



Standard Specification for Heavy-Duty Ranges, Gas and Electric¹

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1. Scope

1.1 This specification covers heavy-duty ranges that use 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 standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This standard may involve hazardous materials, operations, and equipment. 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
F1496 Test Method for Performance of Convection Ovens
F1521 Test Methods for Performance of Range Tops

2.2 ANSI Standards:³

ANSI B1.1 Unified Inch Screw Threads (UN and UNR Thread Form)
ANSI Z1.4 Sampling Procedures and Tables for Inspection by Attributes
ANSI Z21.41/CSA 6.9 Quick-Disconnect Devices for Use With Gas Fuel Appliances

ANSI Z21.45 Flexible Connector of Other Than All-Metal Construction for Gas Appliances

ANSI Z83.11/CGA-1.8 Gas Food Service Equipment

2.3 NSF Standard:⁴

NSF/ANSI 4 Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transport Equipment

2.4 NFPA Standard:⁵

NFPA 70/ANSI Z223 National Electrical Code

NFPA 54/ANSI Z223 National Fuel Gas Code

2.5 UL Standard:⁶

UL/ANSI 197 Commercial Electrical Cooking Appliances

2.6 Military Standards:⁷

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 Electromagnetic 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 *broiler, n*—open cast iron or steel grate on which food is laid, allowing highly directional intense heat under the grate to cook the food. Another type is an overfired heat source, using highly directional intense heat over the food.

3.1.2 *convection oven, n*—as used in this specification, a device that combines the function of circulating hot convection air in an enclosed cavity by means of a fan or blower, which is operated by an electric motor, for the purpose of baking or roasting food.

3.1.3 *cook-top electric element, n*—open coil electrical elements supported to withstand the weight of filled cooking utensils in direct contact with the burners.

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.

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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.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁴ Available from NSF International, P.O. Box 130140, 789 N. Dixboro Rd., Ann Arbor, MI 48113-0140.

⁵ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101.

⁶ Available from Underwriters Laboratories (UL), Corporate Progress, 333 Pfingsten Rd., Northbrook, IL 60062.

⁷ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, or from Acquisition Streamlining and Standardization Information System (ASSIST) located at <http://dsp.dla.mil>.