

Standard Test Method for Performance of Double-Sided Griddles¹

This standard is issued under the fixed designation F1605; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the energy consumption and cooking performance of double-sided griddles. The food service operator can use this evaluation to select a double-sided griddle and understand its energy efficiency and productivity.

1.2 This test method is applicable to thermostatically controlled, double-sided gas and electric (or combination gas and electric) contact griddles with separately heated top surfaces.

1.3 The double-sided griddle can be evaluated with respect to the following (where applicable):

- 1.3.1 Energy input rate (10.2);
- 1.3.2 Temperature uniformity across the cooking surface(s) and thermostats accuracy (10.3);
- 1.3.3 Preheat energy and time (10.4);
- 1.3.4 Idle energy rate (10.5);
- 1.3.5 Pilot energy rate, if applicable (10.6);
- 1.3.6 Cooking energy rate and efficiency (10.7); and
- 1.3.7 Production capacity and cooking surface temperature recovery time (10.7).

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered 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 ASTM Standards:²

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 For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

D3588 Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

F1919 Specification for Griddles, Single-Sided and Double-Sided, Gas and Electric

2.2 ANSI Standard:³

ANSI Z83.11 American National Standard for Gas Food Service Equipment

2.3 ASHRAE Document:⁴

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

3. Terminology

3.1 Definitions:

3.1.1 *cook time, n*—the time required to cook frozen hamburgers, as specified in 7.4, to a $35 \pm 2\%$ weight loss during a cooking energy efficiency test.

3.1.2 *cooking energy, n*—energy consumed by the double-sided griddle as it is used to cook hamburger patties under heavy- and light-load conditions.

3.1.3 *cooking energy efficiency, n*—a quantity of energy imparted to the hamburgers, expressed as a percentage of energy consumed by the double-sided griddle during the cooking event.

3.1.4 *cooking energy rate, n*—the average rate of energy consumption (Btu/h (kJ/h) or kW) during the cooking energy efficiency tests. It refers to all loading scenarios (heavy and light).

3.1.5 *cooking zone, n*—the heated area defined by the inside perimeter ($\frac{1}{8}$ -in. for the outside edge) of the upper cooking surface when in the lowered position.

3.1.6 *double-sided griddle, n*—a device for cooking food by direct contact with two actively heated surfaces.

3.1.7 *energy input rate, n*—the peak rate at which a double-sided griddle consumes energy (Btu/h (kJ/h) or kW).

3.1.8 *idle energy rate, n*—the average rate of energy consumed (Btu/h (kJ/h) or kW) by the double-sided griddle while “holding” or “idling” the cooking surface at the thermostat set point.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁴ Available from American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, NE, Atlanta, GA 30329, <http://www.ashrae.org>.