

NSF/ANSI 18. *Manual food and beverage dispensing equipment*

NSF/ANSI 51. *Food equipment materials*

NSF/ANSI 170. *Glossary of food equipment terminology*

3 Definitions

Terms used in this Standard that have special technical meaning are defined in NSF/ANSI 170.

4 Materials

The requirements contained in this section are intended to protect food from contamination and ensure that the materials used in the manufacture of commercial cooking, rethermalization, and powered hot food holding and transport equipment resist wear, penetration by vermin, and the effects of foods, heat, cleaning compounds, sanitizers, and other substances that may contact the materials in the intended use environment. Materials used in unexposed non-food zone areas shall be exempt from all requirements in 4.

4.1 Conformance with NSF/ANSI 51

4.1.1 Except as noted in 4.1.2, 4.1.3, and 4.1.4, materials shall conform to the requirements in NSF/ANSI 51 applicable to the zone in which the material is used.

4.1.2 Oven interiors: Oven interiors shall be nontoxic; corrosion-resistant metal; metal treated with a heat-resistant coating, or another nontoxic, corrosion-resistant, and cleanable material. The use of refractory concrete and other high-temperature ceramic materials, including fire brick, shall be limited to the following:

- Oven decks whose direct contact with food is restricted to pizza and bread products only. The oven may be used for cooking other types of food, provided that the food is cooked in or on pans or other containers to prevent spillage onto the oven deck.
- Interior surfaces (including walls, ceilings, and decks) of ovens intended for cooking pizza and bread products only. The oven shall have a permanent, heat-resistant label stating that its use is restricted to cooking pizza and bread products only. The label shall be clearly visible to the user after installation of the equipment.
- Interior surfaces (including walls, ceilings, and decks) of pyrolytic self-cleaning hearth ovens meeting the performance test requirements of 6.5, whose direct contact with food is restricted to pizza and bread products only. The oven may be used for cooking other types of food, provided that the food is cooked in or on pans or other containers to prevent spillage onto the oven deck. Manufacturers shall provide instructions for pyrolytic oven cleaning procedures in the operation manual.
- Oven decks and interiors may be constructed of asbestos cement if the asbestos cement is able to meet the abrasion resistance criteria of 6.6.

4.1.3 Materials that are not corrosion resistant may be used for the following applications:

- surfaces on fat/oil fryers and fat/oil filtration systems continually wetted by fat or oil during normal operation, including fryer bowl aprons and surrounding areas; and
- the tops of hot-top ranges and griddles; and

- cooking grates; and
- burners and heating elements; and
- splash guards on griddles; and
- spreader plates; and
- supports located between a cooking surface and a burner.

4.1.4 Heated metal components used exclusively to generate steam by means of contact with potable water are not required to be corrosion resistant, provided that the components are not located in a food zone or splash zone and that any corrosion products are diverted to a drain.

4.1.5 Fluoropolymer coatings, such as polytetrafluoroethylene, may be used in a heated food zone provided that the substrate material conforms to the food zone material requirements in NSF/ANSI 51.

4.2 Solder

Solder containing lead as an intentional ingredient shall not be used in a food zone or splash zone.

4.3 Gaskets

Gaskets shall be made of resilient rubber, rubber-like materials or plastics. Gasket materials shall conform to NSF/ANSI 51 and shall function at any temperature to which they are exposed in normal operation. Oven gaskets may be made of woven fiberglass or similar materials that conform to NSF/ANSI 51.

4.4 Fryer and steam cooker baskets

Baskets on fat/oil fryers and steam cookers shall be constructed of stainless steel or metallic-coated steel conforming to the food zone material requirements in NSF/ANSI 51. Tin coatings, if used, shall be at least 95% pure tin.

4.5 Fat/oil fryers and filters

4.5.1 Materials used for the drain valves and piping of fat/oil fryers shall conform to the food zone requirements of NSF/ANSI 51.

4.5.2 The interiors of enclosure cabinets for fat/oil filters shall conform to the food zone materials requirements of NSF/ANSI 51, unless the filter is equipped with a protective cover. If a protective cover is provided, non-food zone material requirements shall apply to the cabinet interior.

4.5.3 Filter paper and filter aids for fat/oil filters shall not be required to be easily cleanable. Absorbent materials may be used.

4.6 Beverage equipment

Beverage equipment having brass or bronze components in contact with tea, coffee, or water (as permitted under NSF/ANSI 51) shall not impart a lead (Pb) concentration greater than 15 µg/L when tested in accordance with annex B.

4.7 Brick

Construction brick and similar uncleanable materials shall not be used except as permitted in 4.1.2. The use of fire brick is acceptable only on surfaces located behind or below cooking surfaces. Fire brick shall not be used on surfaces intended for direct food contact.