVD.1 – Polymeric enclosures of uninsulated live parts shall be 5V (no change) 101.DVD.5 – Non-metallic Material Flammability in Proximity to Electrical Connections 101.DVD.6 – Nichrome Wire Test	
101.DVB	Ice Dispenser Durability	New requirement



SECTION PARAGRAPH CLAUSE	FULL EVALUATION (PER IMPACT TABLE) - SUMMARY OF REQUIREMENTS	ACTION
	Refrigerators with ice dispensers will need to be evaluated and tested.	Impact
101.DVD.5 101.DVD.6	<p>Non-Metallic Material Flammability in Proximity to Electrical Connections; Nichrome Wire Test</p> <p>Non-metallic material near electrical connections will need to be evaluated. Either meet pre-selection material requirements or conduct nichrome wire “forced ignition” test.</p>	<p>New requirement</p> <p>Impact</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>	