

Standard Test Method for Performance of Drawer Warmers¹

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1. Scope

1.1 This test method evaluates the preheat, idle, and holding energy consumption and temperature uniformity of drawer warmers. The food service operator can use this evaluation to select a drawer warmer and understand its energy performance and temperature uniformity. A drawer warmer is described as a commercial kitchen appliance that consists of one or more heated drawers and which is used to hold hot food (usually no greater than 200°F) that has been cooked in a separate appliance, at a specified temperature.

1.2 This test method is applicable to freestanding and built-in electric drawer warmers equipped for:

1.2.1 Industry-standard 12 × 20 × 6-in. (nominal size) pans, or

1.2.2 Standard-oversized 15 × 20 × 5-in. (nominal size) pans.

1.3 The drawer warmer can be evaluated with respect to the following (where applicable):

1.3.1 Energy input rate (10.2),

1.3.2 Energy consumption rate at maximum setting (10.2),

1.3.3 Temperature calibration (10.3),

1.3.4 Preheat energy consumption and time (10.4),

1.3.5 Idle energy rate (10.5),

1.3.6 Holding energy rate (10.6), and

1.3.7 Temperature uniformity (10.6).

1.4 The values stated in inch-pound units are to be regarded as standard.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASHRAE Document:*²

ASHRAE Guideline 2—1986 (RA90) Engineering Analysis

of Experimental Data

2.2 *NSF Standard:*³

Standard Number 4—Commercial Cooking, Rethermalization, and Powered Hot Food Holding and Transport Equipment

3. Terminology

3.1 *Definitions:*

3.1.1 *drawer pan, n*—that portion of the appliance in which food products are held. Industry-standard drawer pans are nominally 12 × 20 × 6 in. deep; standard-oversized drawer pans are nominally 15 × 20 × 5 in. deep.

3.1.2 *drawer pan centerpoint temperature, n*—the temperature as measured at the geometric center of the drawer pan using a single thermocouple.

3.1.3 *drawer warmer, n*—an appliance that consists of one or more heated drawers and that is designed to hold hot food that has been cooked in a separate appliance at a specified temperature.

3.1.4 *energy input rate, n*—peak rate at which a drawer warmer consumes energy (kW), typically reflected during preheat.

3.1.5 *holding energy rate, n*—the rate of energy consumed (Btu/h or kW) by the drawer warmer while keeping the heated food product (dinner rolls) warm.

3.1.6 *idle energy rate, n*—the rate of energy consumed (kW) by the drawer warmer while “idling” or maintaining the drawers at a calibrated 150°F set point.

3.1.7 *preheat energy, n*—amount of energy consumed by the drawer warmer while preheating the drawer pan(s) from ambient room temperature (75 ± 2.5°F) to 150°F, with the control(s) set to a calibrated 150°F.

3.1.8 *preheat rate, n*—average rate (°F/min) at which the drawer pan is heated from ambient temperature (75 ± 2.5°F) to 150°F, with the control(s) set to a calibrated 150°F.

3.1.9 *preheat time, n*—time required for the drawer warmer to preheat from ambient room temperature (75 ± 2.5°F) to 150°F, with the control(s) set to a calibrated 150°F.

¹ This test method is under the jurisdiction of ASTM Committee F26 on Food Service Equipment and is the direct responsibility of Subcommittee F26.06 on Productivity and Energy Protocol.

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² Available from the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329.

³ NSF International, PO Box 130140 Ann Arbor, MI 48113-0140.

