

CHAPTER 6

Equipment and Utensils

Section 1. Equipment and Utensils, Design and Construction.

(a) Equipment and utensils shall be designed and constructed to be durable and to retain their characteristic qualities under conditions of normal use.

Section 2. Lead in Ceramic, China, and Crystal Utensils; Use Limitation.

(a) Ceramic, china, crystal utensils, and decorative utensils such as hand painted ceramic or china that are used in contact with food shall be lead-free or contain levels of lead not exceeding the limits of the following utensil categories:

Utensil Category	Description	Maximum Lead mg/l
Hot Beverage Mugs	Coffee Mugs	0.5
Large Hollowware	Bowls \geq 1.1 l (1.16 qt)	1
Small Hollowware	Bowls $<$ 1.1 l (1.16 qt)	2.0
Flat Utensils	Plates, Saucers	3.0

Section 3. Copper, Use Limitation.

(a) Except as specified in chapter 6, section 3(b), copper and copper alloys such as brass may not be used in contact with a food that has a pH below 6 such as vinegar, fruit juice, or wine or for a fitting or tubing installed between a backflow prevention device and a carbonator.

(b) Copper and copper alloys may be used in contact with beer brewing ingredients that have a pH below 6 in the prefermentation and fermentation steps of a beer brewing operation such as a brewpub or microbrewery.

Section 4. Galvanized Metal, Use Limitation.

(a) Galvanized metal may not be used for utensils or food-contact surfaces of

equipment that are used in contact with acidic food.

Section 5. Lead in Pewter Alloys, Use Limitation.

(a) Pewter alloys containing lead in excess of 0.05% may not be used as a food contact surface.

Section 6. Single-Service and Single-Use.

(a) Materials that are used to make single-service and single-use articles:

(i) May not:

(A) Allow the migration of deleterious substances; or

(B) Impart odors, colors, or tastes to food; and

(ii) Shall be:

(A) Safe; and

(B) Clean.

Section 7. Lead in Solder and Flux, Use Limitation.

(a) Solder and flux containing lead in excess of 0.2% may not be used as a food-contact surface.

Section 8. Wood, Plastic; Use Limitation.

(a) Except as specified in chapter 6, section 8(b), (c), and (d), wood and wood wicker may not be used as a food-contact surface.

(b) Hard maple or an equivalently hard, close-grained wood may be used for:

(i) Cutting blocks; cutting boards; bakers' tables; and utensils such as rolling pins, doughnut dowels, salad bowls, and chopsticks; and

(ii) Wooden paddles used in confectionery operations for pressure scraping kettles when manually preparing confections at a temperature of 230°F (110°C) or above.

(c) Whole, uncut, raw fruits and vegetables, and nuts in the shell may be kept in

the wood shipping containers in which they were received, until the fruits, vegetables, or nuts are used.

(d) If the nature of the food requires removal of rinds, peels, husks, or shells before consumption, the whole, uncut, raw food may be kept in:

(i) Untreated wood containers; or

(ii) Treated wood containers if the containers are treated with a preservative that meets the requirements specified in 21 CFR 178.3800 Preservatives for wood.

(e) Safe plastic or safe rubber or safe rubber-like materials that are resistant under normal conditions of use to scratching, scoring, decomposition, crazing, chipping and distortion, that are of sufficient weight and thickness to permit cleaning and sanitizing by normal dishwashing methods may be used.

Section 9. Shells, Use Limitation.

(a) Mollusk and crustacea shells may not be used more than once as serving containers.

Section 10. Single-Service and Single-Use Articles, Use Limitation.

(a) Single service and single-use articles may not be reused.

(b) The bulk milk container dispensing tube shall be cut on the diagonal leaving no more than one inch protruding from the chilled dispensing head.

Section 11. Single-Service and Single-Use Articles, Required Use.

(a) An establishment without facilities specified under chapter 7, sections 1 and 2, for cleaning and sanitizing kitchenware and tableware shall provide only single-use kitchenware, single-service articles, and single-use articles for use by food employees and single-service articles for use by consumers.

Section 12. Food Equipment, Certification and Classification.

(a) Food equipment that is certified or classified for sanitation by an American National Standards Institute (ANSI)-accredited certification program, as amended, will be deemed to comply with sections 1 and 13, of this chapter.

Section 13. Characteristics of Food Contact Surfaces.

(a) Materials that are used in the construction of utensils, and food-contact surfaces of equipment may not allow the migration of deleterious substances or impart colors, odors, or tastes to food under conditions of normal use and shall be:

- (i) Safe;
- (ii) Durable, corrosion-resistant, and nonabsorbent;
- (iii) Sufficient in weight and thickness to withstand repeated warewashing;
- (iv) Finished to have a smooth, easily cleanable surface; and
- (v) Resistant to pitting, chipping, crazing, scratching, scoring, distortion, and decomposition.

Section 14. Conditioning Device, Design.

(a) A water filter, screen, and other water conditioning device installed on water lines shall be designed to facilitate disassembly for periodic servicing and cleaning. A water filter element shall be of the replaceable type.

Section 15. Nonstick Coatings, Use Limitation.

(a) Multi-use kitchenware such as frying pans, griddles, sauce pans, cookie sheets, and waffle bakers that have a perfluorocarbon resin coating shall be used with nonscoring or nonscratching utensils and cleaning aids.

Section 16. Food-Contact Surfaces.

- (a) Multi-use food-contact surfaces shall be:
- (i) Smooth;
 - (ii) Free of breaks, open seams, cracks, chips, pits, and similar imperfections;
 - (iii) Free of sharp internal angles, corners and crevices;
 - (iv) Finished to have smooth welds and joints; and
 - (v) Accessible for cleaning and inspection by one of the following methods:

- (A) Without being disassembled;
- (B) By disassembling without the use of tools; or
- (C) By easy disassembling with the use of handheld tools commonly available to maintenance and cleaning personnel such as screwdrivers, pliers, open-end wrenches, and allen wrenches.

Section 17. Cast Iron, Use Limitation.

- (a) Except as specified in chapter 6, section 17(b) and (c), cast iron may not be used for utensils or food-contact surfaces of equipment.
- (b) Cast iron may be used as a surface for cooking.
- (c) Cast iron may be used in utensils for serving food if the utensils are used only as part of an uninterrupted process from cooking through service.

Section 18. "V" Threads, Use Limitation.

- (a) "V" type threads may not be used on food-contact surfaces. This section does not apply to hot oil cooking equipment or filtering equipment.

Section 19. Hot Oil Filtering Equipment.

- (a) Hot oil filtering equipment shall meet the characteristics specified under chapter 6, sections 16 and 35, and shall be readily accessible for filter replacement and cleaning of the filter.

Section 20. Molluscan Shellfish Tanks.

- (a) Except as specified under chapter 6, section 20(b), molluscan shellfish life support system display tanks may not be used to display shellfish that are offered for human consumption and shall be conspicuously marked so that it is obvious to the consumer that the shellfish are for display only.
- (b) Molluscan shellfish life-support system display tanks that are used to store and display shellfish that are offered for human consumption shall be operated and maintained in accordance with a variance granted by the regulatory authority as specified in chapter 1, section 5, and a HACCP Plan that:

(i) Is submitted by the license holder and approved as specified under chapter 1, section 6; and

(ii) Ensures that:

(A) Water used with fish other than molluscan shellfish does not flow into the molluscan tank;

(B) The safety and quality of the shellfish as they were received are not compromised by the use of the tank; and

(C) The identity of the source of the shellstock is retained as specified under chapter 3, section 15.

Section 21. Can Openers.

(a) Cutting or piercing parts of can openers shall be readily removable for cleaning and for replacement.

Section 22. Can Openers on Vending Machines.

(a) Cutting or piercing parts of can openers on vending machines shall be protected from manual contact, dust, insects, rodents, and other contamination.

Section 23. Equipment Openings, Closures and Deflectors.

(a) A cover or lid for equipment shall overlap the opening and be sloped to drain.

(b) An opening located within the top of a unit of equipment that is designed for use with a cover or lid shall be flanged upward at least two-tenths (.2) of an inch (5 millimeters).

(c) Except as specified under chapter 6, section 23(d), fixed piping, temperature measuring devices, rotary shafts, and other parts extending into equipment shall be provided with a watertight joint at the point where the item enters the equipment.

(d) If a watertight joint is not provided:

(i) The piping, temperature measuring devices, rotary shafts, and other parts extending through the openings shall be equipped with an apron designed to deflect condensation, drips, and dust from openings into the food; and

(ii) The opening shall be flanged as specified under chapter 6, section 23(b).

Section 24. Vending Machine, Vending Stage Closure.

(a) The dispensing compartment of a vending machine including a machine that is designed to vend prepackaged snack food that is not potentially hazardous such as chips, party mixes, and pretzels shall be equipped with a self-closing door or cover if the machine is:

(i) Located in an outside area that does not otherwise afford the protection of an enclosure against the rain, windblown debris, insects, rodents, and other contaminants that are present in the environment; or

(ii) Available for self-service during hours when it is not under the full-time supervision of a food employee.

Section 25. Vending Machines, Automatic Shutoff.

(a) A machine vending potentially hazardous food shall have an automatic control that prevents the machine from vending food:

(i) If there is a power failure, mechanical failure, or other condition that results in an internal machine temperature that cannot maintain food temperatures as specified under chapter 3, section 50; and

(ii) If a condition specified under chapter 6, section 25(a)(i), occurs, until the machine is serviced and restocked with food that has been maintained at temperatures specified under chapter 3, section 50.

(b) When the automatic shutoff within a machine vending potentially hazardous food is activated:

(i) In a refrigerated vending machine, the ambient temperature may not exceed 41°F (5°C) or 45°F (7°C) as specified under chapter 3, section 50(a)(iii), for more than thirty (30) minutes immediately after the machine is filled, serviced, or restocked; or

(ii) In a hot holding vending machine, the ambient temperature may not be less than 140°F (60°C) for more than one hundred twenty (120) minutes immediately after the machine is filled, serviced, or restocked.

Section 26. Vending Machine Doors and Openings.

(a) Vending machine doors and access opening covers to food and container storage spaces shall be tight-fitting so that the space along the entire interface between the

doors or covers and the cabinet of the machine, if the doors or covers are in a closed position, is no greater than one-sixteenth (1/16) inch (1.5 millimeters) or by:

(i) Being covered with louvers, screens, or materials that provide an equivalent opening of not greater than one-sixteenth (1/16) inch or (1.5 millimeters). Screening of twelve (12) or more mesh to 2.5 centimeters (12 mesh to 1 inch) meets this requirement;

(ii) Being effectively gasketed;

(iii) Having interface surfaces that are at least one-half (2) inch (13 millimeters) wide; or

(iv) Jambs or surfaces used to form an L-shaped entry path to the interface.

(b) Vending machine service connection openings through an exterior wall of a machine shall be closed by sealants, clamps, or grommets so that the openings are no larger than one-sixteenth (1/16) inch or (1.5 millimeters).

Section 27. Bearings and Gear Boxes, Leakproof.

(a) Equipment containing bearings and gears that require lubricants shall be designed and constructed so that the lubricant cannot leak, drip, or be forced into food or onto food-contact surfaces.

Section 28. Food-Contact Surface Lubricants.

(a) Lubricants shall be applied to food-contact surfaces that require lubrication in a manner that does not contaminate food-contact surfaces.

Section 29. Condenser Unit, Separation.

(a) If a condenser unit is an integral component of equipment, the condenser unit shall be separated from the food and food storage space by a dust proof barrier.

Section 30. Dispensing Equipment, Protection of Equipment and Food.

(a) In equipment that dispenses or vends liquid food or ice in unpackaged form:

(i) The delivery tube, chute, orifice, and splash surfaces directly above the container receiving the food shall be designed in a manner, such as with barriers, baffles, or drip aprons, so that drips from condensation and splash are diverted from the opening of the

container receiving the food;

(ii) The delivery tube, chute, and orifice shall be protected from manual contact such as by being recessed;

(iii) The delivery tube or chute and orifice of equipment used to vend liquid food or ice in unpackaged form to self-service consumers shall be designed so that the delivery tube or chute and orifice are protected from dust, insects, rodents, and other contamination by a self-closing door if the equipment is:

(A) Located in an outside area that does not otherwise afford the protection of an enclosure against the rain, windblown debris, insects, rodents, and other contaminants that are present in the environment; or

(B) Available for self-service during hours when it is not under the full-time supervision of a food employee; and

(iv) The dispensing equipment actuating lever or mechanism and filling device of consumer self-service beverage dispensing equipment shall be designed to prevent contact with the lip-contact surface of glasses or cups that are refilled.

Section 31. Beverage Tubing, Separation.

(a) Beverage tubing and cold-plate beverage cooling devices may not be installed in contact with stored ice. This section does not apply to cold plates that are constructed integrally with an ice storage bin.

Section 32. Ice Units, Separation of Drains.

(a) Liquid waste drain lines may not pass through an ice machine or ice storage bin.

Section 33. Warewashing Sinks and Drainboards, Self-Draining.

(a) Sinks and drainboards of warewashing sinks and machines shall be self-draining.

Section 34. Equipment Compartments, Drainage.

(a) Equipment compartments that are subject to accumulation of moisture due to conditions such as condensation, food or beverage drip, or water from melting ice shall be sloped to an outlet that allows complete draining.

Section 35. CIP Equipment.

(a) CIP equipment shall meet the characteristics specified under chapter 6, section 16, and shall be designed and constructed so that:

(i) Cleaning and sanitizing solutions circulate throughout a fixed system and contact all interior food-contact surfaces; and

(ii) The system is self-draining or capable of being completely drained of cleaning and sanitizing solutions.

(b) CIP equipment that is not designed to be disassembled for cleaning shall be designed with inspection access points to ensure that all interior food-contact surfaces throughout the fixed system are being effectively cleaned.

Section 36. Vending Machines, Liquid Waste Products.

(a) Vending machines designed to store beverages that are packaged in containers made from paper products shall be equipped with diversion devices and retention pans or drains for container leakage.

(b) Vending machines that dispense liquid food in bulk shall be:

(i) Provided with an internally mounted waste receptacle for the collection of drip, spillage, overflow, or other internal wastes; and

(ii) Equipped with an automatic shutoff device that will place the machine out of operation before the waste receptacle overflows.

(c) Shutoff devices specified under chapter 6, section 36(b)(ii), shall prevent water or liquid food from continuously running if there is a failure of a flow control device in the water or liquid food system or waste accumulation that could lead to overflow of the waste receptacle.

Section 37. Temperature Measuring Devices.

(a) In a mechanically refrigerated or hot food storage unit, the sensor of a temperature measuring device shall be located to measure the air temperature in the warmest part of a mechanically refrigerated unit and in the coolest part of a hot food storage unit.

(b) Except as specified in chapter 6, section 37(c), cold or hot holding equipment used for potentially hazardous food shall be designed to include and shall be equipped with

at least one integral or permanently affixed temperature measuring device that is located to allow easy viewing of the device's temperature display.

(c) Chapter 6, section 37(b), does not apply to equipment for which the placement of a temperature measuring device is not a practical means for measuring the ambient air surrounding the food because of the design, type, and use of the equipment, such as calrod units, heat lamps, cold plates, bainmaries, steam tables, insulated food transport containers, and salad bars.

(d) Temperature measuring devices shall be designed to be easily readable.

(e) Food temperature measuring devices and water temperature measuring devices on warewashing machines shall have a numerical scale, printed record, or digital readout in increments no greater than 2°F or 1°C in the intended range of use.

Section 38. Food Temperature Measuring Devices.

(a) Food temperature measuring devices may not have sensors or stems constructed of glass, except that thermometers with glass sensors or stems that are encased in a shatterproof coating such as candy thermometers may be used.

(b) Food temperature measuring devices that are scaled only in Celsius or dually scaled in Celsius and Fahrenheit shall be accurate to $\pm 1^{\circ}\text{C}$ in the intended range of use.

(c) Food temperature measuring devices that are scaled only in Fahrenheit shall be accurate to $\pm 2^{\circ}\text{F}$ in the intended range of use.

Section 39. Temperature Measuring Devices, Ambient Air and Water.

(a) Ambient air and water temperature measuring devices that are scaled in Celsius or dually scaled in Celsius and Fahrenheit shall be designed to be easily readable and accurate to $\pm 1.5^{\circ}\text{C}$ in the intended range of use.

(b) Ambient air and water temperature measuring devices that are scaled only in Fahrenheit shall be accurate to $\pm 3^{\circ}\text{F}$ in the intended range of use.

Section 40. Pressure Measuring Devices, Mechanical Warewashing Equipment.

(a) Pressure measuring devices that display the pressures in the water supply line for the fresh hot water sanitizing rinse shall have increments of seven (7) kilopascals (1 pound per square inch) or smaller and shall be accurate to ± 14 kilopascals (± 2 pounds per square inch) in the 100-170 kilopascals (15-25 pounds per square inch) range.

Section 41. Nonfood-Contact Surfaces.

- (a) Nonfood-contact surfaces of equipment that are exposed to splash, spillage, or other food soiling or that require frequent cleaning shall be constructed of a corrosion-resistant, nonabsorbent, and smooth material.
- (b) Nonfood-contact surfaces shall be free of unnecessary ledges, projections, and crevices, and designed and constructed to allow easy cleaning and to facilitate maintenance.

Section 42. Kick Plates, Removable.

- (a) Kick plates shall be designed so that the areas behind them are accessible for inspection and cleaning by being:
 - (i) Removable by one of the methods specified under chapter 6, section 16 (a)(v)(A) - (C), or capable of being rotated open; and
 - (ii) Removable or capable of being rotated open without unlocking equipment doors.

Section 43. Case Lot Handling Equipment, Movability.

- (a) Equipment, such as dollies, pallets, racks, and skids used to store and transport large quantities of packaged foods received from a supplier in a cased or overwrapped lot, shall be designed to be moved by hand or by conveniently available equipment such as hand trucks and forklifts.

Section 44. Heating, Ventilating, Air Conditioning System Vents.

- (a) Heating, ventilating, and air conditioning systems shall be designed and installed so that make-up air intake and exhaust vents do not cause contamination of food, food-contact surfaces, equipment, or utensils.

Section 45. Ventilation Hood Systems, Drip Prevention.

- (a) Exhaust ventilation hood systems in food preparation and warewashing areas including components such as hoods, fans, guards, and ducts shall be designed to prevent grease or condensation from draining or dripping onto food, equipment, utensils, linens, and single-service and single-use articles.

Section 46. Ventilation Hood Systems, Filters.

(a) Filters or other grease extracting equipment shall be designed to be readily removable for cleaning and replacement if not designed to be cleaned in place.

Section 47. Equipment Repair and Proper Adjustment.

(a) Equipment shall be maintained in a state of repair and condition that meets the requirements specified under chapter 6, sections 1 and 13.

(b) Equipment components such as doors, seals, hinges, fasteners, and kick plates shall be kept intact, tight, and adjusted in accordance with manufacturer's specifications.

(c) Cutting or piercing parts of can openers shall be kept sharp to minimize the creation of metal fragments that can contaminate food when the container is opened.

Section 48. Utensil Repair and Calibration.

(a) Utensils shall be maintained in a state of repair or condition that complies with the requirements specified under chapter 6, sections 1 and 13, or shall be discarded.

(b) Food temperature measuring devices shall be calibrated in accordance with manufacturer's specifications as necessary to ensure their accuracy.

(c) Ambient air temperature, water pressure, and water temperature measuring devices shall be maintained in good repair and be accurate within the intended range of use.

Section 49. Cutting Surfaces.

(a) Surfaces such as cutting blocks and boards that are subject to scratching and scoring shall be resurfaced if they can no longer be effectively cleaned and sanitized, or discarded if they are not capable of being resurfaced.

Section 50. Microwave Ovens.

(a) Microwave ovens shall meet the safety standards specified in 21 CFR 1030.10 Microwave ovens.

Section 51. Fixed Equipment, Elevation or Sealing.

(a) Except as specified under chapter 6, section 51(b) and (c), floor-mounted equipment that is not easily movable shall be sealed to the floor or on legs that provide at least

a six (6) inch (15 centimeter) clearance between the floor and the equipment.

(b) If no part of the floor under the floor-mounted equipment is more than six (6) inches (15 centimeters) from the point of cleaning access, the clearance space may be only four (4) inches (10 centimeters).

(c) This section does not apply to display shelving units, display refrigeration units, and display freezer units located in the consumer shopping areas of a retail food store, if the floor under the units is maintained clean.

(d) Except as specified under chapter 6, section 51(e), table-mounted equipment that is not easily movable shall be elevated on legs that provide at least a four (4) inch (10 centimeter) clearance between the table and the equipment.

(e) The clearance space between the table and table-mounted equipment may be:

(i) Three (3) inches (7.5 centimeters) if the horizontal distance of the table top under the equipment is no more than twenty (20) inches (50 centimeters) from the point of access for cleaning; or

(ii) Two (2) inches (5 centimeters) if the horizontal distance of the table top under the equipment is no more than three (3) inches (7.5 centimeters) from the point of access for cleaning.

Section 52. Fixed Equipment, Spacing or Sealing.

(a) Equipment that is fixed because it is not easily movable shall be installed so that it is:

(i) Spaced to allow access for cleaning along the sides, behind, and above the equipment;

(ii) Spaced from adjoining equipment walls, and ceilings a distance of not more than one thirty-second (1/32) inch or 1 millimeter; or

(iii) Sealed to adjoining equipment or walls, if the equipment is exposed to spillage or seepage.

(b) Table-mounted equipment that is not easily movable shall be installed to allow cleaning of the equipment and areas underneath and around the equipment by being:

(i) Sealed to the table; or

(ii) Elevated on legs as specified under section chapter 6, section 51 (d).