



Standard Specification for Frying and Braising Pans, Tilting Type¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers tilting frying and braising pans (also known as tilting skillets; hereinafter called braising pans) suitable for the preparation of foods by several methods, such as frying, braising, and boiling.

1.2 Braising pans shall be self-contained units with all required operating and safety controls ready for connection to utilities.

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

1.4 The following safety hazards caveat pertains only to the test methods portion, Section 9, of this specification: *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:

- 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 240/A 240M Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels³
- A 269 Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service⁴
- A 276 Specification for Stainless Steel Bars and Shapes³
- A 366/A 366M Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality³
- A 569/A 569M Specification for Steel, Carbon (0.15 Maxi-

um Percent), Hot-Rolled Sheet and Strip Commercial Quality³

D 3951 Practice for Commercial Packaging⁵

F 760 Specification for Food Service Equipment Manuals⁶

2.2 ANSI Standard:

ANSI Z83.11 Gas Food Service Equipment's Counter Appliances⁷

2.3 Underwriters Laboratories Standard:⁸

UL Standard No. 197 Commercial Electric Cooking Appliances

2.4 National Sanitation Foundation Standard:⁹

NSF Standard No. 4 Commercial Cooking and Hot Food Storage Equipment

3. Classification

3.1 Braising pans of the following types are covered by this specification:

3.1.1 *Type I*—Electrically-Heated, and

3.1.2 *Type II*—Gas-Fired.

3.2 Braising pans of the following styles are covered by this specification:

3.2.1 *Style 1*—Counter-Mounted Pans:

3.2.1.1 *Style 1a*—Rectangular.

3.2.1.2 *Style 1b*—Circular.

3.2.2 *Style 2*—Wall-Mounted Pans.

3.2.3 *Style 3*—Floor-Mounted Pans with Open Stand.

3.2.4 *Style 4*—Floor-Mounted Pans with Cabinet Base.

4. Ordering Information

4.1 Orders for braising pans under this specification shall include the following information:

4.1.1 ASTM specification number and date of issue.

4.1.2 Quantity of pans to be furnished.

4.1.3 Type pan:

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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 01.01.

⁵ *Annual Book of ASTM Standards*, Vol 15.09.

⁶ *Annual Book of ASTM Standards*, Vol 15.07.

⁷ Available from the American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036.

⁸ Available from the Underwriters Laboratories, Inc., 333 Pfingsten Rd., Northbrook, IL 60062.

⁹ Available from the National Sanitation Foundation, NSF Building, Ann Arbor, MI 48105.

4.1.3.1 For Type I braising pans, specify operating voltage, phase, and Hertz.

4.1.3.2 For Type II braising pans, specify gas (natural, propane, butane, etc.).

4.1.4 Braising pan style.

4.1.5 Braising pan size.

4.1.6 State test sampling size if quantity is greater than one.

4.1.7 When other than manufacturer's standard, commercial, domestic packaging is required, specify packaging requirements.

4.1.8 Special requirements such as inspections, accessories, additional nameplate data, etc.

TABLE 1 Sizes of Braising Pans

| Size | Style ^A | Approximate Cooking Surface, in. ² | Approximate Capacity, gal |
|------|--------------------|---|---------------------------|
| 0 | 1a | 410 | 12 |
| 1 | 1b | 430 | 15 |
| 2 | 2, 3 | 576 | 17 |
| 3 | 2, 3 | 576 | 22 |
| 4 | 2, 3, 4 | 740 | 22 |
| 5 | 2, 3, 4 | 740 | 29 |
| 6 | 4 | 860 | 26 |
| 7 | 2, 3, 4 | 980 | 30 |
| 8 | 2, 3, 4 | 980 | 38 |
| 9 | 2, 3, 4 | 1060 | 40 |

^A Height from floor to pan rim on Styles 3 and 4 pans shall not exceed 41 in. (1041 mm).

TABLE 2 Unacceptable Defects

| Examine | Defect |
|------------------------------|--|
| Design | Not in accordance with specified requirements. |
| Finish | Not finished where required, or Finish stained or not type-specified, or has embedded foreign matter, or Has burrs or slivers on surface to be handled during operation. |
| Construction | Workmanship not as specified, or Sheet metal surface dented or otherwise given a poor appearance, or Cover does not close properly or distorts during operation, or Welding defects such as cracks, incomplete fusion, undercuts, inclusions, scale or flux not removed, and burn-through holes. |
| Components and subassemblies | Improper assembly, or Damaged, defective, missing, incorrect type of size castings, miscast, incomplete, or containing blow holes, or Parts inoperative or will not function as intended; fasteners missing, loose, broken, stripped. |
| Wiring | Not easily identified, cut, abraded, loose at terminal, or Inadequate slack for strain relief. |
| Marking | Missing, incomplete, illegible, not correct data or data plate material. |
| Instruction manuals | Missing, incomplete, illegible. |

5. Physical Requirements

5.1 *Design and Manufacture*—The braising pan shall consist of a flat bottom pan section, a tilting mechanism, a control system, a stand, a cover (except as noted in 5.1.5), and a method of applying heat to the pan bottom (such as using burners or electric heaters).

5.1.1 *Pan Section*—The pan section shall have a flat bottom to which various depth side(s) are cast in, formed, or welded. The top edge of the front wall of the pan section shall have a product-retaining lip to limit spillover. There shall also be a pouring lip or spout on the front wall. The bottom, the side, rear and front walls, and the pouring lip shall be of integral construction.

5.1.2 *Tilting Mechanism*—The tilting mechanism for Styles 2, 3, and 4 pans shall provide a means of tilting the fully-loaded pan section from the normal horizontal operating position to the position in which the contents of the pan will drain. The tilting mechanism shall be self-locking with the loaded or empty pan section in any position between level and fully tilted.

5.1.3 *Control System*:

5.1.3.1 Type I pans shall be equipped with electric heaters. The control system shall energize and de-energize the heaters as required by the operation of the temperature control and high limit and safety controls.

5.1.3.2 Type II pans shall be equipped with gas burners and have a means for automatic ignition of main burner gas. A constant burning pilot, or an electrically ignited pilot or pilotless ignition (direct spark ignition or glow coil), shall be provided for each burner system. The control system shall shut off the gas to all burners, including pilot burners, in the event the means of ignition becomes inoperative. The control system shall turn the burners "on" and "off" as required by the operation of the temperature control and high limit and safety controls.

5.1.3.3 When the pan is tilted more than 10° from the horizontal position, the power supply or gas to the main burners shall be turned off automatically.

5.1.3.4 Each pan shall be equipped with an adjustable thermostat and the range shall include 200° to 400°F (93.3° to 204.4°C). This thermostat shall automatically control the pan cooking surface temperature and must contain an "off" position as an integral part of the thermostat.

5.1.3.5 Each pan shall be equipped with a high temperature limit protection set at a maximum of 460°F (237.77°C) in addition to the adjustable thermostat.

5.1.4 *Stands*:

5.1.4.1 Stands, bases, and cabinet supports shall be constructed to safely support a pan loaded to capacity (see Table 1) during the loading, cooking, and emptying operations.

5.1.4.2 The base for Style 1a or Style 1b pans shall have provisions for attaching the base to the countertop.

5.1.4.3 Style 2 pans shall have a rear support bracket for attachment of the pan to the in-wall carrier. Attachment means it shall be readily accessible.

5.1.4.4 Open stands for Style 3 pans constructed of pipe or tubing shall be not less than 1.5 in. (38.1 mm) in outside diameter and not less than 0.060 in. (1.52 mm) in thick wall