

General

If potentially hazardous foods need to be cooled after cooking it needs to be cooled to 5°C or below as quickly as possible. The less time that cooked potentially hazardous food remains between 5°C and 60°C during the cooling process, the less opportunity there will be for pathogenic bacteria to grow.

Pathogenic bacteria may be present in cooked food from spores that have survived the cooking process and from vegetative (live) cells that have been able to survive the cooking process usually due to undercooking. Contamination can also occur after cooking due to inadequate protection, poor food handling and poor or inadequate cleaning and sanitising practices.

Cooling Process

Once a food has been cooked, it can be left at room temperature until it reaches 60°C. Generally all potentially hazardous food should then be placed in the refrigerator to ensure the food is cooled within the following time frames:

- Within 2 hours - from 60°C to 21°C
- Within a further 4 hours - from 21°C to 5°C

If large volumes of food are required to be cooled, the volume and mass of the food should be reduced. This can be achieved by placing food in shallow containers not more than 5cm deep.

The cooling process can be enhanced by ensuring that there is adequate air circulation around the containers of food that is being cooled. This can be achieved by:

- Placing containers on racks and not the floor of the cold room;
- Ensuring containers are stacked next to, and not on top of each other.

Monitoring the Cooling Process

A probe thermometer should be used to monitor how quickly food is being cooled. As the whole of the food being cooled must comply with this requirement, it is important to measure the temperature of the part of the food that will take the longest to cool. This is usually the centre of the food.

If the same cooling process is used for each batch of food (ie: a particular food is cooled under identical conditions each time it is cooled) the temperature still needs to be monitored to ensure that any changes in environmental conditions, such as refrigerator temperatures and air flow, have not significantly affected the cooling process.

It is important that a procedure is in place to follow if it is found that food is not cooling as quickly as required.

Cooling Important Points

- It is important that food is cooled as quickly as possible to under 5°C to minimise the opportunity for pathogenic bacteria to grow.
- Food must be cooled
 - Within 2 hours – from 60° to 21°C
 - Within a further 2 hours – from 21°C to 5°C
- Large volumes of food requiring cooling should be placed in shallow containers not more than 5cm deep.
- The cooling process can be enhanced by placing containers on racks in the cold room side by side
- A probe thermometer should be used to monitor the cooling process
- The temperature of the item being cooled should be taken at the part of the food that will take the longest to cool.

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