



Standard Test Method for Performance of Refrigerated Buffet and Preparation Tables¹

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1. Scope

1.1 This test method covers evaluation of the energy consumption and refrigeration performance of refrigerated buffet and preparation tables. The food service operator can use this evaluation to select a refrigerated buffet and preparation table and understand its energy performance.

1.2 This test method is applicable to electric self-contained refrigerators used for holding and displaying refrigerated food in an open area.

1.3 The refrigerated buffet and preparation table can be evaluated with respect to the following (where applicable):

1.3.1 Maximum energy input rate, or maximum current draw (10.1),

1.3.2 Thermostat calibration (10.4), and

1.3.3 Holding energy rate (10.5).

1.4 The values stated in inch-pound units are to be regarded as standard. The SI units given in parentheses are for information only.

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 NSF Standard:²

NSF, Listing-Food Equipment and Related, Components and Material

ANSI/NSF 7-1997 Commercial Refrigerators and Freezers

2.2 ASHRAE Guideline:³

ASHRAE Guideline 2-1986 (RA90) Engineering Analysis of Experimental Data

2.3 ANSI/ASHRAE Standards:⁴

ANSI/ASHRAE 117 Method of Testing Closed Refrigerators

ANSI/ASHRAE 72 Method of Testing Open Refrigerators for Food Stores

2.4 *Food and Drug Administration, U.S. Public Health Service Regulation:*⁵

Food Code, 1999

3. Terminology

3.1 Definitions:

3.1.1 *box car average, n*—a location's thermocouple temperature averaged over a 1-h period. During the 4-h holding energy rate test, thermocouple temperatures are recorded at 5-min intervals. The first box car average is the average of readings 1 through 12. The second box car average is the average of temperature readings 2 through 13, and so on.⁶

3.1.2 *energy input rate, n*—peak rate at which a refrigerated buffet and preparation table consumes energy (kW).

3.1.3 *holding energy rate, n*—average rate of energy consumption (kW) during the holding energy efficiency tests. Refers to energy rate with synthetic food load.

3.1.4 *production capacity, n*—maximum volumetric storage capacity [$\text{ft}^3(\text{m}^3)$] at which the refrigerated buffet and preparation table's open display area can hold using a specified container filled to $\frac{1}{2}$ in. of the container rim.

3.1.5 *refrigerated buffet and preparation table, n*—buffet/preparation table herein.

3.1.6 *refrigerated buffet table or unit, n*—equipment designed with mechanical refrigeration that is intended to receive refrigerated food and maintain food product temperatures and is intended for customer service such as a salad bar. A unit may or may not be equipped with a lower refrigerated compartment.⁶

3.1.7 *refrigerated food preparation unit, n*—equipment designed with a refrigerated open top or open condiment rail such as refrigerated sandwich units, pizza preparation tables, and similar equipment. The unit may or may not be equipped with a lower refrigerated compartment.⁶

3.1.8 *self-contained refrigerator, n*—a refrigerator whose condensing unit is attached as an integral component of the unit.⁶

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 NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140.

³ Available from the American Society of Heating, Refrigeration, and Air Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329.

⁴ Available from American National Standards Institute, 1819 L St., NW, Ste 600, Washington, DC 20036

⁵ Available from National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161.

⁶ Based on ANSI/NSF 7, available from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140.