

IN-HOUSE PROCEDURE # _____

PROCEDURE FOR VERIFYING OVENS

Item:

General Purpose Laboratory Oven

Purpose:

This method provides instructions for verifying the settings on general purpose ovens.

Inspection Equipment Required:

1. A NIST traceable thermometer graduated in at least 1 °C (2 °F) increments and having a range covering the temperatures to be checked.
2. A brass thermometer well or large beaker of sand to retain heat while the oven door is open. This is not required for ovens that provide access for a thermometer which can be read without opening the oven door.

Tolerance:

Ovens shall be capable of maintaining a constant temperature within the ranges listed in the applicable test methods.

Procedure:

1. Place the thermometer inside the brass well or beaker of sand and then place the well or beaker into the oven. For ovens allowing external temperature readings, place the thermometer so that at least two inches of the thermometer protrudes into the oven. Close the oven door.
2. Allow the oven to remain undisturbed for at least 1 hour.
3. Read the thermometer at three consecutive intervals approximately 30 minutes apart. Record the oven temperature setting and each reading.
4. If a reading is outside the specified range, adjust the temperature setting of the oven and begin at step three after allowing the oven approximately 1/2 hour for stabilization.
5. The oven is deemed acceptable if all three consecutive readings are within the specified tolerance.

Ovens shall be verified at a minimum of three temperatures covering the full range of expected use. Typical target temperatures are the lowest temperature the oven is operated at minus 10 °C (20 °F), the midpoint temperature, and the highest temperature the oven is operated at plus 10 °C (20 °F). For ovens that are to remain at a constant temperature, the three temperature verification is not required.