

## STANDARD INFORMATION

**Standard:** NSF/ANSI 4

**Standard ID:** Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transportation Equipment [NSF/ANSI 4:2020]

**Previous Standard ID:** Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transportation Equipment [NSF/ANSI 4:2019]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **July 1, 2023**

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 Reports not updated to this version by the effective date above will be withdrawn.

### Overview of Changes:

- Adds requirements and a sensor activation test method for open heated merchandisers equipped with an energy-saving reduced energy mode. **All open heated merchandisers designed to operate in a reduced energy mode will need to be evaluated and tested to the new requirements.**

Specific details of new/ revised 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.***



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CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below. New requirements for which additional evaluation or testing may be necessary (depending on applicability to the listed product) are shaded in light gray</i>
5	Info	<b>Design and construction</b>
		<b><i>New section added;</i></b>
5.49	---	<b>Open heated merchandisers</b>
5.49.1		Open heated merchandisers designed to operate in a reduced energy mode shall be constructed with an indicator to signify when the equipment is operating in the reduced energy mode. An indicator shall be provided for each independently heated zone that is visible to the user upon installation of the equipment. All indicators shall be clearly visible to the user after installation of the equipment.
5.49.2		Open heated merchandisers capable of operating in a reduced energy mode using sensors to detect the presence of a food load, shall indicate where food must be placed during operation.
6	Info	<b>Performance</b>
6.7	Info	<b>Open heated merchandisers</b>
6.7.2	Info	<b>Test method</b>
6.7.2.2		<p>The test unit shall be preheated in accordance with the manufacturer's operating instructions before the unit is loaded. <u>If the test unit is designed to automatically operate in a reduced energy mode until food is placed in the unit, the unit shall be preheated in the low energy mode. If the temperature for the low energy mode is not preprogrammed, the manufacturer's operating manual shall be reviewed to determine the lowest recommended setting specified.</u> The test unit shall be loaded with samples of test media prepared and conditioned in accordance with Annex N-1, including proper thermocouple placement. The time required to transfer a single sample from the oven / holding cabinet to the test unit shall not exceed 5 min. Care should be taken to limit the disturbance of the test media during transfer of test sample containers.</p> <p>The test unit shall be loaded with five test sample containers in an "x" pattern according to Figure 9, or as close as possible to that configuration, if space or the shape of the unit limits the placement of test sample containers. In square or rectangular merchandiser units, the sample containers shall be placed 1.0 in (25 mm) from each side of a corner with the broadest side of the container aligned in parallel with the longer of the unit sides. For round, octagonal, or other merchandiser units, the sample containers shall be placed in the units so that the corners of the broadest side of a test sample container are 1.0 in (25 mm) from the side of the unit. If the unit has a center support or other obstruction, the center</p>



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		test sample shall be placed as close to the geometric center as possible with the broadest part of the test sample 1.0 in (25 mm) from the support or obstruction.
6.8		<b><i>New section added;</i></b> <b>Open heated merchandisers with a reduced energy mode and sensors - sensor activation</b>
6.8.1		<b>Performance requirement</b> Open heated merchandisers capable of operating in a reduced energy mode shall include a sensor which sends a signal to activate the heat source as intended when a food load is placed in the path of the sensor and receiver.
6.8.2	---	<b>Test method</b>
6.8.2.1		The test shall be performed with or without using the test media prepared in Section N-1.3. Thermocouples shall not be present and preheating of the media is not required. If the test unit is designed to automatically operate in a reduced energy mode until food is placed in the unit, the unit shall be preheated in the low energy mode. If the temperature for the low energy mode is not preprogrammed, the manufacturer's operating manual shall be reviewed to determine the lowest recommended setting specified.  NOTE — If the sensor can be activated with empty packaging, then the tests of Section 6.8 can be performed without the test media of Annex N-1.3.
6.8.2.2		A food load shall be placed in the center of the path of a sensor. It will then be confirmed that the heating element energizes as intended in response to the presence of the food load. The heating element shall remain energized for at least two minutes, or until the operating setpoint is reached, whichever is first. After two minutes or after the operating setpoint is attained, remove the food load and allow the unit to cycle off the heat source for five minutes. It must be confirmed that the reduced energy mode indicator turns on during this time.
6.8.2.3		Each sensor shall be examined three times according to Section 6.8.3, using the food load in Section N-1.3.
6.8.2.4		Using two samples of the food load prepared in Section N-1.3, position the samples between the same two sensors so that the long sides of the samples are parallel to the path of the sensor. The two samples shall be inserted so that they are pushed together from their outside edges so that they converge roughly in the center of the path of the sensor. Confirm that the heating element energizes as intended in response to the presence of the food load. The heating element shall remain energized for at least 2 min, or until the operating setpoint is reached, whichever is first. After 2 min or after the operating setpoint is attained, remove the food load and allow the unit to cycle off the heat source for 5 min.
6.8.2.5		Each sensor shall be examined three times according to Section 6.8.3



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6.8.3		<p><b>Acceptance criteria</b></p> <p>For each heated zone, the heat source shall energize within 15 s of the food being loaded and remain energized as intended for at least 2 min, or until the operating setpoint is reached, whichever is first. When the food load is removed from the path of the sensors, it must be confirmed that the reduced energy mode indicator was activated within 5 min of the food load being removed from the unit.</p>