



Standard Specification for ~~Griddles, Single and Double Sided, Self-heating, Counter or Stand Mounted Single-Sided and Double-Sided, Gas and Electric-Fired~~¹

This standard is issued under the fixed designation F1919; 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 specification covers single-sided and double-sided griddles which utilize gas or electrical heat sources, or both, for cooking food in the commercial and institutional food service establishments.

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

1.3 *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

[D3951 Practice for Commercial Packaging](#)

[F760 Specification for Food Service Equipment Manuals](#)

[F1166 Practice for Human Engineering Design for Marine Systems, Equipment, and Facilities](#)

[F1275 Test Method for Performance of Griddles](#)

[F1605 Test Method for Performance of Double-Sided Griddles](#)

2.2 ANSI Standards:

~~ANSI/NSF 4~~[ANSI/NSF/ANSI 4 Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transport Equipment](#)³

[ANSI Z223/NFPA 70 National Electrical Code](#)⁴

[ANSI/UL 197 Commercial Electrical Cooking Appliances](#)⁵

[ANSI B1.1 Unified Inch Screw Threads \(UN and UNR Thread Form\)](#)^{6,7}

[ANSI Z1.4 Sampling Procedures and Tables for Inspection by Attributes](#)⁶

[ANSI Z21.41 Quick-Disconnect Devices for Use With](#)⁶

~~ANSI Z21.45~~[ANSI Z21.69 Flexible Connector of Other Than All-Metal Construction for Connectors for Moveable Gas Appliances](#)⁶

[ANSI Z83.11 Gas Food Service Equipment](#)⁶

[ANSI/NFPA 54 National Fuel Gas Code](#)⁴

2.3 Canadian Standard:⁸

[CAN/CSA-B339 Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods](#)

¹ This specification is under the jurisdiction of ASTM Committee F26 on Food Service Equipment and is the direct responsibility of Subcommittee F26.02 on Cooking and Warming Equipment.

Current edition approved Nov. 15, 2010 April 1, 2014. Published January 2014 September 2014. Originally approved in 1998. Last previous edition approved in 2003 2010 as ~~F1919 – 03~~ F1919 – 10. DOI: ~~10.1520/F1919-10~~ 10.1520/F1919-14.

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.

³ Available from NSF International, P.O. Box 130140, 789 N. Dixboro Rd., Ann Arbor, MI 48113-0140, <http://www.nsf.org>.

⁴ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁵ Available from Underwriters Laboratories (UL), 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.

⁶ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁷ Available from the Standardization Documents Order Desk, DOCUMENTS, 700 Robbins Ave., Building No. 4 – Section D, Philadelphia, PA 19222-5094.

⁸ Available from Canadian Standards Association (CSA), 5060 Spectrum Way, Mississauga, ON L4W 5N6, Canada, <http://www.csa.ca>.

2.4 *Military Standards:*⁵

- MIL-STD-167/1 Mechanical Vibration of Shipboard Equipment (Type 1—Environmental and Type 2—Internally Excited)
- MIL-STD-461 Requirements for the Control of Electromagnet Interference Characteristics of Subsystems and Equipment
- MIL-STD-1399/300 Interface Standard for Shipboard Systems Section 300A Electric Power, Alternating Current

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *active cooking area, n*—the cooking areas, designed for cooking contact with food, excluding features like non-heated drip edges, grease troughs, side splashes and back splash.

3.1.2 *cooking device, n*—equipment that transfers heat to food products.

3.1.3 *counter top mounted, n*—equipment that is installed on top of a counter or table surfaces, designed for smaller operations or those with limited floor space.

3.1.4 *drop-in type, n*—equipment that is installed into a hole or cut-out in the top of a counter or table.

3.1.5 *food service equipment, n*—equipment that transfers heat or cold to food products.

3.1.6 *griddle, n*—equipment for cooking food in its own juices or oil by direct contact with a hot surface.

3.1.7 *stand mounted, n*—equipment that is secured to a stand for operational height or mobile convenience as well as installation security.

4. Classification

4.1 *Type:*

4.1.1 *Type 01, single-sided.*

4.1.2 *Type 02, double-sided.*

4.1.3 *Type 03, partially double-sided.*

4.2 *Style:*

4.2.1 *Style A—counter top flush.*

4.2.2 *Style B—counter top with legs.*

4.2.3 *Style C—stand-mounted.*

4.2.4 *Style D—free-standing.*

4.2.5 *Style E—drop-in.*

4.3 *Group:*

4.3.1 *Group 01, manual (non-thermostat) control.*

4.3.2 *Group 02, thermostat control.*

4.4 Griddles covered by this specification are classified by type, size, style, and electrical class. *Mode:*

4.1.1 *Type:*

4.1.1.1 *Type 1, for counter top use:*

4.1.1.2 *Type 2, stand mounted:*

(1) *Type 2A—stand with plain legs.*

(2) *Type 2B—stand with casters.*

(3) *Type 2C—stand with bolt-down legs.*

4.1.1.3 *Type 3, for flush installation (drop-in type):*

4.1.2 *Size (Cooking Surface):*

4.1.2.1 Nominal 24-in. (610-mm) wide by 18-in. (457-mm) deep.

4.1.2.2 Nominal 24-in. (610-mm) wide by 24-in. (610-mm) deep.

4.1.2.3 Nominal 36-in. (914-mm) wide by 18-in. (457-mm) deep.

4.1.2.4 Nominal 36-in. (914-mm) wide by 24-in. (610-mm) deep.

4.1.2.5 Nominal 48-in. (1219-mm) wide by 24-in. (610-mm) deep.

4.1.2.6 Nominal 60-in. (1524-mm) wide by 24-in. (610-mm) deep.

4.1.2.7 Nominal 72-in. (1829-mm) wide by 24-in. (610-mm) deep.

4.1.2.8 This specification does not purport to address all of the sizes, which may be available, but it is an overview of the most common sizes used in the industry today.

4.1.3 *Styles:*

4.1.3.1 *Style 1—Gas-fired griddle.*

4.1.3.2 *Style 2—Electric griddle.*

4.1.3.3 *Style 3—Combination gas-fired/electric griddle.*

4.4.1 *Electrical Classes—Electric:*

4.4.1.1 *Class 1—Mode 01—208 V, 60 Hz, 1 phase.*

- 4.4.1.2 Class 2—Mode 02—208 V, 60 Hz, 3 phase.
- 4.4.1.3 Mode 03—220 V, 60 Hz, 3 phase.
- 4.4.1.4 Class 3—Mode 04—240 V, 60 Hz, 1 phase.
- 4.4.1.5 Class 4—Mode 05—240 V, 60 Hz, 3 phase.
- 4.4.1.6 Class 5—Mode 06—480/400 V, 60 Hz, 3 phase.
- 4.4.1.7 Class 6—Mode 07—480 V, 60 Hz, 3 phase.
- 4.4.1.8 Class 7—Mode 08—120 V, 60 Hz, 1 phase.
- 4.4.1.9 Class 8—220 V, 60 Hz, 3 phase.
- 4.4.1.10 Class 9—Mode 09—230 V, 50 Hz, 1 phase.
- 4.4.1.11 Class 10—Mode 10—400 V, 50 Hz, 3 phase.
- 4.4.1.12 Class 11—Mode 11—440 V, 60 Hz, 3 phase (shipboard use).

4.4.2 Gas:

4.4.2.1 Mode 12—Natural gas.

(1) Mode 13—Fixed propane fuel applications.

(2) Mode 14—Self-contained propane fuel applications.

4.4.2.2 Mode 15—Other gases (specify gas composition, heating value, and specific gravity).

4.4.3 Combination:

4.4.3.1 Mode 16—Combination electric/gas-fired griddle.

4.5 Size:

4.5.1 Size 01—Nominal width less than 24 in. (610 mm) and nominal depth less than 22 in. (559 mm).

4.5.2 Size 02—Nominal width less than 24 in. (610 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.3 Size 03—Nominal width less than 24 in. (610 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.4 Size 04—Nominal width of 24 in. (610 mm) and nominal depth less than 22 in. (559 mm).

4.5.5 Size 05—Nominal width of 24 in. (610 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.6 Size 06—Nominal width of 24 in. (610 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.7 Size 07—Nominal width of 36 in. (914 mm) and nominal depth less than 22 in. (559 mm).

4.5.8 Size 08—Nominal width of 36 in. (914 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.9 Size 09—Nominal width of 36 in. (914 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.10 Size 10—Nominal width of 48 in. (1219 mm) and nominal depth less than 22 in. (559 mm).

4.5.11 Size 11—Nominal width of 48 in. (1219 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.12 Size 12—Nominal width of 48 in. (1219 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.13 Size 13—Nominal width of 60 in. (1524 mm) and nominal depth less than 22 in. (559 mm).

4.5.14 Size 14—Nominal width of 60 in. (1524 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.15 Size 15—Nominal width of 60 in. (1524 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.16 Size 16—Nominal width of 72 in. (1829 mm) and nominal depth less than 22 in. (559 mm).

4.5.17 Size 17—Nominal width of 72 in. (1829 mm) and nominal depth range of 22 in. (559 mm) deep to 26 in. (660 mm) deep.

4.5.18 Size 18—Nominal width of 72 in. (1829 mm) and nominal depth greater than 26 in. (660 mm) deep.

4.5.19 This specification does not purport to address all of the widths and depths, which may be available, but it is an overview of the most common depths used in the industry today.

5. Ordering Information

5.1 An order for a griddle(s) under this specification shall specify the following:

5.1.1 ASTM specification number and date of issue.

5.1.2 Quantity to be furnished.

5.1.3 Type.

5.1.4 Size:

5.1.4 Style.

5.1.5 Group.

5.1.6 Electrical—Class.

5.1.7 Size.

5.2 The following options should be reviewed, and if any are desired, they also should be included in the order.

5.2.1 When Federal/military procurement(s) is involved, refer to the Supplementary Requirements section at the end of this specification.

5.2.2 Type of gas, if applicable, that is, natural, propane, or other (specify BTU/ft^3 gas³): composition, heating value and specific gravity).

5.2.3 Electrical power supply characteristics, including controls if applicable, such as voltage, frequency, phase, kW input, or amp load, as applicable.

5.2.4 When other than manufacturer's standard, commercial, domestic packaging is required, specify packaging requirements (see ~~13.12.1~~).

5.2.5 When special or supplement requirements, such as inspections, accessories, mounting patterns, utility connections, etc., or combination thereof, are required.

5.2.6 When specified, a certification to ensure that samples representing each lot have been either tested or inspected as directed and the requirements have been met. When specified, a copy of the certification or test results, or both, shall be furnished to the purchaser.

5.2.7 When ~~specified~~specified with a quick-disconnect gas supply. ~~When specified supply,~~ an approved quick disconnect (socket and plug) conforming to ~~ANSI Z21.41,~~ ANSI Z21.41 and a flexible metal connector conforming to ~~ANSI Z21.45 and consisting of a male pipe thread fitting on one end and a union with female thread on the opposite end~~ ANSI Z21.69 shall be provided with the griddle.

5.2.8 ~~Specify the location of the grease trough(s), type of drainage and splash guards.~~ When connected to a self-contained gas fuel source, cylinder configuration (size, orientation, and number) should be specified along with the type of cylinder connection device.

5.2.9 For a product for outdoor use only and if the purchase is for a propane self-contained appliance, the specifications should state: The griddle must be listed under ANSI Z83.11 for use with a self-contained propane system and the griddle shall be furnished with all necessary propane connection components in accordance with ANSI Z83.11, Part I Construction subsection titled "Self Contained LP-Gas Supply Systems." These components shall be those recognized for use on the griddle under the griddle's listing to ANSI Z83.11.

5.2.10 As a part of a propane self-contained system, if quoted that the self-contained propane tank shall be provided with the griddle, the specifications shall state:

5.2.10.1 The propane tank shall be constructed and marked in accordance with the specifications for propane cylinders of the U.S. Department of Transportation (DOT) or the specification for propane cylinders of the National Standard of Canada, CAN/CSA-B339, or both.

5.2.10.2 The propane tank connection shall be compatible with connection system components provided with griddle.

5.2.11 The grease trough configuration (front, rear, side, various combinations) must be specified.

6. Materials and Manufacture

6.1 ~~General—General:~~ Griddles shall conform to the applicable documents listed in Section 2. Materials used shall be free from defects, which would affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new or fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. None of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification unless otherwise specified.

6.1.1 Griddles shall conform to the applicable documents listed in Section 2.

6.1.2 Materials used shall be free from defects, which would affect the performance or maintainability of individual components or of the overall assembly.

6.1.3 Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice.

6.1.4 Use of used or rebuilt products is not allowed under this specification.

6.2 ~~Hardware and Fittings—~~Unless otherwise specified (see Section 5), all hardware and fittings shall be corrosion-resistant or suitably processed to resist corrosion in accordance with the manufacturer's standard practice.

6.3 ~~Threaded Parts—~~All threaded parts shall conform to ANSI B1.1.

7. Design and Construction

7.1 ~~General—~~Griddles and accessories shall conform to ANSI/UL No. 197 or ANSI Z83.11, as applicable, and ~~ANSI/NSF 4, ANSI/NFPA 54~~ ANSI/NSF 4, ANSI/NFPA 54, and ANSI Z223/NFPA 70, as applicable. Griddles shall be delivered assembled, ready for connection to electricity or gas piping, or both, as applicable.

7.2 ~~Service Connections—~~Provisions for service shall be provided in the back or bottom of the griddle. ~~Types~~ Styles 1 and 2 shall be capable of being banked side by side.

7.3 ~~Electrical Characteristics—~~All electric griddles shall be designed for operation on nominal voltage ratings, Hz, and phases as specified by electrical class.

7.4 ~~Griddle Cooking Surface—~~The ~~griddle~~ cooking surface shall not be porous, pitted, cracked, or distorted.

7.4.1 The cooking surface may be flat or grooved (which will have a specified groove spacing and width).

7.5 ~~Controls—~~When thermostatic controls are used, the temperature of each griddle section shall be controlled by a temperature regulating device or thermostat. If switches and thermostats are located on the front panel, they shall be recessed or