



Standard Specification for Freezers, Ice Cream, Soft Serve, Shake¹

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1. Scope

1.1 This specification covers commercial ice cream, soft serve, and shake freezers, which freeze and dispense frozen product (dairy, yogurt, custard, etc.) on a continuous basis. Included are conventional and heat-treatment freezers.

1.2 Equipment covered under this specification may contain a substance (or be manufactured with a substance) that harms public health and environment by destroying ozone in the upper atmosphere. This specification does not purport to address environmental regulations. It is the responsibility of the user of this standard to comply with environmental regulations (see 7.7).

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

1.4 *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 167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip²

A 176 Specification for Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip²

D 3951 Practice for Commercial Packaging³

F 760 Specification for Food Service Equipment Manuals⁴

2.2 UL Standard:⁵

Standard No. 621 for Ice Cream Makers

2.3 NSF Standard:⁶

Standard No. 6 for Dispensing Freezers

2.4 ANSI Standards:⁷

B1.1 Unified Inch Screw Threads (UN and UNR Thread Form)

Z1.4 Sampling Procedures and Tables for Inspection by Attributes

2.5 Military Standards:⁸

MIL-R-12323 Refrigerators and Related Equipment, Packaging and Packing

MIL-STD-167/1 Mechanical Vibrations of Shipboard Equipment, Type I—Environmental and Type II—Internally Excited

MIL-STD-461 Electromagnetic Interference and Susceptibility Requirements for the Control of Electromagnetic Interference

MIL-V-173 Varnish, Moisture and Fungus Resistant (for Treatment of Communications, Electronics and Associated Equipment)

MIL-STD-462 Electromagnetic Interference Characteristics, Measurement of

MIL-STD-1399/300 Interface Standard for Shipboard Systems Section 300A Electric Power, Alternating Current

3. Terminology

3.1 *corrosion-resistant steel*—corrosion-resisting steel shall conform to any of the 300 Series of Specification A 167, or the 400 Series of Specification A 176, where permitted by NSF Std. 6.

3.2 *heat-treatment freezers*—operate as conventional freezers and heat daily all product to 150°F (66°C) minimum for at least 30 minutes to destroy undesirable microorganisms.

3.3 *overrun*—the increase in volume due to the addition of air to frozen softserve and shake products, calculated by this formula:

$$\frac{A - B}{B} \times 100 = \text{percent overrun} \quad (1)$$

where:

A = weight of the liquid mix, and

B = weight of same volume of frozen product.

3.4 *recovered materials*—materials that have been collected

¹ This specification is under the jurisdiction of ASTM Committee F-26 on Food Service Equipment and is under the direct responsibility of F26.03 on Storage and Dispensing Equipment.

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² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 15.09.

⁴ Annual Book of ASTM Standards, Vol 15.07.

⁵ Available from Underwriters Laboratories, Inc., 333 Pfingsten Rd., Northbrook, IL 60062.

⁶ Available from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140.

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.