

**GUIDELINES FOR FINAL  
 COOKING TEMPERATURES  
 OF POTENTIALLY HARMFUL FOODS**

**Introduction**

Many food items may contain harmful germs, such as bacteria, viruses, or parasites. Adequate cooking will destroy these harmful germs.

A major critical control point in food safety is adequate cooking. Specific cooking temperatures are required to ensure safe food.

**The Time-Temperature Relationship**

Both time and temperature are necessary to kill harmful bacteria, viruses, and parasites that may have contaminated food.

**Guidelines for Final Cooking Temperatures**

The table below provides the minimum recommended time and temperatures needed to destroy harmful germs in food that is cooked by conventional methods and microwave cooking.

<b>Food Product</b>	<b>Conventional Cooking Temperature*/Time</b>	<b>Microwave Cooking Temperature*/Time</b>
Poultry	165/ 15 seconds	165/ 2 minutes
Stuffed meats	165/ 15 seconds	165/ 2 minutes
Ground Beef	155/ 15 seconds	165/ 2 minutes
Ground Pork	155/ 15 seconds	165/ 2 minutes
Pork, ham, sausage, or bacon	155/ 15 seconds	165/ 2 minutes
Other potentially harmful foods, including eggs, fish, whole meat and seafood	145/ 15 seconds	165/ 2 minutes
Beans, rice, fruits and vegetables	135/ 15 seconds	165/ 2 minutes
Beef roast (rare)	140/ 12 minutes	(NA)
Beef roast (rare)	130/ 121 minutes	(NA)
Leftover products**	165/ 15 seconds	165/ 2 minutes

**Note:**

The minimum temperature must be reached and then maintained for the minimum amount of time for the harmful germs to be destroyed.

\* = In degrees Fahrenheit

\*\* = Except beef roasts which can be reheated according to the code heating procedure for beef roasts

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**Microwave  
Cooking**

Microwave cooking requires additional steps to ensure food is evenly and thoroughly cooked. Follow these simple steps:

- Rotate and stir food during cooking.
  - Cover the food product to retain surface moisture.
  - Allow food product to stand covered for at least two minutes after cooking to obtain an even temperature.
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**Reheating Leftover  
Food Items**

Leftover roasts cooked per code (lower temperatures, longer time) may be reheated in the same manner as cooking. All other leftover foods must be rapidly reheated (meaning that they meet final cook temperature within 2 hours) to 165 °F for at least 15 seconds.

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**Additional Safe  
Food Handling Tips**

Heat will not destroy:

- Toxins produced by bacteria
- Bacterial spores which can later produce harmful numbers of bacteria

Therefore, ensure that the following are addressed:

- Keep food products at 41 °F or below or at 135 °F or higher
  - Protect food from possible contamination by unclean hands, food contact surfaces, overhead drippage, or any other means
  - Cool and reheat food products rapidly.
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