



Standard Specification for Combination Oven Electric or Gas Fired¹

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1. Scope

1.1 This specification covers commercial combination, atmospheric pressure steaming, which includes low-temperature and bio-steaming, baking, roasting, and rethermalizing forced-air electric and gas-fired ovens.

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

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 8, of this specification: *This specification 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:

- A 36/A 36M Specification for Carbon Structural Steel²
- A 167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip³
- A 176 Specification for Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip³
- A 276 Specification for Stainless Steel Bars and Shapes³
- A 366/A 366M Specification for Commercial Steel (CS), Sheet, Carbon, (0.15 Maximum Percent) Cold-Rolled Quality³
- A 569/A 569M Specification for Steel, Carbon (0.15 Maximum Percent), Hot-Rolled Sheet and Strip Commercial Quality³
- D 3951 Practice for Commercial Packaging⁴
- F 760 Specification for Food Service Equipment Manuals⁵
- F 1166 Practice for Human Engineering Design for Marine Systems, Equipment and Facilities⁶

F 1639 Test Method for Performance of Combination Ovens⁵

2.2 ANSI Standards:

- ANSI/UL No. 197 Commercial Electric Cooking Appliances⁷
- ANSI Z83.11 Gas Food Service Equipment⁷
- ANSI/NFPA 70 National Electric Code⁷
- ANSI Z21.41 Quick Disconnect Devices for Use with Gas Fuel⁷
- ANSI Z21.45 Standard for Flexible Connectors of Other Than All-Metal Construction for Gas Appliances⁷
- ANSI/NFPA Z223.1 National Fuel Gas Code⁷
- ANSI B1.1 Unified Inch Screw Threads (UN and UNR Thread Form)⁷
- ANSI/NSF 4 Commercial Cooking, Rethermalization and Hot Food Holding and Transport Equipment⁷

2.3 Military Standards:

- MIL-STD-167/1 Shipboard Equipment (Type I-Environmental and Type II-Internally Excited)⁸
- MIL-STD-461 Electromagnetic Emission and Susceptibility Requirements for the Control of Electromagnetic Interference⁸
- MIL-STD-1399/300 Shipboard Systems Section 300A Electric Power, Alternating Current⁸

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *combination oven, n*—as used in this specification, a device that combines the function of hot convection air or saturated/super-heated steam, or both, to perform steaming, which includes low-temperature and bio-steaming, baking, roasting, rethermalizing and proofing of various food products. In general, the term combination oven is used to describe this type of equipment which is self-contained.

3.1.2 *oven cavity, n*—portion or area of the combination oven in which food products are heated or cooked.

3.1.3 *pans, n*—containers used to hold the food product in the oven cavity: a full-size bake or sheet pan is nominally 18 by 26 by 1 in. (457 by 660 by 25 mm), a half-size bake or sheet

¹ This specification is under the jurisdiction of ASTM Committee F-26 on Food Service Equipment and is the direct responsibility of Subcommittee F26.02 on Cooking and Warming Equipment.

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² Annual Book of ASTM Standards, Vol 01.04.

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 15.09.

⁵ Annual Book of ASTM Standards, Vol 15.07.

⁶ Annual Book of ASTM Standards, Vol 01.07.

⁷ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

⁸ Available from Standardization Documents Order Desk, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.