

STANDARD INFORMATION

Standard: UL 61010-2-012

Standard ID: Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 2-012: Particular Requirements for Climatic and Environmental Testing and Other Temperature Conditioning Equipment [UL 61010-2-012:2022 Ed.2]

Previous Standard ID: Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 2-012: Particular Requirements for Climatic and Environmental Testing and Other Temperature Conditioning Equipment [UL 61010-2-012:2017 Ed.1]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **June 15, 2024**

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 Reports not updated to this version by the effective date above will be withdrawn.

The 2nd edition of UL 61010-2-012 is to be used in conjunction with the 3rd edition of UL 61010-1.

Overview of Changes:

- Addition of abnormal test
- Addition of markings for terminals, connections and operating devices
- Addition of requirements for resistance to mechanical stresses
- New requirements for the temperature test for storage and transport

Specific details of new/revisted 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
4	Info	Tests
4.3	Info	Reference test conditions
4.3.2	Info	State of equipment <i>New clause added;</i> Abnormal test to simulate the failure of the controlled environment For REFRIGERATING SYSTEMS intended to operate in an ambient environment that is more restricted than that specified in 1.4.1, this additional abnormal test shall be applied to simulate the failure of the controlled environment in which the equipment is located. Having determined the least favourable test conditions for the temperature and pressure tests under 10.4.1, the equipment is operated under these conditions until a steady state has been achieved. The test environment conditions are then increased to the levels set out in 1.4.1 (40 °C, 50 % RH) and the equipment is allowed to stabilize before the maximum temperatures and pressures are recorded. Protective devices shall not be bypassed or disabled. If the equipment does not reach steady state due to the operation of protective devices, then the maximum values recorded for this test shall be either: a) the maximum temperatures and pressures at the point of operation of non-resettable or manually resettable devices, which do not need to be reset during this test; or b) the maximum temperatures and pressures achieved after continued cycling of automatically resetting protective devices, which shall be allowed to cycle until it is clear that successive cycles will not develop higher maximum values.
4.3.2.114		
5	Info	Marking and documentation <i>New section added;</i>
5.1.5		TERMINALS, connections and operating devices Add the following new subclauses: See standard for details.
8	Info	Resistance to mechanical stresses



CLAUSE	VERDICT	COMMENT
8DV		<i>New section added;</i> Addition of Clauses 8DV.1 – 8DV.5 as follows:
8DV.1		Refrigerant tubing on a refrigerator employing a flammable refrigerant shall be protected or enclosed to avoid mechanical damage and damage that could occur during moving of the product.
8DV.1.1		Refrigerant tubing located within the confines of the cabinet and tubing that does not protrude from the compressor compartment are considered to be protected from mechanical damage.
8DV.2		A static condenser coil mounted on the outside of a refrigerator is considered to be protected against mechanical damage if it complies with all of the following: – The return bends of the condenser are covered such that they cannot be grasped or handled during moving of the product. The return bends are considered to be adequately covered if they cannot be grasped with the jointed test finger (see Figure B.2) applied with a force of 20 N. – The other edges of the condenser are covered or secured to prevent damage during moving of the product. They are considered adequately secured if they meet the pull force requirements of 8DV.5 without deformation of the tubing or loosening of the condenser from the refrigerator. – All other tubing in the condenser is adequately protected by the fill wire. The tubing is considered adequately protected if any single tube cannot be grasped with the jointed test finger (see Figure B.2) applied with a force of 20 N.
8DV.3		A static evaporator coil mounted as shelving on the inside of a storage compartment is considered to be protected against mechanical damage if it complies with all of the following: – The shelf shall comply with clauses 8DV.5 and 7.5.3 with no permanent deformation or damage resulting in a refrigerant leak, kinked refrigerant tubing, or loosening of the tubing from the refrigerator. – The tubing shall comply with the scratch test of 11.7.104.4.
8DV.4		All joints in a refrigeration system containing a FLAMMABLE REFRIGERANT shall be brazed or welded. Joining methods other than brazing or welding that have been evaluated with respect to corrosion resistance, mechanical stress, leak rates, and similar methods shall be considered to comply.
8DV.5		A force is applied without jerks for 10 s in the most unfavourable direction to parts likely to be weak. The force is as follows: – if the shape of the part is such that the fingertips cannot easily slip off, 50 N; – if the projection of the part that is gripped is less than 10 mm in the direction of removal, 30 N. The pull force is applied by a suitable means, such as a suction cup, so that the test results are not affected. While the force is being applied, the test finger of Figure B.2 is inserted in any aperture or joint with a force of 10 N. The finger is then slid sideways with a force of 10 N but is not twisted or used as a lever.



CLAUSE	VERDICT	COMMENT
11	Info	Protection against HAZARDS from fluids and solid foreign objects
11.7.102	Info	Temperature test for storage and transport
		<i>New clause added;</i>
		Addition of the following at the end of the first paragraph:
11.7.102.2DV.1		The test value shall be determined as the higher of the following 3: 5 times the pressure under normal use [see 11.7.1 a)] 3 times the pressure under transportation [see 11.7.1 d)] 3 times the pressure under single fault condition [see 11.7.1 b) and c)]