

# Cooking

Good Hygiene Practice  
Guide No 9

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## Food Safety Hazards

Cooking is a critical step to ensure that any harmful bacteria in food are completely killed and that food is safe to eat. It is essential that the cook step is carried out correctly.

Food poisoning microorganisms are killed by exposing them to a sufficiently high temperature for a sufficiently long time. Correct **Time** and **Temperature** combinations ensure that any microorganisms throughout the food are subjected to conditions that kill them. The higher the temperature, the shorter the time required to kill harmful microorganisms.

## Cooking – General Guidance

Ensure the following guidance is applied whenever cooking food:

- Cook all food thoroughly to kill food poisoning bacteria.
- Always follow the manufacturer's cooking recommendations where applicable.
- Never undercook rolled, minced or diced beef and lamb.
- Protect food from risk of contamination during cooking by covering it where possible.
- Always use a probe thermometer to check the final cooking temperatures, except where visual checks alone are appropriate, e.g. bacon, pizza, eggs.
- Sanitise the probe before and after use.
- Record all cooking temperatures accurately in the **Food Production Temperature Record** form or the digital HACCP equivalent.
- If you believe that the safety of a food item has been compromised at any stage of the cooking process notify your line manager or head chef and dispose of the food.

## Cooking – Temperature Control

Compass Rules:

- Cook food thoroughly to achieve a core temperature of +75°C.
- Whole cuts of red meat (beef, venison or lamb) required "rare", and some fish products may be cooked to a lower temperature.
- Temperature check protein foods using a sanitised probe thermometer to verify completion of the cooking process.
- Food cooked to order for immediate consumption must be periodically checked to ensure the cooking procedure achieves the correct core temperature. It is not necessary to check every item.
- Check and record the temperature of several items in a batch and of several batches where batch cooking is employed.
- Other safe time/temperature combinations for cooking include 70°C for at least 2 minutes, 65°C for at least 10 minutes and 60°C for at least 45 minutes.
- If using these time/temperature combinations, you must record the initial time and temperature as well as the time and temperature after the required time period. Consult with your H&S Manager or Sector Lead in advance of implementing these time/temperature combinations.

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## Cooking – Visual Checks

There are certain foods that require visual checks before, during and after cooking, sometimes in addition to temperature monitoring or on their own. Visual checks can also help prevent or identify physical contamination.

### 1. Whole cuts of red meat or red meat joints (beef, venison or lamb)

- Where whole cuts of meats are required "pink" or "rare", and are cooked to a lower core temperature, they do not need to be probed. Ensure that the outer surface of the meat is fully sealed and browned off before serving it.
- Note that the food was cooked to rare in the comments column in the **Food Production Record** form or digital HACCP equivalent.
- Pork and rolled joints **must not** be served rare.



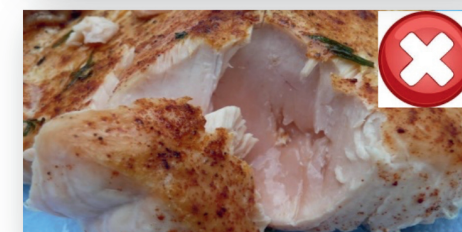
### 2. Pork and all types of rolled joints

- To check a pork joint or rolled meat joint, insert a skewer into the centre and check the colour of juices that run out.
- The juices should not have any red or pink in them.
- For rolled joints, this is to ensure that any bacteria that may have been transferred to the centre of the joint have been killed.
- Regular temperature monitoring is required in addition to visual checks.



### 3. Poultry (chicken, duck, goose etc.)

- Check that poultry is cooked properly in the thickest part, such as the leg of a whole chicken.
- The meat should not be pink or red and the juices should not have any red or pink in them.
- Regular temperature monitoring is required in addition to visual checks.



### 4. Minced Meat (e.g. burgers, sausages, sausage rolls)

- Check that food items are thoroughly cooked and piping hot all the way through with no red or pink in the centre.
- This is to ensure that any bacteria spread throughout the minced meat have been killed.
- Always use a probe to check the core cooking temperature.



### 5. Combination Dishes (e.g. shepherd's pie / lasagne)

- Check the dish is piping hot (steaming) in the centre.
- If you are cooking a large dish or batch, check in several places.
- Remember large dishes or batches require a longer cooking time.
- Always use a probe to check the core cooking temperature.



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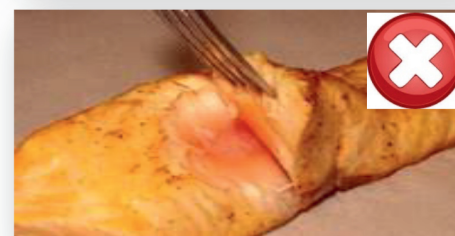
## 6. Liquids (e.g. stews and soups)

- Stir liquid dishes frequently to sure the food is the same temperature all the way through, and to prevent cold spots from forming.
- Check that liquid dishes bubble rapidly when you stir them.
- Use a probe to check the core temperature of any proteins.



## 7. Fish

- Visually check the centre of fish, or near the bone if there is one.
- The colour should be opaque and the texture flaky.
- Whole pieces of fish (e.g. tuna steaks) can be served 'rare' as long as they have been fully seared on the outside.
- Temperature checks are not required.



## 8. Shellfish (e.g. mussels, prawns, scallops)

- Shellfish such as prawns and shrimp change in colour, turning from blue-grey to pink, when they are cooked.
- Scallops become milky white and firm when cooked.
- To check mussels or clams are cooked, make sure the shell is open. Discard any mussels or clams where the shell has not opened during cooking.
- Temperature checks are not required.



## 9. Bacon

- Check that the texture and colour have changed.
- Temperature checks are not required.



## 10. Pizzas

- Check that the base is cooked and the toppings bubbling.
- Temperature checks are not required.

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## Cooking – Eggs & Egg Products

Some eggs can contain food poisoning bacteria, and it is important that they are stored, handled, prepared and served safely.

### Compass Rules:

- Whole hens' eggs must be Lion Quality assured in the UK, or Bord Bia Quality assured in the Republic of Ireland, and purchased from Compass authorised suppliers.
- Ensure that whole eggs are **used by** the 'best before' date marked on the shell.
- Dispose of broken eggs and eggshells immediately.
- Always wash hands after handling raw eggs.
- Prepare raw egg mixtures as close to service as possible and keep them under refrigeration until use.
- Pasteurised egg products must be used in dishes that are not cooked at all or are only lightly cooked. This includes mousses, béarnaise sauce, hollandaise sauce, soft meringues, soufflés, mayonnaise and other salad dressings, ice cream, icing, tiramisu etc.
- Fried, poached or boiled eggs, including those for service from a bain marie or a hot cabinet may be cooked soft.
- In **Healthcare** all eggs served must be **thoroughly cooked** so that the yolk and white are solid.
- Eggs from other species, such as quail, goose and duck, must be thoroughly cooked.

## Cooking – Microwaves

### Compass Guidance:

Microwave ovens operate differently to conventional ovens and must be used correctly to ensure that food safety standards are met:

- Only commercial grade microwave ovens should be used. Domestic microwave ovens are not as durable, and their power output reduces over time and with continual use.
- Follow the manufacturer's instructions, including standing times, for heating and cooking foods. You will need to know the power rating (Watts) of the microwave.
- Only heat and cook small quantities in the microwave. Overloading significantly increases the time to fully heat and cook foods.
- Use suitable containers such as round, shallow dishes made of microwave proof material, including lightweight ceramics or plastics, that have been designed for microwave use.
- If foods are heated or cooked in the original packaging or if using cling wrap, pierce the pack or the film to avoid build-up of condensate or steam.
- If heating or cooking foods in a lidded container, open the lid slightly to allow steam to escape.
- Stir liquid foods during and at the end of the heating or cooking cycle.
- Regularly turn solid items to aid consistent cooking or heating.
- Where appropriate, check the temperature of foods to ensure that a temperature of +75°C has been achieved in all parts of the product.
- Do not use microwave ovens for defrosting foods unless they are going to be cooked immediately after defrosting. Microwave ovens will cook thawing foods on the outside before the centre is defrosted. See **GHP No 8: Defrosting** for further details.



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## Checks – Food Production Temperature Record

The Food Production Temperature Record or digital HACCP equivalent must be completed to demonstrate that:

- Correct core temperatures for cooked and reheated foods have been achieved.
- Correct cooling times and temperatures have been adhered to.

### Compass Rules:

- Cooking temperatures for all protein foods and reheating temperatures for all protein foods, legumes (e.g. lentils, chickpeas and beans) and rice dishes must be accurately monitored and recorded.
- Temperature records are not required for eggs, fish, shellfish, bacon and pizzas.
- Temperature records are not required for toasted sandwiches, paninis and similar items.
- Where large quantities are being prepared, check and record the temperature of several items or batches.

Completing the Food Production Temperature Record form or the digital HACCP equivalent:

- 1 Record the date and time of the check
- 2 Record the specific food item or dish you are temperature checking. Identify by batch if recording more than one.
- 3 Record the temperature of the food item: wait until the thermometer reading has stabilised and write the exact temperature to one decimal point.
- 4 Ensure each temperature reading is initialled.
- 5 Record any reasons for temperatures that are below +75°C, such as specific customer cooking requests, in the comments column.
- 6 When reheating food, record the temperature in the reheating column of the form.
- 7 Ensure each daily Food Production Temperature Record form is reviewed and signed off by a manager at the end of the day / shift.

COMPASS GROUP UK & IRELAND – FOOD PRODUCTION TEMPERATURE RECORD												
Unit Name: High Street Bank Ltd												
DATE	FOOD ITEM	COOKING +75°C			COOLING +75°C to 5°C			REHEATING +75°C to 100°C			COMMENTS	
		Time	Temp	Init	Start Time	Finish Time	End Temp	Init	Date	Temp		Init
10/09/18	Roast Chicken	11:00	85°C	JK	11:30	12:00	4°C	JK				
10/09/18	Spicy Beef Casserole	11:45	85°C	JK								
10/09/18	Beef Pie	11:50	85°C	JK								
10/09/18	Shiraz								10/09/18	94°C	DS	made and frozen on 1/9/18
11/09/18	Turkey Pie	11:50	85°C	JK								
11/09/18	Chol	11:30	85°C	JK								
11/09/18	Roast beef	12:00pm	85°C	JK	2:30pm	3:40pm	9°C	JK	12/09/18	85°C	JK	
11/09/18	Chicken portions	11:50	79°C	JK								
11/09/18	Shiraz	11:50	85°C	JK								
12/09/18	Beef stew	12:00	77°C	JK								
12/09/18	Pork Chilli	12:00	79°C	JK								
12/09/18	Weg Lasagne	11:40	77°C	JK								
12/09/18	Shiraz	11:50	85°C	DS								
12/09/18	Time balls	1:30pm	85°C	JK	1:30pm	3:00pm	27°C	JK	12/09/18	85°C	JK	reheated and chilled on 12/9/18
12/09/18	Roast Beef											

Checked by: *Diana Smith* DATE: 14/09/18

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## Checks – Using A Probe Thermometer

Always follow the below steps when using a probe thermometer:

- Ensure all probe thermometers are labelled to clearly distinguish between those used for delivery and those used for cooking tasks.
- Always sanitise the probe with a probe wipe, or by using a sanitiser and blue roll, before inserting it into any food.
- To check the temperature of a food item, insert the tip of the sanitised probe thermometer into the centre of the food item.
- Always ensure you probe the thickest part of a piece of meat or of a meat product, such as a sausage roll.
- Where the food item is composed of liquid and protein, for example a chicken curry or pork stew, the probe tip must be inserted into the centre of the protein item.
- The probe tip must not touch the heat source or the bottom or side of the pan, as this will give a false reading.
- Allow the probe reading to stabilise.
- Record the temperature to one decimal place.
- Remove the probe thermometer and clean and sanitise it.



## Probe Thermometer Accuracy Checking

It is essential that temperature monitoring is carried out using an accurate thermometer. Thermometers may lose their precision over time or become damaged. It is therefore important that the accuracy of all probe thermometers is regularly checked to ensure that the thermometer readings are correct.

- Accuracy check all probe thermometers monthly.
- Record checks and any corrective actions on the **Probe Thermometer Accuracy Record** form.
- Test accuracy of probe thermometers to **either** cold (0°C) **or** hot (100°C) depending upon availability of test method within the unit.

### HOT

- Bring a pan of unsalted water to the boil.
- Place the tip of the probe carefully into the boiling water.
- Stir the probe until a stable reading is achieved.
- Ensure the probe does not touch the bottom or side of the pan.
- The reading must be between 99°C and 101°C.
- In the Republic of Ireland, the reading must be between 99.5°C and 100.5°C.
- If the reading is outside of the permitted range, change the battery and retest, or replace the thermometer.

### COLD

- Fill a container with ice and top up with cold water.
- Place the tip of the probe carefully into the iced water.
- Stir the probe until a stable reading is achieved.
- The reading must be between -1°C and +1°C.
- In the Republic of Ireland the reading must be between -0.5°C and +0.5°C.
- If the reading is outside of the permitted range, change the battery and retest, or replace the thermometer.

Where probe thermometers are provided with calibration caps from the supplier, follow the instructions provided with the probe.

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## Acrylamide

### Background:

Acrylamide is a chemical substance formed when high starch content foods, such as potatoes and bread, are cooked at high temperatures (over 120°C) in a process of frying, grilling, toasting, roasting or baking.

There is some evidence that consumption of high levels of acrylamide can increase the risk of developing cancer.

Acrylamide is linked to the frying, gilling, roasting, toasting or baking process of the following food types:

- French fries, chips and roast potatoes,
- Other cut and deep-fried potato products such as potato crisps made from fresh potatoes,
- Potato crisps, vegetable crisps, crackers etc,
- Roasted root vegetables such as parsnips, carrots and sweet potatoes,
- Bread and toast,
- Breakfast cereals, such as cornflakes and bran flakes,
- Coffee - roast coffee, instant coffee and coffee substitutes,
- Cookies, cakes, scones, biscuits, crackers and other baked goods.

### Compass Guidance:

To reduce the amount of acrylamide in food the following principles should be adopted:

- Where possible soak potatoes that are going to be deep-fried in cold water for 30 minutes or in warm water for a few minutes, then rinse and drain.
- 'Go for Gold' - aim for a golden colour and do not to overcook starchy foods. The darker the colour the higher the acrylamide levels will be.
- Always follow the manufacturer's recommended cooking method and timings.
- When frying, set the temperature as low as possible - ideally 175°C or below.
- Regularly skim off debris from fryer oil, as this will burn and increase acrylamide levels.
- Filter or change frying oil regularly and keep fryers clean.
- Do not overfill frying baskets or oven trays; this allows food to cook evenly.
- Use a lower oven temperature for bakery products and extend the cooking time to allow products to be baked to a lighter colour.
- Turn food products regularly during cooking to avoid burning.
- When cooking smaller quantities reduce the cooking time to avoid overcooking them.
- Discard any overcooked, brown or burnt product and do not serve it.



## Additional Guidance

1. Cross Contamination
  - Refer to **Good Hygiene Practice Guide No: 4 - Cross Contamination** for guidance on how to minimise cross contamination risks.
2. Personal Hygiene
  - Refer to **Good Hygiene Practice Guide No: 2 - Personal Hygiene** for guidance on good personal hygiene practices / uniform and PPE / food handlers return to work following illness.
3. Equipment Maintenance
  - Refer to **Good Hygiene Practice Guide No 14 - Food Premises** for guidance regarding catering equipment service and maintenance.
4. Acrylamide
  - Refer to the UK Hospitality (UKH) Industry Guide to Acrylamide: Catering & Food Service



