

# Standard Testing Method Green Culinary Ratio (GCR) for Ovening and Hot Food Holding Equipment



**Green Culinary Ratio (GCR) for OVENING EQUIPMENT: Ratio of the weight of food raised from refrigerated to cooked temperatures to the energy required. GCR Units: Pounds/1,000 BTUs**

**Equipment to be evaluated:** Reproduce all information on the Manufacturer's Name Plate (photocopy recommended).

### Test Equipment:

- Voltmeter: For correcting outlet voltage to nameplate specifications.
- Auto-transformer: To correct outlet voltage to meet nameplate voltage specifications.
- Watt Hour Meter: To determine electrical energy consumed.
- Thermocouples for the middle of each load all shelves; and temperature recording system.

### Test Load:

Cut Eaton Dikeman Filter Paper Material E-D1383 sized to bottom of pan; stack sheet pan to weigh 2.5 lbs; stack half sheet pans to weigh 1.25 lbs; and stack steam table pans to weigh 1.25 lbs. Prepare pans to fill cabinet to be tested. Add 3 parts of water by weight to each pan prior to loading in test equipment.

### Evaluation Procedure:

1. Refrigerate all Test Loads to 40° F.
2. Fill oven shelves to meet manufacturers Operating Instructions. In the absence of Operating Instructions, fill locations offered by equipment.
3. Set controls to raise temperature of foods 125° F. and minimum texturing. Reset watt hour meter. Energize.
4. When food temperatures have increased an average of 125 +/- 5 degrees discontinue test. Record watt hour reading. If temperature range has been violated, rerun test.
5.  $GCR = \text{Beginning Test Load wt. (lb.)} \times 8 \times (\text{Avg. Test Load temp. incr.}) / 1,000 \text{ BTUs}$

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**Green Culinary Ratio (GCR) for HOT FOOD HOLDING CABINET: Ratio of the energy required to the weight of food being maintained at a satisfactory quality level. GCR Units: Watts/Pound**

**Equipment to be evaluated:** Reproduce all information on the Manufacturer's Name Plate (photocopy recommended).

### Test Equipment:

- Voltmeter: For correcting outlet voltage to nameplate specifications.
- Auto-transformer: To correct outlet voltage to meet nameplate voltage specifications.
- Watt Hour Meter: To determine electrical energy consumed.
- Three (3) thermocouples and temperature recording system.

### Test Load:

Cut Eaton Dikeman Filter Paper Material E-D1383 sized to bottom of pan; stack sheet pan to weigh 2.5 lbs; stack half sheet pans to weigh 1.25 lbs; and stack steam table pans to weigh 1.25 lbs. Prepare pans to fill cabinet to be tested. Add 3 parts of water by weight to each pan prior to loading in test equipment.

### Evaluation Procedure:

1. Fill cabinet shelves with Test Loads to meet manufacturers Operating Instructions. In the absence of Operating Instructions, fill locations offered by equipment.
2. Thermocouple middle of stack for each of the top, middle and bottom shelves.
3. Set controls to maintain 150° F food temperature and minimum texturing. Energize controls to equipment. Allow food temperatures to level off with no temperatures falling outside the 145-155° range.
4. When food temperatures are within the 145-155° F range; start 60 minute timer; record watt hour reading; start recording pad temperatures.
5. After 60 minutes, discontinue test. If temperatures have remained in the 145-155° F range for the 1 hour run, record ending watt hours. If temperature range has been violated, rerun test.
6.  $GCR = \text{Average power (watts) per pound of food to maintain test load at } 145\text{-}155^\circ \text{ F for } 1 \text{ hour.}$

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