Food equipment materials

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NSF International Standard/
American National Standard
for Food Equipment —

Food equipment materials

Standard Developer

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Foreword[2]

The purpose of this Standard is to establish minimum food protection and sanitation requirements for the materials used in the construction of commercial food equipment.

By way of reference, this Standard will define the basic materials requirements for all equipment covered by NSF/ANSI Food Equipment Standards.

This Standard establishes requirements intended to ensure that a material is not formulated such that it may impart deleterious substances to food in its intended end use application. This Standard does not define specific extraction test methods or acceptance criteria to be used to assess the extent of chemical migration from food contact surfaces to food. Instead, the appropriate United States Federal Regulations have been cited as references upon which conformance with this Standard is based. Other NSF/ANSI Standards may establish extraction tests and acceptance criteria, as needed, for specific types of equipment based on the materials used in their construction and the nature of the food contact (i.e., beverage dispensing equipment, ice making equipment).

This Standard establishes cleanability, corrosion resistance, impact resistance, abrasion resistance, heat resistance, and coating adhesion ability requirements and testing methods for food equipment materials of construction, as applicable.

This edition of NSF 51 establishes specific requirements and use limitations for a variety of material types including stainless steels, aluminum, copper and copper alloys, porcelain, metallic and organic coatings, glass and wood. New to this edition are requirements and testing criteria for equipment used solely for the serving and display of foods.

This Standard was developed by the NSF Joint Committee on Food Equipment using the consensus process of the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. Comments should be sent to the Chairperson of the Joint Committee on Food Equipment c/o NSF International, PO Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF/ANSI Standard
for Food Equipment –

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1 General

1.1 Purpose

This Standard establishes minimum public health and sanitation requirements for materials used in the construction of commercial food equipment. The requirements of this Standard are intended to ensure that the composition and surface finish of food equipment materials are such that a material will not adulterate food nor render food equipment difficult to clean and sanitize.

1.2 Scope

This Standard is applicable to the materials and finishes used in the manufacture of food equipment (e.g., broiler, beverage dispenser, cutting board, stock pot). The Standard is also applicable to components such as tubing, sealants, gaskets, valves, and other items intended for various food equipment applications.

These components shall meet the relevant design and construction requirements of the NSF Standard applicable to the type of food equipment on which the component is used.

The requirements of 4 of this Standard may also be applied separately to determine if a material is suitable for use in a food zone based on its formulation alone. The other relevant requirements of this Standard, including those for cleanability and corrosion resistance, would apply to the finished product for which the material is used.

Materials other than those specifically mentioned in this Standard may be used provided such materials meet the minimum requirements described herein.

1.3 Measurement

Decimal and SI conversions provided parenthetically shall be considered equivalent. Metric conversions have been made according to IEEE/ASTM SI 10.

2 Normative references

The following documents contain provisions that, through reference, constitute provisions of this NSF/ANSI Standard. At the time of publication, the editions listed below were valid. All standards are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below.

ASTM B 117–97 *Standard Practice for Operating Salt Spray (Fog) Apparatus*[3]

ASTM B 916–01, *Standard Test Method for Adherence of Porcelain Enamel Coatings to Sheet Metal*[3]

ASTM D 2794–93 (1999)e1, *Standard Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)*[3]

ASTM D 3359–97 *Standard Test Methods for Measuring Adhesion by Tape Test*[3]

IEEE/ASTM SI 10–1997, *Standard for the Use of the International System of Units (SI): The Modern Metric System*[3]

[3] ASTM International, 100 Barr Harbor Dr., West Conshohocken, PA 19428