Food Safety Standards - Thermometers and using them with potentially hazardous food

Chapter 3 (Australia only) Australia New Zealand Food Standards Code

NOTE: The Food Safety Standards do not apply in New Zealand. The provisions of the food standards treaty between Australia and New Zealand do not include food hygiene standards.

Who needs a thermometer?

If your food business stores, transports, prepares, cooks or sells potentially hazardous food, then you must have a thermometer so you can measure the temperature of this food. Potentially hazardous food includes food that contains meat, fish, dairy products and eggs. It also includes cooked rice and pasta.

The thermometer must be kept at your food premises. If you have several premises, you will need a thermometer at each place.

Why do I need a thermometer?

A thermometer will let you check that potentially hazardous food has been cooked sufficiently well, is being kept at the correct temperatures in a refrigerator or display unit, and is being cooled and re-heated safely. A thermometer will also let you check that potentially hazardous food is at the correct temperatures when it arrives at your business. This is a requirement in the standards and is explained in more detail in the fact sheet *Food Safety Standards – Receiving food safely*.

The standards also require you to maintain potentially hazardous food either at or below 5°C or at or above 60°C when it is being stored, displayed and transported, unless you have safe alternative arrangements in place. Other temperature requirements also apply to the cooling and reheating of cooked potentially hazardous food. See the fact sheet *Food Safety Standards – Temperature control requirements* for more information on the temperature control requirements in the standards.

What sort of thermometer will I need?

You need a thermometer that can be inserted into the food. This means it must have a probe. The thermometer must also be accurate to +/- 1°C. This means that when the thermometer shows that food is at a temperature of 5°C, the actual temperature of the food will be between 4°C and 6°C.

I already have a thermometer. Will it meet the requirements?

If you already have a thermometer with a probe it may be adequate, provided it can measure to within at least 1°C. The accuracy of the thermometer should be indicated in the documents that came with the thermometer. If you don't have any documents contact the company that supplied the thermometer and ask about its accuracy.

Equipment that is used to store and display food such as cool rooms, bain-marie units, and sandwich display units may have a thermometer as part of the equipment. This thermometer will measure the operational temperature of the unit. While these thermometers are useful, they do not measure the actual temperature of the food and you will still need a separate probe thermometer to check the actual temperature of the food.

Some food businesses use infrared thermometers (similar in appearance to a police speed checking gun). These thermometers are not inserted into food but can be pointed at a food to measure its surface temperature. These thermometers can be very useful for quick checks on the temperature of food, but they are not accurate enough to comply with the requirements in the standards because the surface temperature of the food may differ from its core temperature. Accordingly, if you have an infrared thermometer you will still need a probe thermometer accurate to +/- 1°C, or an infrared thermometer with a probe attachment.

Where do I buy a thermometer and how much do they cost?

Companies that supply electronic testing equipment or catering equipment also sell thermometers. Some of these companies are listed under 'Thermometers' or 'Catering suppliers' in the 'Yellow Pages' listings for the major capital cities. These companies also market their equipment at trade exhibitions and fairs, on the internet and advertise in catering magazines.

A probe thermometer that is accurate to within 1°C can usually be bought for about $40-50. If you cannot locate a supplier of food thermometers in your area, contact your local council or State/Territory health authority for advice.

How do I use the thermometer to measure the temperature of food?

You may find the following tips useful, when using your thermometer:

- make sure that the thermometer is clean and dry;
- place the probe into the food and wait until the temperature reading has stabilised before reading the temperature;
- measure different parts of a food as the temperature may not be the same, for example, if food is being cooled in a refrigerator the top of the food may be cooler than the middle of the food;
- clean and sanitise the thermometer after measuring the temperature of one food and before measuring the temperature of another food;
- if using the thermometer to measure hot and cold food, wait for the thermometer to return to room temperature between measurements;
- measure the temperature of different foods in a refrigerator or display unit as there will be colder and hotter spots within the refrigerator or unit; and
- measure the temperature of packaged chilled food by placing the length of the thermometer between two packages – the temperature will be approximate but the package remains intact.

How do I clean and sanitise the thermometer?

As the probe of the thermometer will be inserted into food, the probe must be cleaned and sanitised before it is used to measure the temperature of a different food. If the probe is not cleaned and sanitised, food poisoning bacteria may be transferred from one food to another food. This is especially important when the thermometer will be used to measure the temperature of raw food and then cooked food, for example, a raw hamburger patty and then a cooked hamburger patty.

The probe of a thermometer can be cleaned and sanitised by using the following steps:

- washing the probe with warm water and detergent;
- sanitising the probe in an appropriate way for your thermometer (alcoholic swabs are often used);
- rinsing the sanitiser away if necessary (refer to the instructions on the sanitiser); and
- allowing the probe to air dry or thoroughly drying it with a disposable towel.

Do I need to maintain the thermometer?

You will need to maintain the thermometer in good working order. This means that you must replace batteries if they are flat and repair or replace the thermometer if it breaks.

You will also need to maintain the accuracy of the thermometer. This means that you should make sure it is calibrated correctly on a regular basis. You could do this by following the instructions that come with the thermometer or by asking the business you bought it from for advice on when it should be calibrated, how this should be done, and who should do it.

Need more information?

Copies of the standards, the guides to these and other fact sheets and supporting material can be found on the FSANZ website (http://www.foodstandards.gov.au/). Food businesses may also seek advice directly from the Environmental Health Officers at their local council, or from their State or Territory health or health services department and Public Health Units. Information can also be accessed through the Australian Government Department of Health and Ageing http://www.health.gov.au/ .

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