

§ 1750.6

the door and applied anywhere along the latch edge of the inside of the closed door, shall not exceed 66.7 newtons (15 pounds);

(2) Shall permit the refrigerator door to be opened on the application of clockwise or counterclockwise turning moment of not more than 0.57 newton-meter (5 inch-pounds) to a knob on the door through an angle of rotation of 45° ±15° in either direction; or

(3) Shall function automatically to permit the door to be opened with a force of 66.7 newtons (15 pounds) or less applied as described in paragraph (a)(1) of this section whenever space(s) exist(s) or is (are) created with dimensions and volumes exceeding the dimensions and volumes imposed by §1750.3.

(b) *Description and location of knob(s).* The knob(s) shall resemble a conventional doorknob in shape and size and shall be mounted near the latch side of the door extending into the cabinet at least 6.3 millimeters (¼ inch) beyond any inner door surface within a 15.2-centimeter (6-inch) radius of the knob center. The knob(s) shall be mounted in such a manner that there is a minimum of 19.0-millimeter (¾-inch) clearance between the inner periphery of the knob(s) and adjacent inner door surfaces. The knob(s) shall be located so as to provide the accessibility required by §1750.3.

(c) *Wear.* The device shall comply with the requirements of paragraph (a) of this section after 300,000 cycles of operation of the door as determined by the tests prescribed by §1750.6.

(d) *Protection against adverse effects from spillage, cleaning, defrosting, and condensation.* Devices shall be designed so that spillage of foods or beverages, cleaning or defrosting in accordance with manufacturer's recommendations, or normal condensation will not so adversely affect the operation of the device as to result in its failure to meet the requirements of paragraph (a) of this section, as determined by the tests prescribed by §1750.6.

(e) *Devices which permit door to be opened as a result of forces or turning moments applied to movable components inside the refrigerator.* Those components of a device upon which the safety features of the device depend shall not

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break, crack, permanently deform, nor show other visible damage when subjected to forces and moments specified in the tests under §1750.6(c). The requirements of paragraph (a) of this section shall be satisfied after the device has been subjected to the tests under §1750.6(c).

(f) *Power supply.* The device shall operate in accordance with the requirements of this standard with the electric, gas, or other fuel supply either on or off.

§ 1750.6 Tests.

It is the intent of this standard that where tests are not specified, the general and detailed requirements shall be checked by inspection, simple measurement, and by consideration of pertinent standard commercial practices. Compliance with the requirements of §1750.5 (a), (c), (d), and (e) shall be checked with the aid of the following tests:

(a) *Test for releasing force on door.* The force measurements shall be made by means of a force gage with a calibrated accuracy within ±1.3 newtons (±0.3 pound) when measuring a force of 66.7 newtons (15 pounds). The dial of the gage shall be graduated with finest divisions not exceeding 0.9 newton (0.2 pound), and the full-scale range shall not exceed 133.4 newtons (30 pounds). Measurements shall be made at three points on the door near the inside latch edge—one point near the top of the interior space created by removal of all shelving, one point near the bottom, and one point midway between these two points. The requirements of §1750.5(a)(1) shall be satisfied.

(b) *Test for knob torque.* The measurement of the turning moment required to operate the knob release shall be made with a torque gage adapted for attachment to the knob or knob shaft. The gage shall have a calibrated accuracy within ±0.011 newton-meter (0.10 inch-pound) when measuring a moment of 0.57 newton-meter (5 inch-pounds). The finest graduations on the dial of the gage shall correspond to a moment increment not greater than 0.011 newton-meter (0.10 inch-pound) and the full-scale range shall not exceed 1.13 newton-meters (10 inch-pounds) in each direction from the null reading. The

turning moment shall be applied so as to rotate the knob the full amount required for release, in both a clockwise and a counterclockwise direction. The angle of rotation required for release shall be checked by means of an angle gage adapted to measure the angle of rotation about the longitudinal axis of the knob shaft. The gage shall have a calibrated accuracy within $\pm 1^\circ$ at an angle of 45° and the finest divisions shall not exceed 1° . The requirements of § 1750.5(a)(2) shall be satisfied.

(c) *Tests for strength of device components which affect the safety features of the device.* (1) The tests prescribed by paragraph (c)(2) of this section shall apply only to devices which permit the door to be opened as a result of forces or turning moments applied to movable components inside the refrigerator.

(2) A turning moment of 2.26 newton-meters (20 inch-pounds) shall be applied for 50 successive operations in a clockwise direction, followed by 50 successive similar operations in a counterclockwise direction, to components designed to permit the door to be opened as a result of the application of a turning moment to them. The turning moment shall be applied to the outer periphery of the component provided. The gage used for registering the moment applied shall have a calibrated accuracy within ± 0.044 newton-meter (± 0.4 inch-pound) when measuring a moment of 2.26 newton-meters (20 inch-pounds). The finest graduations on the dial of the gage shall correspond to a moment increment not greater than 0.044 newton-meter (0.4 inch-pound) and the full-scale range of the gage shall not exceed 4.52 newton-meters (40 inch-pounds) in each direction from the null reading. The turning moment applied in each operation shall be applied for a period of time sufficient for the component to come to rest after completing the extent of movement for which designed. A pushing force of 89.0 newtons (20 pounds) shall be applied for 50 successive operations, followed, if applicable, by 50 successive similar operations with a pulling force, to components designed to permit the door to be opened as a result of the application of a force to them. Areas which may be, in service, subjected to pushing or pulling forces which create maximum stresses

(for example, points on the outer periphery of components designed to transmit a turning moment, or unsupported portions of members or areas designed for transmitting a force) shall be subjected to test. The gage used for registering the force applied shall have a calibrated accuracy within ± 1.8 newtons (± 0.4 pound) when measuring a force of 89.0 newtons (20 pounds). The finest graduations on the dial of the gage shall correspond to a force not in excess of 1.8 newtons (0.4 pound) and the full-scale range shall not exceed 177.9 newtons (40 pounds).

(3) Upon being subjected to the tests prescribed by paragraph (c)(2) of this section, no device component on which the safety features of the device depend shall break, crack, permanently deform, or show other visible damage. The device must satisfy the requirements of § 1750.5(a) after being subjected to the tests in paragraph (c)(2).

(d) *Simulated use test.* Tests shall be conducted on the completely assembled refrigerator in its normal operating position to determine that the release device complies with the requirements of § 1750.5 during and after the 300,000 cycles of door operation and following exposure to spillage of foods and beverages, to cleaning and defrosting in accordance with the manufacturer's recommendations, and to condensation. The equipment provided for operating the door shall open the door sufficiently on each cycle to assure a complete cycle of operation for the latch mechanism.

§ 1750.7 Provision for changes in the standard.

(a) Section 5 of the act provides for the possibility of changes in the commercial standard first established pursuant to section 3 of the act and allows a period of 1 year and 90 days for compliance with such changes after they are published.

(b) Any person wishing to propose a change in this standard shall submit to the Secretary, Consumer Product Safety Commission, Washington, D.C. 20207, the proposed change. Before a change is recommended, the Consumer Product Safety Commission shall secure advice and consultation from public or private sources including particularly the