

STANDARD INFORMATION

Standard: NSF/ANSI 3

Standard ID: Commercial Warewashing Equipment [NSF/ANSI 3:2021]

Previous Standard ID: Commercial Warewashing Equipment [NSF/ANSI 3:2019]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **October 12, 2023**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes:

- This revision adds language covering the use concentrations of chemical sanitizing solutions used. **Any unit that uses a chemical sanitizing solution will need to have the use concentration verified and included in the listing report.**
- Procedural modifications for soil removal testing of dishwashing machines, glasswashing machines and pot, pan and utensil washing machines were added to address any spatial constraints during application of the test method.
- A new test method was added for hot water sanitizing glasswashing machines. **This will require all hot water sanitizing glasswashing machines to undergo additional testing.**

Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below. New requirements for which additional evaluation or testing may be necessary (depending on applicability to the listed product) are shaded in light gray</i></p>
6	Info	Performance
6.1	Info	Soil removal
6.1.1	Info	Dishwashing machines
		Test method
6.1.1.2	Procedural	<p>The soil removal efficacy of dishwashing machines shall be evaluated by observing the machine’s ability to remove a dry coating of buttermilk from the surfaces of dinner plates and glasses. Prior to the test, a coating of buttermilk (1% milkfat) shall be applied to the top surface of glazed china dinner plates (diameter: 9 in [225 mm]) and the outer lips and interior surfaces of Libbey #6188 milk glasses (8 oz) or the equivalent. <u>If the wash chamber design creates spatial constraints that will not accommodate the required size plates or glasses the largest standard size that each required location can accommodate shall be used.</u> The soiled plates and glasses shall be inverted and allowed to drain for 45 min before being transferred to racks where they shall be allowed to air dry at 100 °F (37 °C) for 17 h. The plates and glasses shall be arranged in the racks or directly on the conveyor according to the test patterns shown in Figure 1 for the specific machine design.</p>
6.1.2	Info	Glasswashing machines
		Test method
6.1.2.2	Procedural	<p>The soil removal efficacy of glasswashing machines shall be evaluated by observing the machine’s ability to remove a dry coating of buttermilk on the surface of glasses. A coating of buttermilk (1% milkfat) shall be applied to the outer lips and interior surfaces of Libbey #6188 milk glasses (8 oz) or the equivalent. The soiled glasses shall be inverted and allowed to drain for 45 min before being transferred to racks where they shall be allowed to air dry at 100 °F (37 °C) for 17 h. The glasses shall be arranged in the racks or directly on the conveyor according to the test patterns shown in Figure 2 for the specific machine design. <u>The patterns shown in Figure 2 are based on standard 20 × 20 in rack sizes. If a glasswashing machine is specifically designed and manufactured to accommodate fewer glasses, the patterns shall be adjusted accordingly to achieve the maximum number of glasses the glasswashing machine will accommodate in each pattern configuration.</u> Up to two trials of each test pattern shall be subjected to a complete dishwashing machine cycle in accordance with the manufacturer's instructions. The surfaces of the glasses shall be visually inspected for any remaining buttermilk or detergent.</p>



CLAUSE	VERDICT	COMMENT
6.2	Info	Sanitization efficacy
6.2.2	Info	Hot water sanitizing glasswashing machines
		Test method
		<u>HUE delivered by a hot water sanitizing glasswashing machine shall be quantified by continuous monitoring of the temperature at the surface of a glass over the course of a complete machine cycle. The glass shall be a Libbey #6188 milk glass (8 oz) or the equivalent. Prior to the test, the machine shall be operated for at least one cycle to verify that the machine is operating in accordance with the manufacturer's minimum specifications. After verification of proper machine functioning, a standard rack containing a single glass at one of the three locations shown in Figure 5 shall be subjected to one complete machine cycle.</u>
6.2.2.2		<u>A single empty rack may be run through a complete cycle just prior to the test rack. The temperature at the glass surface shall be monitored by a calibrated thermocouple attached at the inside, bottom, center of the glass. The thermocouple shall have an accuracy of ± 1 °F (± 0.5 °C). This test shall be repeated for the two remaining glass locations indicated in Figure 5. For testing of rackless conveyor machines, the glass shall be placed on the conveyor at locations corresponding to those on the rack in Figure 5.</u>
		<u>If the glass washing machine is specifically designed to accommodate fewer glasses, the location of the glass shall be adjusted to achieve the maximum locations the machine will accommodate relative to the patterns in Figure 5.</u>
		<u>For stationary rack machines, glass temperatures shall be recorded at intervals of 1 s from the start of the cycle until 10 s after the cycle is finished (the machine door shall be opened at cycle completion). For conveyor machines, glass temperatures shall be recorded at intervals of 1 s from the time the glass enters the machine until 10 s after the glass has emerged from the final sanitizing rinse.</u>
		<u>All temperature data points of 143 °F (62 °C) or greater shall be used to calculate the total HUE delivered. Calculation of HUE at each glass location shall be based on the information in Annex N-1.</u>
		Acceptance criteria
6.2.2.3		A minimum of 3600 HUE shall be accumulated at each of the three glass locations in the machine.
6.2.4	Info	Hot water sanitizing pot, pan, and utensil washing machines



CLAUSE	VERDICT	COMMENT
		<p>Test method</p> <p>The HUE delivered by hot water sanitizing machines shall be quantified by continuous monitoring of the temperature at the surface of an 8 × 12 in (20 × 30 cm) stainless steel sheet pan over the course of a complete machine cycle. <u>If the wash chamber design creates spatial constraints that will not accommodate the required size sheet pan the largest standard size that each required location can accommodate shall be used.</u> Prior to the test, the machine shall be operated for at least one cycle to verify that the machine is operating in accordance with the manufacturer's minimum specifications. After verification of proper machine functioning, a standard dish rack containing a single sheet pan at one of the three locations shown in Figure 4 shall be subjected to one complete machine cycle. A single empty rack may be run through a complete cycle just prior to the test rack. The temperature at the pan surface shall be monitored by a calibrated thermocouple attached at the center of the sheet pan. The thermocouple shall have an accuracy of ± 1 °F (± 0.5 °C). This test shall be repeated for the two remaining pan locations indicated in Figure 4.</p> <p>During testing of rackless conveyor machines, the pans shall be placed on the conveyor at locations corresponding to those on the rack in Figure 4. For stationary rack machines, pan temperatures shall be recorded at intervals of 1 s from the start of the cycle until 10 s after the cycle is finished (the machine door shall be opened at the cycle completion). For conveyor machines, pan temperatures shall be recorded at intervals of 1 s from the time the pan enters the machine until 10 s after the pan has emerged from the final sanitizing rinse.</p> <p>All temperature data points of 143 °F (62 °C) or greater shall be used to calculate the total HUE delivered. Calculation of HUE at each plate location shall be based on the information in Annex N-1.</p>
6.2.4.2 (Previously Section 6.2.3.2)	Procedural	
7	Info	Manufacturer's specifications
7.2	Info	Chemical sanitizing machines
7.2.3		<p>The type of chemical sanitizing solution specified by the manufacturer shall be among those listed in 40 CFR § 180.940.3. <u>The recommended use concentrations shall comply with Table 6.1. Recommended use concentrations of sanitizers not included in Table 6.1 shall comply with part (a) of 40 CFR §180.940,3 or shall comply with the registered use label applicable to the authority having jurisdiction, such as EPA or Health Canada.</u></p>