

STANDARD INFORMATION

Standard Number: NSF 7
Standard Name: Commercial Refrigerators and Freezers
Standard Edition and Issue Date: 2016 Edition, dated May 04, 2016
Date of Revision: May 04, 2016
Date of Previous Revision of Standard: February 11, 2014

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 1, 2019**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revise 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

Overview of Changes

- Clarification for use of coatings in prefabricated walk-in and roll-in refrigerators and freezers
- Clarification of labeling and performance requirements for multi-zone refrigerated equipment
- Addition of requirements for display refrigerators supplied with an automatic lockout feature

Specific details of new/revise 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/revise paragraphs noted in the attached or explain why these new/revise 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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

- New additions to the standard are shown in blue
- Language removed from the standard shown in red with ~~strikethrough~~

| CLAUSE | VERDICT | COMMENT |
|---------|------------------------------|---|
| 2 | --- | Normative References |
| --- | Info | <p>Normative reference updated:</p> <p>ANSI/ASHRAE 72 -2005 2014, <i>Method of Testing Open and Closed Commercial Refrigerators and Freezers</i></p> |
| 8 | --- | Prefabricated walk-in and roll-in refrigerators and freezers |
| 8.1.1.1 | Correction/ Clarification | <p>Correction of a cross-reference and clarification of language regarding use of galvanized and other coated materials.</p> <p>Except as noted in 8.2.1, Galvanized and other zinc-alloy-coated materials may only be used on the walls, ceilings, and attached hardware and components of walk-in and roll-in refrigerators and freezers. Unless protected by an additional coating conforming to NSF/ANSI 51, galvanized and other zinc-alloy-coated materials used in this application shall be at least as corrosion resistant as G90 galvanized steel per ASTM A653/A653M and ASTM A924/A924M. Coated materials, including galvanized materials, shall not be used on the floor of a walk-in or roll-in refrigerator or freezer unless it is to be covered with a masonry floor at the time of installation, or as permitted in 8.2.3 for walk-in or roll-in refrigerators and freezers used only for the storage of food in the original sealed package.</p> |
| 9 | --- | Display refrigerators and freezers |
| 9.7 | --- | Doors |
| 9.7.2 | | <p>Addition to address display refrigerators with automatic lockout feature</p> <p>Display refrigerators with automatic lockout shall be equipped with:</p> <ul style="list-style-type: none"> — an automatic door lock; and — self-closing door(s); and — a feature that would allow the door to be unlocked only by an operator/employee or service person. |
| Note | Clarification | <p>Clarification for self-closing door feature</p> <p>NOTE — The self-closing feature of a self-closing door is not required to function when the door is opened to a position beyond a 90-degree arc.</p> |
| 9.13 | --- | Equipment labeling and literature requirements |



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| 9.13.2 | | <p>Addition to address labeling requirements for multi-zone refrigerated equipment</p> <p>Display refrigerators that contain a refrigerated buffet section or refrigerated food preparation section shall be exempt from 7.2.1.</p> |
| 9.13.4 | | <p>Addition to address labeling for equipment with automatic lockout</p> <p>Display refrigerators with automatic lockout shall have a permanently attached label that states “Evaluated and tested for automatic lockout per NSF/ANSI Standard 7”. The label shall be clearly visible to the user after installation of the equipment.</p> |
| 9.14 | --- | Performance |
| 9.14.1 | | <p>Addition to address performance requirements for multi-zone refrigerated equipment</p> <p>A storage compartment in a Type I or Type II display refrigerator shall be tested in accordance with 6.10 with the ambient conditions described in 9.14.2. Compressor run time requirements shall not apply.</p> <p>A refrigerated buffet section or refrigerated food preparation section in a Type I or Type II display refrigerator shall be tested in accordance with 7.5 with the ambient conditions described in 9.14.2. Compressor run time requirements shall not apply.</p> |
| 9.15 | --- | <p>Addition of test for display refrigerators with automatic lockout feature</p> <p>Performance – Temperature recovery test</p> |
| --- | Info | The performance requirements in this section apply only to display refrigerators with automatic lockout. |
| 9.15.1 | Requirement | Display refrigerators with automatic lockout shall require no more than 30 min to restore the air temperature in its food storage compartment to 41 °F (5 °C) or below after having its door open for 15 min. |
| 9.15.2 | Test Method | <p>An “open door” test shall be conducted to evaluate the ability of display refrigerators with automatic lockout to restore the food storage compartment air temperature to 41 °F (5 °C) or below within 30 min after having its door open for 15 min. The test shall be conducted under no-load conditions. The test shall be conducted in a test chamber in which the following conditions are maintained at the start of the test:</p> <ul style="list-style-type: none"> — ambient air temperature of 73 ± 4 °F (23 ± 2 °C); and — no vertical temperature gradient exceeding 1.5 °F per ft (2.5 °C per m). <p>Air temperatures within each empty refrigerated compartment shall be monitored using remote temperature-sensing devices (thermocouples) accurate to ± 1 °F (0.5 °C). The thermocouples shall be positioned as close as possible to the following locations:</p> <p>Thermocouple #1: (when facing the front of the unit) 5.0 ± 0.25 in (130 ± 6.4</p> |



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| | | <p>mm) from the left interior wall, 2.0 ± 0.25 in (50 mm ± 6.4 mm) above the bottom horizontal plane of the overhead cooling unit, (for units in which the evaporator is not suspended from the ceiling, the thermocouple shall be placed 5.0 ± 0.25 in [130 ± 6.4 mm] down from the ceiling) and centered front-to-back.</p> <p>Thermocouple #2: centered front-to-back, centered top-to-bottom, centered left-to-right.</p> <p>Thermocouple #3: (when facing the unit) 5.0 ± 0.25 in (130 ± 6.4 mm) from the right interior wall, 5.0 ± 0.25 in (130 ± 6.4 mm) above the internal floor of the unit, and centered front-to-back.</p> <p>The thermocouples shall be in thermal contact with the center of a 1.6-oz (45-g) cylindrical brass slug with a diameter and height of ¾ in (0.75 in, 19 mm). The brass slugs shall be placed at least ½ in (0.50 in, 13 mm) from any heat-conducting surface.</p> <p>The air temperature in the food storage compartment shall be allowed to stabilize at 41 °F (5 °C) or below before the test is started. The door to the food storage compartment shall be opened and shall remain open for 15 ± 0.5 min before being closed. The air temperature at each thermocouple location shall be recorded at 1-min intervals for 30 min.</p> |
| 9.15.3 | --- | Acceptance Criteria |
| --- | | At the end of the 30-min recovery period, the air temperature at each thermocouple location shall not exceed 41°F (5 °C). |
| 9.16 | --- | Addition of test for display refrigerators with automatic lockout feature |
| | Info | Performance - automatic lockout |
| | | The performance requirements in this section apply only to display refrigerators with automatic lockout. |
| 9.16.1 | Requirement | The automatic door lock shall activate if the air temperature in the food storage compartment is greater than 41 °F (5 °C) for more than 30 min. This requirement does not apply during the 30-min recovery period immediately following filling or servicing. |
| 9.16.2 | Test Method | <p>An abnormal operation test shall be conducted on display refrigerators with automatic lockout. This test will verify that the automatic door lock will activate when the air temperature of the food storage compartment is greater than 41 °F (5 °C) for more than 30 min. The test shall be conducted under no-load conditions. The tests shall be conducted in a test chamber in which the following conditions are maintained at the start of the test:</p> <ul style="list-style-type: none"> — ambient air temperature of 73 ± 4 °F (23 ± 2 °C); and — no vertical temperature gradient exceeding 1.5 °F per ft (2.5 °C per m). <p>Air temperatures within each empty refrigerated compartment shall be monitored using remote temperature-sensing devices (thermocouples) accurate to ± 1 F (0.5 C). The thermocouples shall be positioned as close as possible to the following locations:</p> |



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| | | <p>Thermocouple #1: (when facing the front of the unit) 5.0 ± 0.25 in (130 ± 6.4 mm) from the left interior wall, 2.0 ± 0.25 in (50 mm ± 6.4 mm) above the bottom horizontal plane of the overhead cooling unit, (for units in which the evaporator is not suspended from the ceiling, the thermocouple shall be placed 5.0 ± 0.25 in [130 ± 6.4 mm] down from the ceiling) and centered front-to-back.</p> <p>Thermocouple #2: centered front-to-back, centered top-to-bottom, centered left-to-right.</p> <p>Thermocouple #3: (when facing the unit) 5.0 ± 0.25 in (130 ± 6.4 mm) from the right interior wall, 5.0 ± 0.25 in (130 ± 6.4 mm) above the internal floor of the unit, and centered front-to-back.</p> <p>The thermocouples shall be in thermal contact with the center of a 1.6-oz (45-g) cylindrical brass slug with a diameter and height of ¾ in (0.75 in, 19 mm). The brass slugs shall be placed at least ½ in (0.50 in, 13 mm) from any heat-conducting surface.</p> <p>The air temperature in the food storage compartment shall be allowed to stabilize at 41 F (5 C) or below before the test is started. The power to the unit shall be interrupted, causing shut down. The air temperature in the food storage compartment shall be monitored. When the temperature of the food storage compartment exceeds 41 °F (5 °C) for 30 min +/- 30 seconds, an immediate attempt shall be made to open the door.</p> |
| 9.16.3 | --- | Acceptance Criteria |
| --- | | The door shall not open after the compartment temperature exceeds 41 °F (5 °C) or 30 min +/- 30 seconds. |

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.