



## 2023 Food Code - Chapter 3717-1-04 Reference Guide: Equipment, Utensils, and Linens

**“Equipment”** means an article that is used in the operation of a food service operation or retail food establishment such as a freezer, grinder, hood, ice maker, meat block, mixer, oven, reach-in refrigerator, scale, sink, slicer, stove, table, temperature measuring device for ambient air, vending machine, bulk water machine, or warewashing machine. “Equipment” does not include apparatuses used for handling or storing large quantities of packaged foods that are received from a supplier in a cased or overwrapped lot, such as hand trucks, forklifts, dollies, pallets, racks, or skids.

**“Food-contact surface”** means: a surface of equipment or a utensil with which food normally comes into contact; or a surface of equipment or a utensil from which food may drain, drip, or splash into a food; or onto a surface normally in contact with food.

**“Temperature measuring device”** means a thermometer, thermocouple, thermistor, or other device that indicates the temperature of food, air, or water.

Food Contact Surfaces	
Characteristics, Design, Construction	Limitations
<ul style="list-style-type: none"><li>• Safe.</li><li>• Durable, retain characteristics.</li><li>• Smooth and cleanable.</li><li>• Withstand regular ware washing.</li><li>• Approved by recognized testing agency or ODH, ODA, licenser.</li><li>• Single-service and single-use articles shall be safe and clean.</li></ul>	<ul style="list-style-type: none"><li>• Cast iron may be used for cooking surfaces or serving utensils if cooking to serving is an un-interrupted process.</li><li>• Utensils must be lead-free, or limited by utensil category and lead level.</li><li>• Copper may not contact food with pH below 6, except for beer brewing ingredients.</li><li>• Galvanized metal may not contact acidic food.</li><li>• Sponges may not contact cleaned and sanitized or in-use surfaces.</li><li>• Wood prohibited, except for certain woods and purposes.</li><li>• Nonstick coating used with non-scoring/scratching utensils and cleaning aids.</li><li>• Single-service and single use articles may not be re-used.</li><li>• Single-service and single use articles may not impart colors, odors, tastes to food or allow the migration of deleterious substances.</li><li>• All food equipment used in a food service operation must be approved by a recognized testing agency.</li></ul>

**Nonfood contact articles** are designed and constructed to allow for easy cleaning and to facilitate maintenance.

Equipment
<ul style="list-style-type: none"><li>• Facility must have adequate cooling, heating, and holding capacities for time/temperature controlled for safety foods (TCS).</li><li>• Must be located, installed, and handled to prevent contamination.</li><li>• Must be maintained in good repair and proper adjustment.</li></ul>

Temperature Measuring Devices (TMD)		
Food	Ambient Air	Water
<ul style="list-style-type: none"> <li>Easily readable.</li> <li>Numerical scale, printed record or digital readout in <math>\leq 2^{\circ}\text{F}</math> (<math>1^{\circ}\text{C}</math>) increments.</li> <li>Calibrated for accuracy.</li> <li>Accurate to <math>\pm 1^{\circ}</math> if scaled in Celsius or Celsius and Fahrenheit.</li> <li>Accurate to <math>\pm 2^{\circ}</math> if scaled in Fahrenheit.</li> <li>May not have glass sensor or stems except with shatterproof coating such as a candy thermometer.</li> <li>Provided and readily accessible.</li> <li>Provide small diameter probe TMD for thin foods.</li> </ul>	<ul style="list-style-type: none"> <li>Easily readable.</li> <li>Good repair and accurate.</li> <li>Accurate to <math>\pm 1.5^{\circ}</math> if scaled in Celsius or Celsius and Fahrenheit.</li> <li>Accurate to <math>\pm 3^{\circ}</math> if scaled in Fahrenheit.</li> <li>Located to measure warmest part in a mechanically refrigerated unit.</li> <li>Located to measure coldest part in a hot food storage unit.</li> <li>Located for easy viewing, except when not practical, such as heat lamp, cold plate, steam table, salad bar, insulated food transport container.</li> </ul>	<ul style="list-style-type: none"> <li>Easily readable.</li> <li>Numerical scale, printed record or digital readout in <math>\leq 2^{\circ}\text{F}</math> (<math>1^{\circ}\text{C}</math>) increments for warewashing machines.</li> <li>Good repair and accurate.</li> <li>Accurate to <math>\pm 1.5^{\circ}</math> if scaled in Celsius or Celsius and Fahrenheit.</li> <li>Accurate to <math>\pm 3^{\circ}</math> if scaled in Fahrenheit.</li> <li>Provided and readily accessible for manual warewashing.</li> <li>Irreversible registering temperature indicator for hot water mechanical warewashing operation.</li> <li>Warewashing machine equipped with TMD in each wash and rinse tank; and entering the hot water sanitizing final rinse manifold or in the chemical sanitizing solution tank.</li> </ul>

Cleaning Frequency				
Food Contact Surfaces	Time/Temperature Controlled for Safety Food Contact Surfaces	Time/Temperature Controlled for Safety Food Contact Surfaces in a Refrigerator Room or Area		Non-Time/Temperature Controlled for Safety Food Contact Surfaces
<ul style="list-style-type: none"><li>• Before each use with a different type of raw animal food such as beef, fish, lamb, pork, or poultry.</li><li>• Each change from working with raw foods to working with ready-to-eat foods.</li><li>• Between uses with raw produce and with time/temperature controlled for safety foods.</li><li>• Before using or storing a food temperature measuring device.</li><li>• Any time when contamination may have occurred.</li></ul>	<ul style="list-style-type: none"><li>• In use at room temperature: cleaned every 4 hours.</li><li>• In refrigerated storage: cleaned when emptied.</li><li>• In cold holding/hot holding serving situation: cleaned every 24 hours.</li><li>• In-use utensils intermittently stored in a container of ≥135°F water: cleaned every 24 hours or more frequently to preclude accumulation of soil residues.</li></ul>	Room Temperature	Cleaning Frequency	<ul style="list-style-type: none"><li>• Clean at any time contamination may have occurred.</li><li>• Iced tea dispensers and consumer self-service utensils: cleaned at least every 24 hours.</li><li>• Before restocking consumer self-service equipment and utensils.</li><li>• Equipment such as ice bins, enclosed components of equipment such as ice makers, cooking oil storage tanks, and distribution lines: at a frequency specified by the manufacturer as necessary to preclude accumulation of soil residues.</li><li>• Cooking and baking equipment: cleaned at least every 24 hours.</li></ul>
		41°F/5°C or less	24 hours	
		41°F/5°C - 45°F/7.2°C	20 hours	
		>45°F/7.2°C to 50°F/10°C	16 hours	
		>50°F/10°C to 55°F/12.8°C	10 hours	
		Room temperature and cleaning frequency is to be documented.		

**Nonfood contact surfaces** of equipment shall be cleaned at a frequency necessary to preclude accumulation of soil residues.

**SANITIZATION:** utensils and food-contact surfaces must be sanitized before use after cleaning. All chemical sanitizers must meet requirements specified in Code of Federal Regulations and must be used according to law and manufacturer's use directions included in labeling. Mechanical warewashing machine must be operated in accordance with the machine manufacturer's data plate.

Minimum Concentration (ppm or mg/L)	pH ≤10 Minimum Temperature	pH ≤8 Minimum Temperature	Contact Time
Chlorine 25	120°F (49°C)	120°F (49°C)	≥ 10 seconds
Chlorine 50	100°F (38°C)	75°F (25°C)	≥ 7 seconds
Chlorine 100	55°F (13°C)	55°F (13°C)	≥ 10 seconds
Iodine ≤ 12.5 to 25	pH ≤ 5 or per label; ≥ 75°F (24°C)		≥ 30 seconds
Quaternary Ammonium per label	Water hardness ≤ 500 ppm or mg/L or per label; ≥ 75°F (24°C)		≥ 30 seconds
Hot water sanitize, 3 compartment sink with an integral heating device	≥ 171°F (77°C) immersed in rack or basket		≥ 30 seconds

A test kit or other device that accurately measures the concentration ppm (mg/L) of sanitizing solutions shall be provided.

Warewashing Mechanical and Manual	Type of Warewashing	Minimum Wash Temperature	Sanitizing Temperatures
Spray type warewasher, single tank, hot water sanitize	Stationary rack, single temperature	165°F (74°C)	≥ 165°F (74°C) or ≤ 194°F (90°C)
Spray type warewasher, single tank, hot water sanitize	Stationary rack, dual temperature	150°F (66°C)	≥ 180°F (82°C) or ≤ 194°F (90°C)
Spray type warewasher, single tank, hot water sanitize	Conveyor, dual temperature	160°F (71°C)	≥ 180°F (82°C) or ≤ 194°F (90°C)
Multi-tank, hot water sanitize	Conveyor, multi temperature	150°F (66°C)	≥ 180°F (82°C) or ≤ 194°F (90°C)
Chemical sanitizer	Any warewashing machine	120°F (49°C)	Sanitizing solution concentration per the above chart or per manufacturer's label instructions
3 compartment sink	Manual warewashing	110°F (43°C) Or temperature specified on the cleaning agent's manufacturer's label instructions	Sanitizing solution concentration per the above chart or per manufacturer's label instructions

Utensil surface temperatures must reach at least 160°F (71°C) as measured by a provided irreversible register temperature indicator.