

Food Safety Guidance

Temperature Control and Monitoring

Why is it necessary?

Food poisoning bacteria generally become inactive in the cold, and most are killed by heat. Controlling the temperature of food is a very effective way of controlling the growth of bacteria, and so reducing the risk of food poisoning.

How cold is cold?

Bacterial growth slows down when the temperature falls below 5°C so refrigerators should operate at between 1 and 5 °C, and definitely at no more than 8 °C.

Freezers keep food safe for much longer periods, so they operate at much lower temperatures. They should operate at -18°C or colder (this means at least 18 degrees below freezing), and these must also be checked daily.

How hot is hot?

Bacteria can survive quite a lot of heat, so we find that some food is not hot enough to be safe.

To cook fresh food, it must reach at least 75°C all the way through to make sure all the bacteria are destroyed.

To reheat food that you have already cooked, a law in Scotland means that it has to reach at least 82°C.

Most bacteria will stop growing above 63°C. If you are keeping hot food ready for service then it must not fall below this temperature.

There are some exceptions to these rules however, and these are dealt with in more detail below.

What do these rules mean in practice?

Here are some of the practical things food businesses are required to do to make sure that they control the temperature of foods properly.

Equipment for Checking Temperatures

It is very important to check temperatures at key stages of food production and service. To do this properly you will need an accurate and reliable thermometer which is suitable for use with food.

We would recommend that you use an electronic probe thermometer. These are battery powered, and have a metal probe to stick into food. They show the temperature as numbers in a digital display. There are many types available at different prices.

To use a probe thermometer properly, you must make sure that the probe won't contaminate the food you are checking. The usual way to do this is to use 'Probe Wipes'. These are special alcohol soaked wipes which are safe to use with food. . Just rinsing the probe in water, or wiping it on a kitchen tissue will **NOT** work as these methods won't remove any bacteria.

Your probe thermometer must be checked to ensure its working every month. This can be achieved by placing the probe in boiling water (please make sure you do this safely). The water must be boiling at the time of the check and the temperature should be between 99°C and 101°C. You can then place the probe in iced water. The best way to do this is to add some crushed ice/ice cubes to a cup and add a small amount of cold water. Leave the probe in this and it should reach -1°C to 1°C. These checks must be recorded. The CookSafe Monthly Record on the Food Safety Management Systems (FSMS) page of our website can be used for this.

Infra-red thermometers are also available. These only give a surface temperature of food so cannot be used for hot food checks, where the centre temperature is required. They are useful for checking the temperature of chilled/frozen deliveries and can be used for checking fridges and freezers.

Keeping Written Temperature Records

You must keep written records of the temperature checks you make. You can record the checks in any manner but most businesses find it best to use a record sheet similar to the CookSafe All in One Record. This can be found on the FSMS page of our website.

You must keep the records at the premises at all times so an Authorised Officer from the Food & Safety team can check them when they visit your premises. There is no specific timescale for keeping the records but many businesses keep them for one year. A handy tip is to keep a ring binder or document wallet with sections for January to December for past records. Simply replace the records for the corresponding month of the previous year.

What needs checked?

Delivery

Your suppliers must deliver all perishable food to you at the right temperature, which means that the delivery should come in a refrigerated van. Make sure the food is at the correct temperature, i.e. 8°C or colder for chilled food (best at 2-5°C) and -18°C or colder for frozen food. You must record the delivery temperatures so that you can show that the food was delivered at the correct temperatures. To avoid puncturing packaging you should take a temperature between packs or using an infra-red thermometer. Sometimes your supplier will give you a receipt with the temperature.

Collecting your own chilled food

If you purchase chilled or frozen food from the cash and carry or supermarket you need to make sure that it is being kept at the correct temperature. If you don't have your own refrigerated or freezer compartment van you might need to use cool boxes or cool bags. You must ensure that you take the food as quickly as possible back to your premises.

Storage (Chilled and Frozen)

Your refrigerator should be able to keep the food at a temperature between 1 and 5°C and frozen food should be stored at -18°C or below. Fridges should be checked at least twice per day. We would always recommend a check is carried out as soon as possible at the beginning of your working day. Freezers should be checked at least daily. You must check these daily and keep a written record.

There are a few ways of checking:

1. Probing foods – very reliable option however it's not ideal if only pre-packed foods are stored.
2. Probing food stimulant – some businesses use suitably labelled bottles of water / wrapped jelly that remain in the fridge at all times. These are probed instead of any foods.
3. Infra-red thermometer – some businesses find these easy and quick to use.
4. Air temperature – using a hanging/dial/digital thermometer within the unit can be useful but care must be taken in the positioning to give an accurate temperature reading. The temperature may also appear too high if the door has been opened during trading. This method is probably mostly used for freezers.
5. Unit display temperature – quickest method but not the most reliable as faults can often occur. We would not recommend the temperature is checked using this method.

Defrosting

Frozen food should always be defrosted in the refrigerator. This means that while the food is defrosting it will still always be at a safe temperature. This can take some time, so you will have to plan ahead.

Microwave ovens can be useful for defrosting quickly, but follow the manufacturers' instructions and use the food immediately.

It's important to make sure that all food is thoroughly defrosted before use.

Preparation

Food kept at room temperatures for longer than is necessary may allow any bacteria in the food to grow. Any food for preparation (especially high risk foods) should be brought out of the fridge in small batches that can be used quickly and then chilled

again until needed. This limits the length of time that bacteria have a chance to grow, keeping the food safe.

Cooking

Almost all food should be cooked thoroughly to a centre temperature above 75°C. There are only a very few exceptions to this, such as rare steaks and some types of fish.

Cooling

Food which has been cooked, and is to be stored in the refrigerator or freezer for use later, must be cooled down as quickly as possible so that germs do not have a chance to grow. This means that, no matter how much food you have cooked, it must be ready to go into the refrigerator or freezer in about one and a half hours (90 minutes).

Cooling food quickly can be difficult, especially in large quantities, but you must make sure you do this properly. Although you must not put hot food into a fridge, the food doesn't have to be completely cooled before you do so. You should ensure that your fridge temperature doesn't increase above your critical limit because you are cooling foods.

There are different ways of cooling foods quicker:-

- Using a blast chiller
- Transferring the food into smaller/shallow container(s)
- Portioning the food
- Putting containers into a sink of cold water or iced water
- Placing the food in a cooler area of the kitchen

You must keep a record of cooling. In many cases this will involve recording the time you start cooling (i.e. when you stop cooking) and the time the food goes into the fridge.

If you are struggling to cool foods to a suitable temperature to go into the fridge within the 90 minutes you must look at alternative methods of cooling, for example a blast chiller.

Re-heating

When re-heating food which you have previously cooked, it must reach a temperature of at least 82°C. The only exemption is if you can show that this is not necessary for food safety reasons, and that re-heating to such a high temperature would damage the food.

Cooked food which you have bought in does not have to be reheated to 82°C, but must reach at least 75°C.

Hot Holding / Display

Food being held hot must be kept above 63°C.

When checking the temperature of foods being hot held make sure that you check later in service to show that the food will remain above 63°C throughout service.

Cold Display

Perishable food should be displayed at 1 to 5°C, maximum 8°C. Perishable foods which are not refrigerated during display can only be kept for a **maximum** time of 4 hours, including the time taken to prepare them, after which time they must be thrown away.

Transport

If you deliver chilled or frozen food to your customers, ideally you should have a refrigerated or freezer compartment van. If not, you might need to use cool boxes or cool bags. You must ensure that you take the food as quickly as possible to your customer, and that it is still at a safe temperature when it is delivered.

You must be able to demonstrate that you are delivering food at the correct temperature.

Further help

Remember it is your responsibility to ensure that the food served to your customers is safe. If you need any further advice, then please contact us on 01324 504982 or email fs@falkirk.gov.uk.