

Examples for potential use

Thermometers

Production management is responsible for the calibration of thermometers. Thermometers are calibrated at or near the thermometers' operation temperature and are compared to a NIST certified thermometer. The NIST certified thermometer is recertified once a year. Thermometers are disqualified if they exceed +/- 2 degree F.

Process Dial Thermometers

Prepare a cold water bath using two small ice packs and a container of water, or if calibrating process dial thermometers, use hot water.

Place the NIST certified thermometer in the hot/cold water bath along with the process dial thermometer. Allow the thermometer to stabilize for a minimum of 5 minutes.

Compare the temperature reading on the NIST thermometer with the thermometer being calibrated.

Chart Recorders

Calibrate chart recorders either by using the same procedure as Mercury and Process Thermometers, or by using an alternate method of setting the NIST thermometer adjacent to the chart recorder. Let the NIST thermometer stabilize for a minimum of 5 minutes.

Compare the temperature reading on the NIST thermometer with the chart recorder being calibrated.

Infrared Thermometer

To calibrate your infrared thermometer with an ice bath:

Step 1: Fill a large glass to the very top with ice (crushed ice is preferred but not required)

Step 2: Slowly add very cold water until the water reaches about one half inch (1 centimeter)

below the top of the ice. Note: If the ice floats up off the very bottom of the glass at all, the ice bath will likely be warmer than 32.0 degrees F. (0.0 degrees C). Pour off any excess water.

Step 3: Gently stir the ice mixture and let it sit for a minute or two.

Step 4: Make sure your infrared thermometer is set to an emissivity setting of 0.95 or 0.97.

Step 5: Hold your infrared thermometer so that the lens or opening is directly above and perpendicular to the surface of the ice bath. Note: If you hold your infrared thermometer too far from the surface of the ice bath or hold it at an angle, your measurements will include the sides of the glass or container or even the table it is resting on and give you an inaccurate reading.

Step 6: Taking extra care to ensure that the “field of view” (the size and shape of surface area being measured) is well inside of the glass or container, press the button on the infrared thermometer to take a measurement.

If you perform the test correctly, and your infrared thermometer is properly calibrated, it should read within your unit’s accuracy specification of 32.0 degrees F (0.0 degrees C).

Infrared thermometers cannot typically be calibrated at home, but they are known for their low drift. If results of your ice bath test are within your unit’s manufacturers listed specifications, you are good to go. If, however, you get a result that is outside the listed accuracy specification, you should contact the manufacturer.

On all calibrations the findings and necessary adjustments need to be documented.

Thermometers need to be tagged with the following information at the time of calibration: date of calibration; calibration temperature; correction factor and initials of calibrator.

Calibration frequencies are outlined in Appendix 3– Calibration Schedule.

Scales

Retail scales are calibrated at the start of each production day using certified weights. The punch scale is calibrated once a week. The certified weights are recertified once a year. All scales are calibrated twice a year by a contracted third party scale company.

Finished product quality checks are completed approximately hourly which includes checking the accuracy of the product weight. If product exceeds +.02 or -.01 pounds it is corrected. This is usually done by working back from the time it was found until the weights are determined to be correct.

Unacceptable product is repackaged.

Metal Detectors

On each production day the metal detectors are calibrated prior to packaging and approximately hourly for the rest of the day or shift. A post operational check is done after the shift and just before washdown. Metal detectors are calibrated once a year by certified and/or original equipment manufacturers.

Specific work instructions that outline the frequency of monitoring, criteria used in monitoring and corrective actions to take when foreign materials are discovered, or issues are discovered with the effectiveness of the metal detector are documented on the Metal Detector Sheet.

If a metal detector fails a corrective action is taken as outlined in the food safety plan.

It is the responsibility of the trained technicians to do the calibrations.

Charm SL

The Charm SL is calibrated once a day with positive and negative controls prior to milk testing and any time a potentially positive sample is detected. This operation is per State of Wisconsin regulations and is outlined in the user's manual and in the training program.

ph Meter

A two point calibration is done on each production day prior to use following user's manual instructions.

Moisture Tester

Moisture tests are run about once a week. The scale is calibrated with a certified weight prior to each run. Cheese production management is responsible for moisture tester scale calibrations.

The moisture tester is calibrated monthly using sodium tartrate dehydrate. Cheese production management is responsible to calibrate the moisture tester. Work instructions for this procedure are documented in the Operators Manual which is made available. The results are documented on the Moisture Testing Log.

The moisture tests are validated annually using an external certified laboratory.

Reference: Calibration Schedule
 Thermometer Calibration Form
 Metal Detection Check Sheet
 GMP Checklist & Standard Wt. Check
 Moisture Testing Log

END

Date	Action	Approved By
	New Document	

