

Using and Calibrating Thermometers

PURPOSE: To prevent foodborne illness by ensuring that the appropriate type of thermometer is used to measure internal product temperatures and that thermometers used are correctly calibrated for accuracy.

SCOPE: This procedure applies to foodservice employees who prepare, cook, and cool food.

KEY WORDS: Thermometer, Calibration, Reduced Oxygen Packaging (ROP)

1. THERMOMETER means a device designed to measure temperatures.
2. CALIBRATION means the act of adjusting, by comparison with a known standard, the accuracy of a measuring instrument
3. REDUCED OXYGEN PACKAGING (ROP) means the reduction of the amount of oxygen in a package by removing oxygen, displacing oxygen and replacing it with another gas or combination of gases, or otherwise controlling the oxygen content to a level below that normally found in the surrounding 21% oxygen atmosphere.

INSTRUCTIONS:

1. Train foodservice employees on using the procedures in this SOP.
2. Follow all Southern Nevada Health District (SNHD) regulations.
3. Follow the food thermometer manufacturer's instructions for use. Use a food thermometer that measures temperatures from 0 °F (-18 °C) to 220 °F (104 °C) and is appropriate for the temperature being taken. For example:
 - Temperatures of thin products, such as hamburgers, chicken breasts, pizza, filets, nuggets, hot dogs, and sausage patties, may be taken using a thermistor or thermocouple with a thin probe.
 - Bimetallic, dial-faced stem thermometers are produced with a dimple mark located on the stem of the thermometer. The dimple mark indicates the minimum food thickness that can be accurately measured. Ensure the stem thermometer is inserted into the product past the dimple mark on the probe. If unable to do so due to product size, use a digital thermometer or thermocouple.
 - Use only oven-safe, bimetallic thermometers when measuring temperatures of food while cooking in an oven.
4. Have food thermometers easily-accessible to foodservice employees during all hours of operation.
5. Clean and sanitize food thermometer utilizing a wiping cloth with approved sanitizer or alcohol swab before and after each use.
6. Store food thermometers in an area that is clean and where they are not subject to contamination.

MONITORING:

1. Foodservice employees will use the ice-point method to verify the accuracy of food thermometers. This is known as verifying the calibration of the thermometer.
2. To use ice-point method:
 - Prepare a cup of ice with enough cold water to remove any air pockets.
 - Insert the thermometer probe at least two inches into the ice water making sure not to touch sides or bottom of the cup.

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- Allow the temperature reading to stabilize before reading the temperature.
 - Temperature measurement should be 32 °F (± 2 °F) [or 0 °C (± 1 °C)]. If adjustment is required, follow manufacturer's instructions.
4. Foodservice employees will check the accuracy of the food thermometers:
- At regular intervals (at least once per week)
 - If dropped
 - If used to measure extreme temperatures, such as in an oven
 - Whenever accuracy is in question

CORRECTIVE ACTION:

- a. Retrain any foodservice employee found not following the procedures in this SOP.
- b. For an inaccurate, bimetallic, dial-faced thermometer, insert the thermometer probe at least two inches into ice water (prepared as stated above) and adjust the temperature by turning the dial while securing the calibration nut (located just under or below the dial) with pliers or a wrench until the thermometer reads 32 °F.
- c. For an inaccurate, digital thermometer with a reset button, adjust the thermometer according to manufacturer's instructions.
- d. If an inaccurate thermometer cannot be adjusted on-site, discontinue using it, and follow manufacturer's instructions for having the thermometer calibrated.
- e. Retrain employees who are using or calibrating food thermometers improperly.

VERIFICATION AND RECORD KEEPING:

Foodservice employees will record the calibration temperature and any corrective action taken, if applicable, on the Thermometer Calibration Log each time a thermometer is calibrated. The foodservice manager will verify that foodservice employees are using and calibrating thermometers properly by making visual observations of the employees during the calibration process and all operating hours. The foodservice manager will review and initial the Thermometer Calibration Log weekly. The Calibration Log will be kept on file a minimum of 6 months.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____