



## Ohio Administrative Code

### Rule 3717-1-04.1 Equipment, utensils, and linens: design and construction.

Effective: September 5, 2024

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(A) Equipment and utensils - durability and strength.

Equipment and utensils are to be designed and constructed to be durable and to retain their characteristic qualities under normal use conditions.

(B) Food temperature measuring devices - construction.

Food temperature measuring devices cannot 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.

(C) Food-contact surfaces - cleanability.

Multiuse food-contact surfaces are to be:

(1) Smooth;

(2) Free of breaks, open seams, cracks, chips, inclusions, pits, and similar imperfections;

(3) Free of sharp internal angles, corners, and crevices;

(4) Finished to have smooth welds and joints; and

(5) Except for cooking oil storage tanks, distribution lines for cooking oils, or beverage syrup lines or tubes; 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.

(D) CIP equipment - cleanability.

(1) CIP equipment is to meet the characteristics specified under paragraph (C) of this rule and be designed and constructed so that:

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

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

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

(E) "V" threads - use limitation.

Except for hot oil cooking or filtering equipment, "V" type threads cannot be used on food-contact surfaces.

(F) Hot oil filtering equipment - cleanability.

Hot oil filtering equipment is obligated to meet the characteristics specified under paragraph (C) or paragraph (D) of this rule and be readily accessible for filter replacement and cleaning of the filter.

(G) Can openers - cleanability.

Cutting or piercing parts of can openers are to be readily removable for cleaning and for



replacement.

(H) Nonfood-contact surfaces - cleanability.

Nonfood-contact surfaces are to be free of unnecessary ledges, projections, and crevices, and designed and constructed to allow easy cleaning and to facilitate maintenance.

(I) Kick plates - removable.

Kick plates are to be designed so that the areas behind them are accessible for inspection and cleaning by being:

(1) Removable by one of the methods specified under paragraph (C)(5) of this rule or capable of being rotated open; and

(2) Removable or capable of being rotated open without unlocking equipment doors.

(J) Ventilation hood systems - filters.

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

(K) Food temperature measuring devices - accuracy.

(1) Food temperature measuring devices that are scaled only in Celsius or dually scaled in Celsius and Fahrenheit are to be accurate to plus or minus one degree Celsius in the intended range of use.

(2) Food temperature measuring devices that are scaled only in Fahrenheit are to be accurate to plus or minus two degrees Fahrenheit in the intended range of use.

(L) Food monitoring devices - accuracy.

(1) Digital pH and  $a_w$  meters are to have at least two points of calibration and be accurate to a



margin of error as specified on the non-expired calibration solutions.

(2) Other monitoring devices are to be accurate to a margin of error as specified by the manufacturer.

(M) Ambient air and water temperature measuring devices - accuracy.

(1) Ambient air and water temperature measuring devices that are scaled in Celsius or dually scaled in Celsius and Fahrenheit are to be designed to be easily readable and accurate to plus or minus 1.5 degrees Celsius in the intended range of use.

(2) Ambient air and water temperature measuring devices that are scaled only in Fahrenheit are to be accurate to plus or minus three degrees Fahrenheit in the intended range of use.

(N) Pressure measuring devices for mechanical warewashing equipment - accuracy.

Pressure measuring devices that display the pressures in the water supply line for the fresh hot water sanitizing rinse are to have increments of one pound per square inch (seven kilopascals) or smaller and be accurate to plus or minus two pounds per square inch (plus or minus fourteen kilopascals) in the range indicated on the manufacturer's data plate.

(O) Ventilation hood systems - drip prevention.

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

(P) Equipment openings - closures and deflectors.

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

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



(3) Except as specified under paragraph (P)(4) of this rule, fixed piping, temperature measuring devices, rotary shafts, and other parts extending into equipment are to be provided with a watertight joint at the point where the item enters the equipment.

(4) If a watertight joint is not provided:

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

(b) The opening is to be flanged as specified under paragraph (P)(2) of this rule.

(Q) Dispensing equipment - protection of equipment and food.

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

(1) The delivery tube, chute, orifice, and splash surfaces directly above the container receiving the food are to 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;

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

(3) The delivery tube or chute and orifice of equipment used to vend liquid food or ice in unpackaged form to self-service consumers are to 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

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

(5) Dispensing equipment in which time/temperature controlled for safety food in a homogenous liquid form is maintained outside of the temperature control requirements as specified under paragraph (F)(1) of rule 3717-1-03.4 of the Administrative Code is to:

(a) Be specifically designed and equipped to maintain the commercial sterility of aseptically packaged food in a homogenous liquid form for a specified duration from the time of opening the packaging within the equipment; and

(b) Conform to the requirements for this equipment as specified in NSF/ANSI 18-2020-manual "Food and Beverage Dispensing Equipment."

(R) Vending machine - vending stage closure.

The dispensing compartment of a vending machine is to be equipped with a self-closing door or cover if the machine is:

(1) 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

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

(S) Bearings and gear boxes - leakproof.

Equipment containing bearings and gears that need lubricants are to be designed and constructed so



that the lubricant cannot leak, drip, or be forced into food or onto food-contact surfaces.

(T) Beverage tubing - separation.

Except for cold plates that are constructed integrally with an ice storage bin, beverage tubing and cold-plate beverage cooling devices are not permitted to be installed in contact with stored ice.

(U) Ice units - separation of drains.

Liquid waste drain lines are not to pass through an ice machine or ice storage bin.

(V) Condenser unit - separation.

If a condenser unit is an integral component of equipment, the condenser unit is to be separated from the food and food storage space by a dustproof barrier.

(W) Can openers on vending machines.

Cutting or piercing parts of can openers on vending machines are to be protected from manual contact, dust, insects, rodents, and other contamination.

(X) Molluscan shellfish tanks.

(1) Except as specified under paragraph (X)(2) of this rule, molluscan shellfish life support system display tanks are not to be used to store or display shellfish that are offered for human consumption and be conspicuously marked so that it is obvious to the consumer that the shellfish are for display only.

(2) Molluscan shellfish life-support system display tanks that are used to store or display shellfish that are offered for human consumption are obligated to be operated and maintained in accordance with a variance granted by the Ohio department of agriculture or the Ohio department of health as applicable.



(Y) Vending machines - automatic shutoff.

(1) A machine vending time/temperature controlled for safety food is to have an automatic control that prevents the machine from vending food:

(a) 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 rule 3717-1-03.4 of the Administrative Code; and

(b) If a condition specified under paragraph (Y)(1)(a) of this rule occurs, until the machine is serviced and restocked with food that has been maintained at temperatures specified under rule 3717-1-03.4 of the Administrative Code.

(2) When the automatic shutoff within a machine vending time/temperature controlled for safety food is activated:

(a) In a refrigerated vending machine, the ambient temperature cannot exceed forty-one degrees Fahrenheit (five degrees Celsius) for more than thirty minutes immediately after the machine is filled, serviced, or restocked; or

(b) In a hot holding vending machine, the ambient temperature cannot be less than one hundred thirty-five degrees Fahrenheit (fifty-seven degrees Celsius) for more than one hundred twenty minutes immediately after the machine is filled, serviced, or restocked.

(Z) Temperature measuring devices.

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

(2) Except as specified in paragraph (Z)(3) of this rule, cold or hot holding equipment used for time/temperature controlled for safety food is to be designed to include and 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.

(3) Paragraph (Z)(2) of this rule does not apply to equipment for which the placement of a temperature measuring device is not a practical means for measuring the ambient air temperature 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.

(4) Temperature measuring devices are to be designed to be easily readable.

(5) Food temperature measuring devices and water temperature measuring devices on warewashing machines are to have a numerical scale, printed record, or digital readout in increments no greater than two degrees Fahrenheit or one degree Celsius in the intended range of use.

(AA) Warewashing machine - data plate operating specifications.

A warewashing machine is to be provided with an easily accessible and readable data plate affixed to the machine by the manufacturer that indicates the machine's design and operating specifications including the:

(1) Temperature requirements for washing, rinsing, and sanitizing;

(2) Pressure requirements for the fresh water sanitizing rinse unless the machine is designed to use only a pumped sanitizing rinse; and

(3) Conveyor speed for conveyor machines or cycle time for stationary rack machines.

(BB) Warewashing machines - internal baffles.

Warewashing machine wash and rinse tanks are to be equipped with baffles, curtains, or other means to minimize internal cross contamination of the solutions in wash and rinse tanks.

(CC) Warewashing machines - temperature measuring devices.



A warewashing machine is to be equipped with a temperature measuring device that indicates the temperature of the water:

- (1) In each wash and rinse tank; and
  - (2) As the water enters the hot water sanitizing final rinse manifold or in the chemical sanitizing solution tank.
- (DD) Manual warewashing equipment - heaters and baskets.

If hot water is used for sanitization in manual warewashing operations, the sanitizing compartment of the sink is to be:

- (1) Designed with an integral heating device that is capable of maintaining water at a temperature not less than one hundred seventy-one degrees Fahrenheit (seventy-seven degrees Celsius); and
- (2) Provided with a rack or basket to allow complete immersion of equipment and utensils into the hot water.

(EE) Warewashing machines - automatic dispensing of detergents and sanitizers.

A warewashing machine installed after March 1, 2005, is to:

- (1) Automatically dispense detergents and sanitizers; and
- (2) Incorporate a visual means to verify that detergents and sanitizers are delivered or a visual or audible alarm to signal if the detergents and sanitizers are not delivered to the respective washing and sanitizing cycles.

(FF) Warewashing machines - flow pressure device.

Except for machines that use only a pumped or recirculated sanitizing rinse, warewashing machines that provide a fresh hot water sanitizing rinse are to be equipped with:



(1) A pressure gauge or similar device such as a transducer that measures and displays the water pressure in the supply line immediately before entering the warewashing machine; and

(2) If the flow pressure measuring device is upstream of the fresh hot water sanitizing rinse control valve, the device is to be mounted in a one-fourth inch or 6.4 millimeter iron pipe size (IPS) valve.

(GG) Warewashing sinks and drainboards - self-draining.

Sinks and drainboards of warewashing sinks and machines are to be self-draining.

(HH) Equipment compartments - drainage.

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

(II) Vending machines and bulk water machines - liquid waste products.

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

(2) Vending machines that dispense liquid food in bulk or bulk water machines are to be:

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

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

(3) Shutoff devices specified under paragraph (II)(2)(b) of this rule are to be provided to 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.

(JJ) Case lot handling apparatuses - movability.

Apparatuses, 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, are to be designed to be moved by hand or by conveniently available apparatuses such as hand trucks and forklifts.

(KK) Vending machine and bulk water machine doors, and openings.

(1) Vending machine or bulk water machine doors and access opening covers to food and container storage spaces are to 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 inch or 1.5 millimeters by:

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

(b) Being effectively gasketed;

(c) Having interface surfaces that are at least one-half inch or thirteen millimeters wide; or

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

(2) Vending machine or bulk water machine service connection openings through an exterior wall of a machine are to be closed by sealants, clamps, or grommets so that the openings are no larger than one-sixteenth inch or 1.5 millimeters.

(LL) Food equipment - certification and classification.

(1) Except as provided in paragraph (LL)(2) or (LL)(3) of this rule, food equipment that is acceptable



for use in a food service operation or retail food establishment is to be approved by a recognized food equipment testing agency for sanitation.

(2) The Ohio department of agriculture or the Ohio department of health acting under section 3717.11 of the Revised Code or section 3717.111 of the Revised Code, or the licensor may approve the use of food equipment, other than vending machines, bulk water machines, and equipment that displays time/temperature controlled for safety food in a micro market, that have not been approved by a recognized testing agency if the equipment demonstrates compliance with this chapter.

(3) This rule does not apply to low risk mobile food service operations as described in rule 3701-21-02.3 of the Administrative Code and low risk mobile retail food establishments as described in rule 901:3-4-05 of the Administrative Code that offers for sale or serves only prepackaged time/temperature controlled for safety foods at the food temperatures specified in rule 3717-1-03.3 of the Administrative Code by utilizing one of the following:

(a) Mechanical refrigeration equipment; or

(b) Non-mechanical refrigeration equipment containing ice, ice packs, or dry ice and the ice, ice packs, or dry ice is replenished every four hours during operation.

(MM) Micro market display - automatic shutoff.

(1) All micro market display units offering time/temperature controlled for safety food are to have an automatic control that prevents the equipment from opening if:

(a) There is a power failure, mechanical failure, or other condition that results in an internal equipment temperature that cannot maintain food temperatures as specified under rule 3717-1-03.4 of the Administrative Code; and

(b) A condition specified under paragraph (MM)(1)(a) of this rule occurs, until the equipment is serviced and restocked with food that has been maintained at temperatures specified under rule 3717-1-03.4 of the Administrative Code.



(2) When the automatic shutoff within a display described under paragraph (MM)(1) of this rule is activated, the ambient temperature is not to exceed forty-one degrees Fahrenheit (five degrees Celsius) for more than thirty minutes immediately after the display is filled, serviced, or restocked.

(NN) Micro market display - closure.

All micro market display units offering time/temperature controlled for safety food are to be equipped with a self-closing door.