Task Group on Food Equipment Fabrication
2i32r2 & 51i26r1 Straw Ballot
November 23, 2021

Purpose

This ballot is to affirm new language regarding glass and glass-like tableware in Sections 4, 5 and 6 of NSF/ANSI 2, and revised language in Section 4 of NSF/ANSI 51.

Background

Issue paper FE-2018-17 proposed revisions to sections 5 and 6 of Standard 2 regarding glass and glass-like tableware. The proponent contends that since these materials are used extensively in food service establishments and pose a potential physical threat to consumers, Standard 2 should be revised to encompass these items.

This issue paper was presented to the Food Equipment JC during the 2018 Face-to-Face meeting where it was motioned to be sent to the Task Group (TG) on Food Equipment Fabrication for discussion and possible language development. Since that time this TG has met 5 times and discussed this topic extensively. To further the language development, a small Ad Hoc group including the issue proponent have met to construct draft language based on the TG discussion. This language was then sent to the TG as a straw ballot which resulted in a vote of **1 : 6 : 9 (Yes : No : Abstain)** and multiple comments.

These comments were discussed and addressed during the November 2, 2021 TG meeting, where the Ad Hoc group also agreed to meet and further revise the language based on all the feedback. This revision 2 ballot represents draft language developed by the Ad Hoc group and is presented here for your consideration.

The grey highlighted portions of the language are proposed additions to the language of the standard.
The ~~strikeout~~ portions of the language are proposed deletions to the language of the standard.

An affirmative (yes) vote on this straw ballot means you agree with the revised language as submitted.

A negative (no) vote on this straw ballot means you disagree with the revised language as submitted. A negative vote must include an explanation of why you disagree with the revised draft.

[Note – the recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by grey highlighting. Rationale Statements are in *red italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF International Standard/
American National Standard –

Food equipment

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4 Materials

4.X Glass and Glass-Like Tableware

Glass and glass-like materials including, but not limited to, porcelain and ceramic, may be permitted in the manufacture of tableware.

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5 Design and construction

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5.X Tableware

5.X.X Tableware shall comply with all applicable requirements within Sections 4 and 5.

5.X.X Glass and glass-like tableware shall be tested for impact resistance and thermal shock resistance in accordance with Section 6.X and 6.X.

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6 Performance

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6.X Glass and Glass-Like Tableware – Impact Resistance Test

6.X.X Performance requirement

The impact resistance of glass and glass-like tableware shall be evaluated using three samples of each unique structural design to demonstrate capability of enduring common impact scenarios.

6.X.X Test method for flat tableware

The sample shall be conditioned for at least 24 h at 73 ± 3 °F (23 ± 2 °C) and 50 ± 5% relative humidity. The impact force shall be generated by a 0.625 in (15.9 mm) diameter stainless steel ball weighing 0.035 ± 0.001 lb (16.0 ± 0.5 g) dropped from a height of 13 in (33 cm) striking perpendicular to the surface. At the time of impact, test samples shall be supported by a 3/4 in (0.75 in, 19 mm) thick, 45 lb/ft^3 (721 kg/m^3) nominal density particle board. Three separate impacts shall be applied to the flat, horizontal, functional surface of the sample. Three additional separate impacts shall be applied to the rim of the sample such that the direction of force is parallel to the adjacent surface of the rim. The sample shall be repositioned after each impact such that the subsequent impacts strike a different area of the sample.

6.X.X Test method for holloware

The sample shall be conditioned for at least 24 h at 73 ± 3 °F (23 ± 2 °C) and 50 ± 5% relative humidity. The impact force shall be generated by a 0.625 in (15.9 mm) diameter stainless steel ball weighing 0.035 ± 0.001 lb (16.0 ± 0.5 g) dropped from a height of 13 in (33 cm) striking perpendicular to the surface. At the time of impact, test samples shall be supported on the outer wall by using particle board vee blocks shimmed to make the surface perpendicular. With sample oriented horizontally three separate impacts shall be applied to the edge of the open end (lip), center of the wall, edge of the closed end (heel) of the sample. (See Figure XX). The sample shall be repositioned after each impact such that the subsequent impacts strike a different area of the sample.

6.X.X Acceptance criteria

The test samples shall not exhibit any cracking, chipping, or breaking.

6.X Glass and Glass-Like Tableware – Thermal Shock Test

6.X.X Performance requirement

The thermal shock resistance of glass and glass-like tableware shall be evaluated using two samples of each unique structural design to demonstrate capability of enduring common thermal variations.

6.X.X Test method

A thermal shock cycle shall consist of a 30 minute exposure to heated air in an oven at 219 °F ± 7 °F (104 °C ± 4 °C) followed by a 15 second immersion in a cold water bath of 39 °F ± 7 °F (4 °C ± 4 °C). Each sample shall be subjected to a total of 5 thermal shock cycles with a resting period of 15 minutes at an ambient temperature of 75 °F ± 5 °F (24 °C ± 3 °C) prior to initiating the next cycle. Visually inspect the samples after each cycle and note any physical changes.

6.X.X Acceptance criteria

Test samples shall not show signs of cracking, crazing, or breaking.

***Rationale**: Glass and glass-like tableware pose a potential physical threat to consumers in the foodservice space. The intent of this revision to Standard 2 is to fill the current gaps in this area.*

NSF International Standard/
American National Standard –

NSF/ANSI 51 Food Equipment Materials

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4 Material formulation

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4.2.4 Glass and glass-like materials

Glass and glass-like materials, including porcelain, porcelain enamels, and ceramic coatings, shall not be used on surfaces intended for direct food contact that are also subject to impact by hard objects during use (e.g., countertops, tabletops, cutting boards, cooking surfaces) except as permitted in Section 4.2.4.1. and in NSF/ANSI 2.

Rationale: The general requirement prohibiting the use of glass and glass-like materials in a food zone remains in NSF/ANSI 51 but the exemptions are moved to NSF/ANSI 2.

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Figure XX