

# Chapter 2 Design and facilities

## 2. Introduction

- 2.1. Approvals
- 2.2. Construction standards
- 2.3. Technical advice
- 2.4. Legal requirements for design and facilities
  - A. General rules for all food premises and foodstuffs
  - B. Rooms where food is handled
  - C. Equipment
  - D. General requirements for slaughterhouses
  - E. Red meat slaughterhouses: lairages and livestock transport
  - F. White meat slaughterhouses: reception and transport of animals
  - G. Facilities for on-farm slaughter of poultry and game
  - H. Meat cutting and production establishments
  - I. Edible co-product premises – see separate guidance

## 2. Introduction

The location, design, layout and construction of food premises and the choice of fixtures, fittings and equipment are crucial to ensure that food businesses can operate under hygienic conditions and produce food safely. Poorly designed and constructed buildings and equipment are potential sources of physical, chemical and microbiological hazards. Such hazards could cause illness or injury to consumers and so must be prevented or minimised.

Examples demonstrating the importance of design and facilities:

Problem	Effect	Potential hazard
Siting in inappropriate locations	Prone to flooding, near to a business using toxic chemicals or producing a lot of dust	Food becomes contaminated
Badly designed buildings and equipment	Create dirt traps, difficult premises to clean and maintain	A source of microbiological contamination
Poorly constructed buildings and equipment	Pest entry, water leaks, condensation, poor drainage	Food becomes contaminated
Inappropriate construction materials	Surfaces: difficult to clean, deteriorate and shed dirt, dust or other particles onto food	Food becomes contaminated
Poor layout	Inadequate separation between clean and dirty areas, or inappropriate flow lines for food, waste, and people	Increase chance of microbiological cross contamination of food products by food poisoning bacteria
Insufficient space	Causes problems for the operations being carried out, unable to handle large quantities of animals/food	Cramped conditions could cause cross contamination
Inadequate hygiene facilities (toilets and hand washing basins)	Staff are unable to follow personal hygiene procedures	Product contamination

## **2.1. Approvals**

All meat plants require approval under the hygiene regulations unless specifically exempt. Information on approvals can be found in the separate chapter 'Introduction'. All necessary planning permission/change of use for your premises should be obtained from your Local Authority Planning Department before carrying out modifications or extensions to existing buildings. Once the premises is approved the structure, design and facilities must be maintained.

## **2.2. Construction standards**

The siting, design, layout and construction of premises and of equipment used in the production and storage of food products needs to meet certain standards to achieve food safety. Similar food safety standards apply to the exterior of the premises, animal handling areas, refuse stores, staff changing facilities, wrapping and packaging stores etc.

## **2.3. Technical advice**

Technical advice on the design and construction of new food premises or the rebuilding, refurbishment and alteration of existing premises should be obtained from suitably qualified and competent professionals. Food Standards Agency officials can only give advice on the legal food safety and hygiene requirements.

It is advisable to use businesses or individuals that understand the operational and hygiene requirements of food establishments. They also need knowledge of other legislation (e.g. animal welfare, health and safety) and building regulations that will influence the design, layout and facilities.

## 2.4. Legal requirements for design and facilities

### A. General rules for all food premises and foodstuffs



#### Legal requirement

**852/2004 Annex II Food Premises: Chapter I points 2a-c**

- A1.** The layout, design, construction, siting and size of food premises are to:
- a) permit adequate maintenance, cleaning and/or disinfection, avoid or minimise air-borne contamination, and provide adequate working space to allow for the hygienic performance of all operations
  - b) be such as to protect against the accumulation of dirt, contact with toxic materials, the shedding of particles into food and the formation of condensation or undesirable mould on surfaces
  - c) permit good food hygiene practices, including protection against contamination and, in particular, pest control

#### A1. Compliance regarding siting/location

- Site food premises in locations that avoid or minimise potential threats to food safety.

#### A1. Good practice

For siting new premises, consider such factors as:

- suitability of the ground for building
- availability of services, especially power, drainage and potable water
- access/exit routes for vehicles delivering livestock or raw materials or transporting product and for staff transport
- need to dispose of animal by-products
- proximity to residential areas
- prevailing wind

Avoid locations close to, for example:

- environmentally polluted areas
- industrial activities that might present a risk of contamination (e.g. chemical production)
- areas prone to flooding

**TIP**



Site plan – Make sure you keep a copy of the site plan(s) provided when applying for approval of the meat establishment. Alterations may require further approval and submission of revised plans.



### Legal requirement

#### **852/2004 Annex II Food Premises: Chapter I point 3**

**A2.** An adequate number of flush lavatories are to be available and connected to an effective drainage system. Lavatories are not to open directly into rooms in which food is handled.

### **A2. Compliance regarding provision of toilets**

Make sure:

- there are sufficient flush toilets for the number of employees available
- toilets do not open directly into food-handling areas
- toilets are connected to a mains sewerage system or septic tank

### **A2. Good practice**

The number of flush toilets required is regulated by the Workplace (Health Safety and Welfare) Regulations 1992 in GB and the Workplace (Health Safety and Welfare) Regulations (Northern Ireland) 1993 in NI.

Toilets must not open directly into a food room. Preferably, they should be in the same or a connected building as the food operation. Exceptionally, where staff numbers are very small and the premise is next door to a house with access throughout working hours, the house toilet may be sufficient.

**TIP**



Space for staff clothing – Make sure you allow space near the toilets so that staff can remove and hang up their protective clothing before using the toilet.

L

**Legal requirement**

**852/2004 Annex II Food Premises: Chapter I point 4**

**A3.** An adequate number of washbasins is to be available, suitably located and designated for cleaning hands. Washbasins for cleaning hands are to be provided with hot and cold running water, materials for cleaning hands and for hygienic drying. Where necessary, the facilities for washing food are to be separate from the hand-washing facility.

**A3. Compliance regarding provision of washbasins and facilities**

Make sure:

- there are enough designated hand washbasins for the number of employees at suitable locations
- hand washbasins are supplied with hot and cold running water
- hand washbasins have supplies of soap or detergent, and hand drying facilities
- hand washing facilities are separate from food washing facilities

**A3. Good practice**

The number of hand washbasins required to maintain good hygiene depends on the number of staff and on the nature and location of the operations being carried out. Separate basins are required for hand and for food washing – see ‘B3.’

**Position** – hand washbasins should be placed conveniently close to toilets, entry points for food-handling areas and workstations, to encourage staff to wash their hands after visiting the toilet, before entry into food handling areas and during food handling activities.

**Water supply** – hot and cold water can be supplied through separate taps, but a mixed supply is preferable. Water should be at a suitable and comfortable temperature so that staff are not discouraged from using the facilities provided.

For information on soap and hand drying see chapter 8 on ‘Personal hygiene’.



**Legal requirement**

**852/2004 Annex II Food Premises: Chapter I points 5 and 6**

**A4.** There is to be suitable and sufficient means of natural or mechanical ventilation. Mechanical airflow from a contaminated area to a clean area is to be avoided. Ventilation systems are to be so constructed as to enable filters and other parts requiring cleaning or replacement to be readily accessible.

**A5.** Sanitary conveniences are to have adequate natural or mechanical ventilation.

**A4. and A5. Compliance regarding ventilation**

Make sure that:

- there is enough ventilation to avoid or minimise air-borne contamination, and to protect against the formation of condensation or undesirable mould on surfaces
- where screens or filters are fitted to ventilation systems, they are placed and fitted so that they can easily be replaced or cleaned when necessary
- airflow from mechanical systems passes from clean towards dirty areas, to minimise the spread of contamination in dust or water droplets and odours
- toilets are adequately ventilated to remove odours



**Legal requirement**

**852/2004 Annex II Foodstuffs: Chapter IX points 3, 4, 5 and 8**

**A6.** At all stages of production, processing and distribution, food is to be protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed in that state.

**A7.** Adequate procedures are to be in place to control pests. Adequate procedures are also to be in place to prevent domestic animals from having access to places where food is prepared, handled or stored (or, where the competent authority so permits in special cases, to prevent such access from resulting in contamination).

**A8.** Food businesses manufacturing, handling and wrapping processed foodstuffs are to have suitable rooms; large enough for the separate storage of raw materials from processed material and sufficient separate refrigerated storage.

**A9.** Hazardous and/or inedible substances, including animal feed, are to be stored in separate and secure containers.

## **A6. to A9. Compliance regarding operational space and contamination**

Design, lay out and construct food premises, so that:

- there is sufficient space to allow for good food hygiene practice in all operations, as well as the carrying out of adequate maintenance, cleaning and/or disinfection
- operations are protected from contamination at all stages of food production, processing, wrapping and packaging, storage and distribution, particularly from airborne dirt and dust, rain, accumulation of dirt, contact with toxic materials, shedding of particles (e.g. paint, rust) formation of condensation or mould, and pests
- the food premises and, in particular, the equipment, and the floors, walls, ceilings, windows and other openings, doors and surfaces in rooms where foodstuffs are handled are capable of being cleaned, disinfected and maintained in sound condition
- domestic animals are prevented from having access to places where food is prepared, handled or stored or, if allowed by the competent authority, to prevent such access from resulting in contamination
- there are suitable rooms for separate storage of raw materials from processed foodstuffs
- there is space for separate and secure storage of containers for hazardous and/or inedible substances and adequate provision for storage and disposal of food waste, non-edible by products and other refuse
- there is space for storage of wrapping materials so that they are not exposed to a risk of contamination
- if manufacturing, handling or wrapping processed foodstuffs provide sufficient separate refrigerated storage for raw materials and processed materials

## **A6. to A9. Good practice**

Avoid carrying out too many activities in one area or trying to handle too great a quantity of animals/food for the available space and facilities. Cramped conditions will compromise the ability to carry out good hygienic practices and increase the risk of spreading contamination between carcasses, people and surfaces and/or the environment.

In designing new or altering existing premises, consider factors such as:

- expected daily throughput of animals (of each species); carcasses, meat and products and possible future expansion
- need for sufficient space for hygienic processing and disposal of waste
- facilities for inspecting and keeping animals
- the turning circle of transport vehicles
- provision of adequate number of processing and storage rooms
- provision for staff facilities

For further information see chapters 5 on 'Cleaning', 4 on 'Maintenance' and 6 on 'Pest control'.

Good hygienic practice requires that all operations minimise the opportunity for contamination to be



introduced or to spread. This normally means ensuring that 'clean' and 'dirty' operations are carried out in separate rooms, or separate areas if adequate arrangements are made to avoid contamination.

F

Separation in time and/or space - in premises where throughput is low, separation of operations in time rather than space may be possible with interim cleaning and disinfection.

See 'D. General requirements for slaughterhouses' and separate chapters 11 on 'Acceptance and slaughter of animals' and 17 on 'Wrapping, packaging and transport hygiene'.

To prevent contamination of meat from, for example, diesel fumes, dust, flies, birds, leaves, poor weather conditions, during loading and unloading between premises and vehicles, use a vehicle docking system.

F

Loading and unloading facilities and operations - where the use of a vehicle docking system is not possible (e.g. for planning reasons), a canopy or awning may be sufficient.

In limited situations (e.g. because vehicles have to be loaded/unloaded on the street) it will be necessary for the operator to set out satisfactory procedures for protecting exposed meat from contamination.

**Access/security** – secure the perimeter of the site so that access can be controlled. See also separate chapter 6 on 'Pest control'.

L

**Legal requirement**

**852/2004 Annex II Food Premises: Chapter I point 7**

**A10.** Food premises are to have adequate natural and/or artificial lighting.

**A10. Compliance regarding lighting**

- Fit adequate lighting so that hygiene procedures can be carried out effectively.
- Provide suitable conditions for ante- and post-mortem to be carried out.
- Protect lighting sources to minimise the potential for broken glass to contaminate food.

**A10. Good practice**

Lighting may be natural or artificial but must be good enough to allow safe food handling, effective cleaning, monitoring of hygiene standards and inspection. Lighting should not distort colours but allow any discoloration of meat to be identified easily.

As a guide these minimum levels are considered adequate:

- 540 lux at inspection points
- 220 lux in workrooms
- 110 lux in other areas

High intensity lighting is recommended except where, for poultry welfare reasons, blue lighting is used in hanging on bays, although here too lighting needs to allow adequate inspections to be performed.

**TIP**



Glass – Enclose fluorescent tubes or light bulbs in shatterproof and waterproof covers to minimise the risk of contamination of food by glass fragments if there are breakages and for ease of cleaning.



### Legal requirement

#### **852/2004 Annex II Food Premises: Chapter I point 8**

**A11.** Drainage facilities are to be adequate for the purpose intended. They are to be designed and constructed to avoid the risk of contamination. Where drainage channels are fully or partially open, they are to be so designed as to ensure that waste does not flow from a contaminated area towards or into a clean area, in particular an area where foods likely to present a high risk to the final consumer are handled.

### **A11. Compliance regarding drainage**

Make sure that:

- the drainage system is able to dispose of waste water and effluent effectively and has enough capacity to cope with the maximum quantities produced at any time
- in wet areas the floors allow for adequate drainage
- where drainage channels are fully or partly open, they are designed so that waste cannot flow from a contaminated area towards or into a clean area, in particular an area where foods likely to present a high risk to the final consumer are handled


### **A11. Good practice**

Drainage systems need to be able to handle material such as fat and blood as well as water.

Connect waste from e.g. wash basins, sterilisers, other washing facilities, production room cleaning facilities, carcase and offal showers and refrigeration equipment, to drains so that water does not flow freely on floors. Provide floor drainage in wet areas with enough capacity to prevent overflow.


Lay floors so that waste water and effluent is directed down slopes into drains to minimise pooling.

Fit open drainage channels with removable gratings for easy cleaning and maintenance. Open or partly open drain channels are to flow away from the product flow so that they do not carry waste from 'dirty' to 'clean' areas. Rodent screens should be fitted to drains that open to the outside of the building to prevent the entry of pests.

**TIP**  Traps – Protect the system by effective water traps or sediment traps that are easy to clean and do not allow foul air or effluent to enter food-handling areas.

Water traps deal with smells and assist with rodent control.

Sediment traps are buckets to prevent excess solid materials entering the lower drainage system where they can result in blockage or smell creation and cannot easily be accessed for cleaning. Sediment buckets should be easily removable for cleaning.

**TIP**  Manholes – Avoid the use of internal drain inspection chambers (manholes), but if this is not possible ensure they are doubly sealed and secured so that overflow cannot occur.

**L**

#### Legal requirement

#### 852/2004 Annex II Food Premises: Chapter I point 9

**A12.** Where necessary, adequate changing facilities for personnel are to be provided.

#### A12. Compliance regarding changing facilities

- Provide changing facilities for staff required to wear protective clothing.

#### A12. Good practice

Provide an area that is separate from food handling areas and from the toilets, with sufficient lockers so that staff can store outdoor clothing and belongings and some seating so they can change clothing and footwear without getting protective clothing dirty. It is not acceptable for areas used for changing into or storing clean protective clothing to be used as a mess room, a canteen or a store.

Where possible, the changing area should be in the same or a connected building as the food operation. Exceptionally, where staff numbers are very small and the premise is next to a house with access throughout working hours, a room in the house may be sufficient.

F

Staff changing facilities – staff changing facilities could be located outside in a separate building from the main building, provided adequate level of hygiene measures are maintained by staff.

Make appropriate provision, in suitable locations that protect against possible contamination, for:

- washing of protective footwear
- washing and drying of aprons
- hygienic storage of clean protective clothing
- laundry or disposal of dirty clothing

See separate chapter 8 on 'Personal hygiene'.

TIP



Hygiene lobby - Ideally, provide a 'hygiene lobby' between the food handling area and the changing room. The area may have a simple boot wash and hand wash facility or may include a 'wet' hygiene area for apron washes and hanging aprons.

L

**Legal requirement**

**852/2004 Annex II Food Premises: Chapter I point 10**

**A13.** Cleaning agents and disinfectants are not to be stored in areas where food is handled.

**A13. Compliance regarding storage for cleaning chemicals**

- Store cleaning agents and disinfectants away from food handling areas so that these chemicals do not contaminate food.

**A13. Good practice**

Keep cleaning chemicals and utensils in a separate room or, exceptionally in small premises, in a cupboard that can be locked and is used only for this purpose.

L

**Legal requirement**

**852/2004 Annex II Water Supply: Chapter VII point 1a**

**A14.** There is to be an adequate supply of potable water, which is to be used whenever necessary to ensure that foodstuffs are not contaminated.

**A14. Compliance regarding water supply**

- Provide an adequate supply of potable water, for use when necessary to ensure that foodstuffs are not contaminated.

#### A14. Good practice

See separate chapter on 'Water supply'.

L

##### Legal requirement

##### 852/2004 Annex II Food Premises: Chapter I point 2d

**A15.** And, where necessary, provide suitable temperature-controlled handling and storage conditions of sufficient capacity for maintaining foodstuffs at appropriate temperatures and designed to allow those temperatures to be monitored and, where necessary, recorded.

#### A15. Compliance regarding temperature control

- Provide enough storage capacity for keeping meat at appropriate temperatures.
- If manufacturing, handling or wrapping processed foodstuffs provide sufficient separate refrigerated storage for raw materials and processed materials.

#### A15. Good practice

Make sure that storage facilities are capable of achieving and maintaining the mandatory temperature requirements for meat. See separate 10 chapter on 'Temperature controls'.

Particular consideration should be given to how to meet the requirements in periods of high throughput or high ambient temperatures.

If using free-standing chilled storage to store chilled meat, free-standing 'reefers' must provide an acceptable level of protection and temperature control that meets legal requirements. Such facilities are rarely appropriate for chilling meat.

F

Free-standing chilled storage (chilled meat) – free-standing chilled storage may be used, providing an acceptable level of protection during loading/unloading, hygiene and temperature control that meets legal requirements is achieved.

Particular attention must be paid to the:

- nature, condition and cleanliness of interior surfaces
- maintenance of temperatures
- temperature monitoring and recording
- protection from contamination during loading and unloading



### Legal requirement

#### **852/2004 Annex II Food Waste: Chapter VI point 3**

**A16.** Adequate provision is to be made for the storage and disposal of food waste, non-edible by-products and other refuse. Refuse stores are to be designed and managed in such a way as to enable them to be kept clean and, where necessary, free of animals and pests.

#### **852/2004 Annex II Foodstuffs: Chapter IX point 5**

**A17.** Raw material, ingredients, intermediate products and finished products likely to support the reproduction of pathogenic micro-organisms or the formation of toxins are not to be kept at temperatures that might result in a risk to health.

Food businesses manufacturing, handling and wrapping processed foodstuffs are to have suitable rooms; large enough for the separate storage of raw materials from processed material and sufficient separate refrigerated storage.

### **A16. and A17. Compliance regarding food waste**

Design, lay out and construct food premises so that:

- there is space for separate and secure storage of containers for hazardous and/or inedible substances
- adequate provision for storage and disposal of food waste, non-edible by products and other refuse

### **A16. and A17. Good practice**

**Separation** – good hygienic practice requires that all operations are organised to minimise the opportunity for contamination to be introduced or to spread. This normally means ensuring that ‘clean’ and ‘dirty’ operations are carried out in separate rooms, or separate areas if adequate arrangements are made to avoid contamination. See ‘D. General requirements for slaughter’ and separate chapters on ‘Acceptance and slaughter of animals’ and ‘Wrapping, packaging and transport hygiene’.



**Legal requirement**

**852/2004 Annex II Wrapping & packaging: Chapter X points 2 & 3**

**A18.** Wrapping materials are to be stored in such a manner that they are not exposed to a risk of contamination.

**A19.** Wrapping and packaging operations are to be carried out so as to avoid contamination of the products.

**A18. and A19. Compliance regarding wrapping and packaging**

Design, lay out and construct food premises so that:

- there is space for storage of wrapping materials so that they are not exposed to a risk of contamination
- operations are protected at all stages of receipt, food production, processing, wrapping and packaging, storage and distribution, from contamination, particularly from airborne dirt and dust, rain, accumulation of dirt, contact with toxic materials, shedding of particles (e.g. paint, rust) formation of condensation or mould, and pests

**A18. and A19. Good practice**

Avoid carrying out too many activities in one area or trying to handle too great a quantity of animals/food for the available space and facilities. Cramped conditions will compromise the ability to carry out good hygienic practices and increase the risk of spreading contamination between carcasses, people and surfaces and/or the environment.

Cleaning, disinfection, maintenance and pest control – the requirements for these hygiene practices are set out in separate chapters on 'Maintenance', 'Cleaning' and 'Pest control'.

## B. Rooms where food is handled

L

### Legal requirement

#### 852/2004 Annex II Rooms: Chapter II point 1a

**B1.** In rooms where foodstuffs are prepared, treated or processed, the design and layout are to permit good food hygiene practices, including protection against contamination between and during operations. In particular:

**B1(a).** Floor surfaces are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of impervious, non-absorbent, washable and non-toxic materials unless FBOs can satisfy the competent authority that other materials used are appropriate. Where appropriate, floors are to allow adequate surface drainage.

### B1(a). Compliance regarding floors

Make sure that:

- floors are made of materials that are easy to clean, disinfect and can be maintained in a sound condition
- floors allow adequate surface drainage in wet areas

### B1(a.) Good practice

Floors need to be maintained in a sound condition so that they can be kept clean. See separate chapters on 4 on 'Maintenance' and 5 on 'Cleaning'.

Avoid materials that require high levels of maintenance, are difficult to clean or are not durable. For example, floors with grouting are more likely to require more frequent repair. Such surfaces will increase costs over time and may cause product contamination. Floor surfaces should be non-slip without compromising hygiene, especially in wet areas.

Drainage - see 'A11.'

Suitable materials are those that are impervious, non-absorbent, washable and non-toxic, such as sealed concrete, epoxy resin, unless the competent authority is satisfied that other materials are appropriate. Wood is not a suitable flooring material in food-handling areas.





**Legal requirement**

**852/2004 Annex II Rooms: Chapter II point 1b**

**B1(b).** Wall surfaces are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of impervious, non-absorbent, washable and non-toxic materials and require a smooth surface up to a height appropriate for the operations unless FBOs can satisfy the competent authority that other materials used are appropriate.

**B1(b). Compliance regarding walls**

Make sure that:

- wall surfaces are made of materials that are easy to clean, disinfect and can be maintained in a sound condition
- smooth wall surfaces extend to a suitable height above the working area

**B1(b). Good practice**

Walls need to be maintained in a sound condition so that they can be kept clean. See separate chapters 4 on 'Maintenance' and 5 on 'Cleaning'.

Avoid materials that require high levels of maintenance, are difficult to clean or are not durable. Such surfaces will increase costs over time and may cause product contamination (e.g. from paint, plaster, peeling laminate or damaged surfaces).

Suitable materials are those that are impervious, non-absorbent, washable and non-toxic materials and have a smooth surface, unless the competent authority is satisfied that other materials are appropriate. Examples include properly installed ceramic tiles, plaster or rendering coated with washable paint (not recommended for walls that are close to work surfaces or equipment), plastic coated board (not recommended for wet areas or where impact damage may occur), plastic cladding, stainless steel sheeting, epoxy resin and similar coatings and insulated panelling.

**TIP**



Junctions – Between the walls and ceilings or floors junctions should be smooth and sealed using an impervious material. For floors, they can be rounded to minimise accumulation of dirt and to facilitate cleaning. Integral coving is preferred.

**TIP**



Colour – Ideally wall surfaces should be light coloured to reflect light and so that dirt can be seen easily.

**TIP**



Height – As a minimum, extend smooth, cleanable wall surfaces to a height above that which might they reasonably be expected to come into contact with food when it is being worked on or stored, or for them to become soiled or splashed. Ideally, extend easily cleanable surfaces to ceiling height.



**Legal requirement**

**852/2004 Annex II Rooms: Chapter II point 1c**

**B1(c).** Ceilings (or, where there are no ceilings, the interior surface of the roof) and overhead fixtures are to be constructed and finished so as to prevent the accumulation of dirt and to reduce condensation, the growth of undesirable mould and the shedding of particles.

**B1(c). Compliance regarding ceilings or interior roof surfaces**

- Make sure that ceilings or interior surfaces of the roof and overhead roof fixtures are made and finished so that they prevent the accumulation of dirt, and reduce condensation, growth of mould and shedding of particles.

**B1(c). Good practice**

Ceilings, or interior surfaces of the roof and overhead structures, need to be capable of being cleaned and maintained to prevent the risk of contamination of the product below from accumulated dirt or shedding of particles (e.g. from old paint, plaster, rust, fibres, peeling laminate surfaces). See separate chapters 4 on 'Maintenance' and 5 on 'Cleaning'. Poor surfaces will lead to higher maintenance costs over time.

Ceiling materials, design and effective ventilation are all important in protecting against condensation and mould growth.

Suitable ceiling surfaces are cleanable and durable and include plastic cladding and sealed concrete. Polystyrene or acoustic ceiling tiles are not suitable for ceilings in food handling areas.

**TIP**



Overhead fixtures – If overhead fixtures and services in food-handling areas are hard to clean they may be boxed in. Fitting a suspended ceiling made of a washable material (e.g. plastic cladding) with overhead fixtures, pipes and other services above it may be an alternative but may create other problems such as condensation, which may need extra ventilation, and create a space for pests.

**TIP**



Colour – Ideally ceilings should be light coloured to reflect light and so that dirt can be seen more easily.



**Legal requirement**

**852/2004 Annex II Rooms: Chapter II point 1d**

**B1(d).** Windows and other openings are to be constructed to prevent the accumulation of dirt. Those which can be opened to the outside environment are, where necessary, to be fitted with insect-proof screens which can be easily removed for cleaning. Where open windows would result in contamination, windows are to remain closed and fixed during production.

**B1(d). Compliance regarding windows and other openings**

Make sure that:

- windows (and other openings) are designed and fitted to prevent the accumulation of dirt
- where open windows would result in contamination, they remain closed and fixed during production
- removable insect-proof screens are fitted where needed to prevent pest entry

**B1(d). Good practice**

Windows (and other openings such as skylights or external doors) need to be capable of being cleaned and maintained to prevent the accumulation of dirt. Windows/skylights in rooms where food is handled may compromise the product temperature and, if opened for ventilation during production periods, must be fitted with appropriate insect-proof screens. See separate chapter 6 on 'Pest control'.

**TIP**



External doors – These need to be wide enough to allow the easy movement of staff, equipment and/or vehicle, as appropriate, but also tight fitting (i.e. so light is not visible around the frame when closed). Where doors are in frequent use (e.g. loading bays) additional measures (e.g. overlapping plastic strips or self-closing mechanisms) may help to minimise pest access.



**Legal requirement**

**852/2004 Annex II Rooms: Chapter II point 1e**

**B1(e).** Doors are to be easy to clean and, where necessary, to disinfect. This will require the use of smooth and non-absorbent surfaces unless FBOs can satisfy the competent authority that other materials used are appropriate.

### B1(e). Compliance regarding doors

- Make sure that doors have smooth non-absorbent surfaces that can be easily cleaned and disinfected.

### B1(e). Good practice

Suitable surfaces are those that are smooth, non-absorbent, easy to clean and disinfect unless the competent authority is satisfied that other materials are appropriate. Examples include steel (stainless or coated) and plastic panelling.

Wooden doors need to be sealed and waterproofed (e.g. with cleanable paint) but are not recommended as the bottoms rot from exposure to water and can be easily damaged, for example by forklift trucks. If used, protect at least the bottom sections of wooden doors and door frames (e.g. with plastic or stainless steel).

**TIP**



Door furniture – Handles and push plates need to be smooth, washable and resistant to cleaning chemicals – see B1(f).

**L**

#### Legal requirement

#### 852/2004 Annex II Rooms: Chapter II point 1f

**B1(f).** Surfaces (including surfaces of equipment) in areas where foods are handled and in particular those in contact with food are to be maintained in a sound condition and be easy to clean and, where necessary, to disinfect. This will require the use of smooth, washable corrosion-resistant and non-toxic materials, unless FBOs can satisfy the competent authority that other materials used are appropriate.

### B1(f). Compliance regarding other interior surfaces

- Make sure that surfaces in food handling areas, including equipment and food contact surfaces in particular, are made of materials that are easy to clean, disinfect and to maintain in a sound condition.

### B1(f). Good practice

Surfaces need to be smooth, washable and capable of being maintained in a sound condition. Regular disinfection is necessary for food contact surfaces. Suitable surfaces are continuous, avoiding crevices, ridges and hard-to-clean corners and joints.

Suitable materials are those that are smooth, washable, corrosion-resistant and non-toxic, unless the competent authority is satisfied that other materials are appropriate. Examples include stainless steel and food-grade plastics. Galvanised metal is prone to corrosion and should be avoided. Equipment - see 'C. Equipment'.

F

Wood – wooden cutting blocks - wood is generally not acceptable as a food contact surface as it is difficult to clean and disinfect and may shed splinters, but may be acceptable for cutting blocks as long as the surface is smooth and well maintained.

L

### Legal requirement

#### 852/2004 Annex II Rooms: Chapter II point 2

**B2.** Adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment. These facilities are to be constructed of corrosion-resistant materials, be easy to clean and have an adequate supply of hot and cold water.

### B2. Compliance regarding facilities for cleaning and storing tools and utensils

- Provide facilities with hot and cold water for cleaning and disinfecting working utensils and equipment that are made of corrosion-resistant materials and are easy to clean.
- Provide adequate storage facilities for working utensils and equipment.

### B2. Good practice

Facilities for cleaning and disinfecting tools and utensils will be necessary in most food-handling areas. This facility may be a sink (preferably double bowled), a machine or a cabinet, depending on the type of tools in use. Facilities are to be made of cleanable, corrosion-resistant materials. Stainless steel is a suitable material. Hot water baths are not recommended as the water within them rapidly becomes soiled. See separate chapter 5 on 'Cleaning'.

TIP



Position – To encourage regular use, cleaning facilities may be placed next to food handling areas providing that measures are in place to avoid risk of cross contamination or condensation. Arrange a 'one way' system to avoid contaminating clean tools with dirty ones.

TIP



Storage – Store cleaned tools on a rack, positioned so those tools can dry quickly without being splashed or coming into contact with contaminated surfaces.

L

**Legal requirement**

**852/2004 Annex II Rooms: Chapter II point 3**

**B3.** Adequate provision is to be made, where necessary, for washing food. Every sink or other such facility provided for the washing of food is to have an adequate supply of hot and/or cold potable water consistent with the requirements of Chapter VII (Water supply) and be kept clean and, where necessary, disinfected.

**B3. Compliance regarding facilities for food washing**

- Where food is washed (e.g. bovine tongue and other edible offals), provide suitable equipment that can be kept clean and disinfected, and an adequate supply of potable water.

**B3. Good practice**

Washing facilities may simply be a sink supplied with a continuous flow of potable running water (i.e. not occasionally filled and emptied), or may be customised equipment designed for the purpose (e.g. a rotating tongue washer). The use of static water tanks is not acceptable.

Proper ducting into drains is necessary to prevent splashing and spray washing should be avoided to prevent possible aerosol contamination onto adjacent food, staff and surfaces.

## C. Equipment

L

### Legal requirement

#### 852/2004 Annex II Equipment: Chapter V points 1(b-d) and 3

**C1.** All articles, fittings and equipment with which food comes into contact are to:

- (a) Be so constructed, be of such materials and be kept in such good order, repair and condition as to minimise any risk of contamination
- (b) With the exception of non-returnable containers and packaging, be so constructed, be of such materials and be kept in such good order, repair and condition as to enable them to be kept clean and, where necessary, to be disinfected

**C2.** Where chemical additives have to be used to prevent corrosion of equipment and containers, they are to be used in accordance with good practice.

### C1(a), (b). and C2. Compliance regarding design and construction of equipment

Make sure that:

- articles, fittings and equipment that come into contact with food are designed and constructed to minimise the risk of contaminating food
- equipment surfaces in food-handling areas are made of materials that can be kept clean, disinfected and in good order and condition
- where chemical additives have to be used to prevent corrosion of equipment and containers, this is done following good chemical practice

### C1(a), (b). and C2. Good practice

Items that come into contact with food need to be capable of being kept clean, disinfected and maintained in a sound condition. Consider these points as well as the operational performance of equipment before purchase and installation, including in particular the:

- use of suitable materials that are smooth, washable, corrosion-resistant, and non-toxic, such as stainless steel, or food grade plastics. Galvanised metal is prone to corrosion, and should be avoided. Wood is not generally acceptable - see 'B1(a).'
- smoothness of surface and joint finishes – minimise ridges or crevices where dirt can be trapped. Where possible, joints should be continuously welded and sharp edges, screws and rivets should be avoided where possible
- rounding off of corners within equipment to aid cleaning
- presence of internal voids that cannot be cleaned and where food material can accumulate
- use of chemical additives to prevent corrosion of equipment and containers is done following good chemical practice

- ability of surfaces to allow water and cleaning residues to drain away quickly
- availability of 'clean-in-place' systems



**Legal requirement**

**852/2004 Annex II Equipment: Chapter V points 1(b-d) and 3**

**C1(c).** All articles, fittings and equipment with which food comes into contact are to:

- (c) Be installed in such a manner as to allow adequate cleaning of the equipment and the surrounding area

**C1(c). Compliance regarding position of equipment**

- Install all articles, fittings and equipment that come into contact with food so that all parts of the equipment and the surrounding areas are accessible for adequate cleaning.

**C1(c). Good practice**

Avoid installing equipment where it is inaccessible and therefore uncleanable. Except where the nature of the machinery prevents it, install equipment so that the floor below can be easily cleaned, for example, through the use of brackets rather than being floor mounted.



**Legal requirement**

**852/2004 Annex II Equipment: Chapter V point 2**

**C2.** Where necessary, equipment is to be fitted with any appropriate control device to guarantee fulfilment of this Regulation's objectives.

**C2. Compliance regarding temperature-controlled equipment**

- Install temperature-controlled equipment that allows temperatures to be monitored and, if necessary, recorded.
- Fit appropriate control devices to guarantee that performance of equipment that is essential to ensure that food safety requirements are met (e.g. chillers, freezers, cooker units).

**C2. Good practice**

Use equipment with temperature monitoring devices where mandatory temperature requirements are set.

Automatic monitoring/recording device can give warnings when temperature limits are in danger of being breached. Alternatively, it will be necessary to keep records of temperature monitoring.

See 'A15.' and separate chapter 10 on 'Temperature controls'.



## D. General requirements for slaughterhouses

L

### Legal requirement

#### 853/2004 Annex III Farmed Game: Section III points 1 & 2

##### D1. Farmed Game provisions

The provisions of Section I (red meat) apply to the production and placing on the market of meat from even-toed farmed game mammals (Cervidae and Suidae), unless the competent authority considers them inappropriate.

The provisions of Section II (white meat) apply to the production and placing on the market of meat from ratites. However those of Section I [red meat] apply where the competent authority considers them appropriate. Appropriate facilities must be provided, adapted to the size of the animals.

#### 853/2004 Annex III Slaughterhouses: Section I Chapter IV point 19 & Section II Chapter IV point 3

D2. Where establishments are approved for the slaughter of different animal species or for the handling of carcasses of farmed game or wild game, precautions must be taken to prevent contamination by separation in time or space of operations carried out on different species. Separate facilities for the reception and storage of unskinned carcasses of farmed game slaughtered at the farm and for wild game must be available.

### D1. and D2. Compliance regarding multiple species

- If handled in a slaughterhouse approved for other species, take precautions to prevent contamination by separation in time or space of operations carried out on different species.
- Make available separate facilities for the reception and storage of unskinned carcasses of farmed game slaughtered at the farm and for unskinned wild game.
- Where ratites are handled, adapt facilities to the size of the animals.

### D1. and D2. Good practice

A slaughterhouse may be approved to handle different species, including the dressing of farmed game (deer and wild boar), farmed ratites (ostriches) or exceptionally bison that are killed or slaughtered elsewhere.

F

Processing multiple species – if a slaughterhouse handles multiple species, the slaughter and dressing of each species needs to be carried out on a different line or at a different time to prevent contamination between species.

If a slaughterhouse handles only carcasses slaughtered elsewhere it need only have the facilities necessary to handle them. Separate facilities are required for the reception and storage of unskinned carcasses of farmed game slaughtered at the farm and for unskinned wild game.

**TIP**



Ratites – Ostriches may be handled in either red or white meat slaughterhouses, as long as the equipment is of an appropriate size and height to be able to deal with them hygienically.



### Legal requirement

#### **853/2004 Annex III Slaughterhouses: Section I Chapter II points 2(a-c) and 7**

- D3.** To avoid contaminating meat, (red meat slaughterhouses) must:
- (a) Have a sufficient number of rooms, appropriate to the operations being carried out
  - (b) Have a separate room for the emptying and cleaning of stomachs and intestines, unless the competent authority authorises the separation in time of these operations on a case-by-case basis
  - (c) Ensure separation in space or time of the following operations:
    - i. stunning and bleeding
    - ii. in the case of porcine animals, scalding, depilation, scraping and singeing
    - iii. evisceration and further dressing
    - iv. handling clean guts and tripe
    - v. preparation and cleaning of other offal, particularly the handling of skinned heads if it does not take place at the slaughter line
    - vi. packaging offal
    - vii. dispatching meat
- D4.** They must have lockable facilities reserved for the slaughter of sick and suspect animals. This is not essential if this slaughter takes place in other establishments authorised by the competent authority for this purpose, or at the end of the normal slaughter period.

#### **853/2004 Annex III Slaughterhouses: Section II Chapter II points 2(a)-(c)**

- D5.** To avoid contaminating meat, (white meat slaughterhouses) must:
- (a) Have a sufficient number of rooms, appropriate to the operations being carried out;
  - (b) Have a separate room for evisceration and further dressing, including the addition of seasonings to whole poultry carcasses, unless the competent authority authorises separation in time of these operations ... on a case-by-case basis;
  - (c) Ensure separation in space or time of the following operations:
    - i. stunning and bleeding;
    - ii. plucking or skinning, and any scalding; and
    - iii. dispatching meat

### **D3. to D5. Compliance regarding separation of operations**

Make sure that:

- There is separation in space or time of operations being carried out to ensure the adequate separation of the following processes so that meat does not become contaminated.

### For red meat

Make sure there is separation of:

- stunning and bleeding
- for pigs: scalding, depilation, scraping and singeing
- evisceration and further dressing
- cleaning and handling of guts and tripe
- preparation and cleaning of offal, particularly handling of skinned heads if this is not done at the slaughter line
- packing offal
- dispatching meat
  
- Have a separate room for the emptying and cleaning of stomachs and intestines to prevent contamination of meat with gut contents, unless competent authority authorises separation on time separation on a case-by-case-basis.
- Provide lockable facilities reserved for the slaughter of sick and suspect animals, unless the slaughter of such animals take place at the end of the normal slaughter period.

### For white meat

Make sure there is separation of:

- stunning and bleeding
- scalding plucking, and skinning of lagomorphs
- evisceration and further dressing
- dispatching meat
  
- Have separate rooms for evisceration and further dressing, including the addition of seasonings to whole poultry carcasses, unless the competent authority authorises separation in time of these operations ... on a case-by-case basis.

### **D3. to D5. Good practice**

Effective separation of clean and dirty operations is important in eliminating sources of contamination. Only where spatial separation is impossible should time separation be used and this should only be used with an effective cleaning and disinfecting regime between operations.

A 'straight line' layout leading from dirty to clean areas is preferable and allows easy physical separation of operations and materials. In older premises there may be crossovers or a doubling back in the layout. If this is the case it may be necessary to install barriers to prevent contamination. The layout should make it difficult for staff to pass from dirty to clean areas without washing hands and changing protective clothing.

Examples of dirty areas:

- lairage

- green offal (i.e. stomach and intestine) emptying room
- unfit meat holding facility
- by-products

Examples of transitional areas where clean and dirty operations meet:

- stun/stick
- slaughter hall
- detained meat loop and chiller
- equipment wash rooms
- staff amenities

Examples of clean areas:

- red offal preparation and packing
- carcass chiller
- despatch

**TIP**



Green offal – Time separation for emptying and cleaning green offal may be authorised at the premises providing the time separation arrangement is accepted at the point of approval and arrangements are maintained. Or subsequently the OV agrees (and signs for the record) the operator's written procedure on how this operation will be carried out.

Slaughter of sick and suspect animals - where separate facilities, reserved for the slaughter of animals found or suspected to be suffering from disease, are not available in red meat slaughterhouses, those animals will have to be slaughtered at the end of the normal slaughter period.

For welfare reasons (e.g. injury) it may become necessary to slaughter an animal immediately.

**TIP**



Entrances and exits – Where there is a single site entrance for livestock and finished products make sure that hygiene is not compromised.



**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 2(d) & Section II Chapter II point 2(d)**

**D6.** (Slaughterhouses) must have installations that prevent contact between the meat and the floors, walls and fixtures.

**D6. Compliance regarding meat handling systems**

- Position equipment so as to prevent meat from coming into contact with the floor or with walls and fixtures.

**D6. Good practice**

Position equipment and fixtures, such as conveyors, metal cradles or overhead rails for line dressing of carcasses, and inspection tables, at a height and within the space so that carcasses and meat can be kept clear of the floor or contact with walls and other potentially dirty surfaces.

Workstations should also be at appropriate heights for safe and hygienic working – see ‘C. Equipment’.



**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 2(e) & Section II Chapter II point 2(e)**

**D7.** Have slaughter lines (where operated) designed to allow constant progress of the slaughter process and to avoid cross-contamination between the different parts of the slaughter line. Where more than one slaughter line is operated ... there must be adequate separation of the lines to prevent cross-contamination.

**D7. Compliance regarding slaughter lines**

- Design slaughter lines so that the slaughter process can operate progressively without interruptions and to avoid cross contamination between different parts of the line.
- Where more than one line is operated, make sure there is adequate separation to prevent cross contamination.

**D7. Good practice**

The design of the slaughter line (where operated) should allow progressive working which avoids contact between carcasses.

After hide/skin removal red meat carcasses must be kept separated from each other until post-mortem inspection is completed. Rail systems should allow suspect carcasses to be moved to the detention area which should be located adjacent to the main slaughter hall inspection points to facilitate communication of disease findings. From the detained room the overhead rail should

reconnect with the main slaughter line for the carcass to go either to the chill rooms or to the unfit rooms. See separate chapter on 'Acceptance and slaughter of animals'.

L

**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 3 & Section II Chapter II point 3**

**D8.** ... have facilities for disinfecting tools with hot water supplied at not less than 82°C, or an alternative system having an equivalent effect.

**D8. Compliance regarding facilities for disinfecting tools**

- Where hot water is used for disinfecting tools, make sure it has a minimum temperature of 82°C.

F

Disinfecting tools – other systems shown to have an equivalent effect as water at 82°C may be approved.

TIP



Equivalent methods of disinfection – Historically, disinfection of tools is achieved by immersion in hot water. Approval may be sought for alternative methods, e.g. using chemicals. Proposals for alternative systems supported by data may be submitted to the FSA.

**D8. Good practice**

Where hot water is used, the effectiveness of disinfecting facilities 'sterilisers' needs to be maintained by means of a continuous flow of water with overflow ducted to a drain. Their design should allow knife blades/junctions and other tools to be fully immersed and should, ideally, be fitted with temperature indicators. Avoid temperatures above 90°C for steam control and health and safety reasons.

TIP



Position – In slaughter and dressing rooms disinfecting facilities need to be located close enough to workstations to allow use throughout production. To minimise condensation in cutting rooms, 'batch sterilisers' may be installed to disinfect tools periodically during production.

L

**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 4 & Section II Chapter II point 4**

**D9.** The equipment for washing hands used by the staff engaged in handling exposed meat must have taps designed to prevent the spread of contamination.

**D9. Compliance regarding handwashing facilities**

- Install hand washing facilities for staff handling exposed meat fitted with taps designed to prevent cross contamination.

**D9. Good practice**

Staff involved in slaughter, dehiding/skinning or evisceration, are likely to have contaminated arms and elbows as well as hands. In these cases fit hand washbasins with taps that are activated automatically by sensors or by feet or knees to limit the potential for contamination.

L

**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 5 & Section II Chapter II point 5**

**D10.** Lockable facilities for the refrigerated storage of detained meat and separate lockable facilities for the storage of meat declared unfit for human consumption.

**D10. Compliance regarding facilities for detained meat**

- Provide lockable refrigerated storage for detained meat.

**D10. Good practice**

Meat may be detained for further inspection or while awaiting information e.g. results of tests or identification checks.

F

Detaining meat facilities – a lockable refrigerated facility for storing detained meat is required. This may be a dedicated room or cage, made of corrosion-resistant, cleanable material with provision to contain drip, placed within a chiller, or, as long as hygiene is not compromised, an arrangement such as a lockable rail within a chiller would be acceptable.

The acceptability of the facility will depend on the normal method of operation. It is not acceptable if its use interrupts or interferes with the normal operation of the chillers.



### D10. Compliance regarding facilities for unfit meat

- Provide separate lockable facilities for the storage of meat declared unfit for human consumption.
- Store inedible substances in separate and secure containers.

### D10. Good practice

There should be no opportunity for cross contamination between fit and unfit meat.

A separate, lockable and clearly marked place for storing meat declared unfit for human consumption, prior to disposal as an animal by-product, is required. This may, for example, be a dedicated room or lockable container(s) held in a secure area.

See separate chapter on 'Animal by-products' and the industry guide on edible co-products.

L

#### Legal requirement

**853/2004 Annex III Slaughterhouses: Section I Chapter II point 9 & Section II Chapter II point 7**

**D11.** They must have an adequately equipped lockable facility or, where needed, room, for the exclusive use of the veterinary service.

### D11. Compliance regarding facilities for the veterinary service

- Provide adequately equipped lockable facilities such as cupboards and/or drawers for the exclusive use of the official veterinarian and meat inspection staff. Where lockable rooms are provided they must be accessible by the FBO cleaning staff.

### D11. Good practice

Make available a lockable room or rooms sufficient for the number of official veterinarians and/or meat hygiene inspectors working at the premises, for their exclusive use. Where the premises are small and next door to a house with access throughout working hours, a room in the house may be sufficient. Exceptionally, a separate room may not need to be provided in small premises where a single official is normally working for only a few hours a week.

Provide an appropriate number of desks or tables; chairs; storage for outdoor and protective clothing, lockable storage for official records, health marks (if used) and personal belongings; with power points and adequate lighting.

F

Veterinary service facilities – portable temporary buildings or other adequately equipped space can be used by OV's, meat inspectors or other people working at the premises.



**Legal requirement**

**853/2004 Annex III Slaughterhouses: Section I Chapter IV point 12 & Section II Chapter IV point 6**

**D12.** Post-mortem inspection is to be carried out under suitable conditions with suitable facilities.

**D12. Compliance regarding post-mortem inspection facilities**

- Provide suitable facilities for post-mortem inspection.

**D12. Good practice**

Locate the post-mortem inspection points on the line in such a way that the required post-mortem procedures can be carried out satisfactorily and effectively

**TIP**



Facilities – The inspection point should have enough space to allow the inspection to be carried out hygienically and effectively, for post-mortem findings to be recorded and should include:

- lighting at 540 lux that does not distort colours
- hand and if possible apron washing facilities and steriliser (if needed)
- a system that allows carcasses to go to the detained room for further inspection (red meat) – see ‘D7.’
- hang back facilities to allow further inspection (poultry)

## E. Red meat slaughterhouses: lairages and livestock transport



### Legal requirement

#### 853/2004 Annex III Slaughterhouses: Section I Chapter II points 1(a) & (c)

**E1.** Slaughterhouses must have adequate and hygienic lairage facilities or, climate permitting, waiting pens that are easy to clean and disinfect. These facilities must be equipped for watering the animals and, if necessary, feeding them. The drainage of the wastewater must not compromise food safety.

**E2.** The size of the lairage facilities must ensure that the welfare of the animals is respected. Their layout must facilitate ante-mortem inspections, including the identification of the animals or groups of animals.

### E1. and E2. Compliance regarding red meat lairages

Make sure that:

- the design, construction and size of lairages or waiting pens for animals awaiting slaughter meets animal welfare requirements, including facilities to water animals at all times
- the lairage can be easily cleaned and disinfected, has drainage that ensures that effluent does not compromise food safety, and the layout, provides for ante-mortem inspections of incoming animals, including their identification

See 'The Transport of Animals (Cleansing and Disinfection) (England) (No 3) Order 2003'; 'The Transport of Animals (Cleansing and Disinfection) (Scotland) Regulation 2005'; 'The protection of animals at the time of killing (EC) No 1099/2009'.

### E1. and E2. Good practice

Lairages have been shown to be a source of contamination of animals' hides/fleeces/skin with organisms that can be present on meat and cause illness in humans. The design, construction and operation of lairages have an important role in the safe production of meat.

TIP



Floor surfaces – These should be able to be cleaned and disinfected and designed to minimise the risk of animals slipping, while permitting effective cleaning and disinfection.

TIP



Pens – Divisions between pens should be of a suitable size, and constructed of materials that are sufficiently robust, for the species of animal penned. They must be maintained to ensure that there are no edges or protrusions that might cause injury to animals. All materials must be capable of being cleaned and disinfected.

TIP



Water – Make sure that animals have access to water at all times. Containers must be accessible and at an appropriate height for the type/age of the animals, so should be adjustable.

Drainage - see 'E5.'

TIP



Ante-mortem facilities – Provide adequate lighting, space and access to enable ante-mortem inspection to be properly undertaken. Suitable animal restraint facilities (e.g. a crush) are recommended to allow detailed examination of individual animals. Where this is not the case appropriate procedures and/or assistance will need to be provided.

For further information on facilities for animals awaiting slaughter see separate chapter on 'Acceptance and slaughter of animals'.



### Legal requirement

#### 853/2004 Annex III Slaughterhouses: Section I Chapter II point 1(b)

**E3.** They must also have separate lockable facilities or, climate permitting, pens for sick or suspect animals with separate draining and sited in such a way as to avoid contamination of other animals, unless the competent authority considers that such facilities are unnecessary.

### E3. Compliance regarding facilities for sick or suspect animals

- Provide a separate secure area for suspect or sick animals, with separate drainage, so the potential spread of disease is minimised, unless the competent authority agrees other arrangements.

### E3. Good practice

The secured area for sick or suspect animal should be designed so that the animal cannot escape and/or mix with other animals and remains under the control of the OV. A separate area/pen is not required where a single animal is held for slaughter. It may be used for temporary storage (e.g. bedding) as long as this can be and is removed immediately if the facility is needed for livestock.



### Legal requirement

#### 853/2004 Annex III Slaughterhouses: Section I Chapter II point 8

**E4.** If manure or digestive tract content is stored in the slaughterhouse, there must be a special area or place for that purpose.

### E4. Compliance regarding manure

- If manure or digestive tract content is stored in the slaughterhouse, provide a special area or place for that purpose.

- Make arrangements for disposing of hay and/or straw to meet the requirements of relevant regulations.

#### E4. Good practice

Provide a manure bay near the lairage on the dirty side of the plant. The floor should slightly slope to the front where a drain should be provided to prevent the overflow of waste.

**Disposal of hay and straw** – transport of animals regulations cover the disposal of hay and straw contaminated with animal manure (classified as a category 2 animal by-product).

See 'The Transport of Animals (Cleansing and Disinfection) (England) (No 3) Order 2003'; 'The Transport of Animals (Cleansing and Disinfection) (Scotland) Regulation 2005'; 'The Animal By-product Regulations (NI) 2003'.



#### Legal requirement

##### 853/2004 Annex III Slaughterhouses: Section I Chapter II point 6

**E5.** There must be a separate place with appropriate facilities for the cleaning, washing and disinfection of means of transport for livestock. However, slaughterhouses need not have these places and facilities if the competent authority so permits and official authorised places and facilities exist nearby.

#### E5. Compliance regarding facilities for cleaning livestock vehicles

- Provide separate facilities for the cleaning, washing and disinfection of livestock transport vehicles, unless other arrangements are agreed with the competent authority.

#### E5. Good practice

For biosecurity reasons, facilities for cleaning livestock transport vehicles are normally required on the slaughterhouse site.

On site facilities require:

- impervious hard standing, with space to cater for normal vehicle throughput without undue delay
- functionality in all weather conditions
- drainage facilities sufficient for the quantity of liquid waste generated during cleaning and disinfection
- adequate supplies of clean running water under pressure
- equipment (i.e. sprays, high-pressure hoses, brushes etc.) with which to apply approved disinfectant
- adequate supplies of approved disinfectant for use at approved dilution ratios, for thorough disinfection
- safe storage and cleaning of, and access to, equipment

- safe storage facilities for debris/hay/straw removed from vehicles, before its destruction, treatment or disposal, so that animals have no access to it
- sufficient light in which to work and inspect

See separate chapter on 'Cleaning' and 'B2.' for guidance on working practices.

If suitable off-site facilities are available nearby the legislation allows them to be authorised.

## F. White meat slaughterhouses: Reception and transport of animals

L

### Legal requirement

#### 853/2004 Annex III Slaughterhouses: Section II Chapter II point 1

F1. (Slaughterhouses) must have a room or covered space for the reception of the animals and for their inspection before slaughter.

### F1. Compliance regarding white meat animal reception areas

Make sure that:

- rooms and/or covered spaces for poultry or lagomorphs awaiting slaughter meet welfare requirements
- the reception area layout allows ante-mortem inspections to be carried out

### F1. Good practice

For further information see separate chapter on 'Acceptance and slaughter of animals', and 'A. General rules for all food premises and foodstuffs' and 'H. Meat cutting and production establishments'.

**Ante-mortem inspection** – provide adequate lighting, space and access to enable ante-mortem inspection to be properly undertaken.

L

### Legal requirement

#### 853/2004 Annex III Slaughterhouses: Section II Chapter II point 6

F2. There must be a separate place with appropriate facilities for the cleaning, washing and disinfection of (a) transport equipment such as crates; and (b) means of transport. These places and facilities are not compulsory for (b) if officially authorised places and facilities exist nearby.

### F2. Compliance regarding cleaning poultry transport vehicles and poultry crates

- Provide for the cleaning, washing and disinfection of means of transport.
- Provide on-site facilities for washing poultry crates (or modules).

### F2. Good practice

The requirements for cleaning poultry transport vehicles are the same as for red meat - see 'E5'.

Facilities for cleaning poultry crates must be provided on site.

Screen off crate washing areas and especially separate clean crates from the hanging area and crates with live birds. Equipment needs to be accessible for cleaning and maintenance - see 'E5.'. See separate chapter on 'Cleaning' and 'B2.' for guidance on working practices.



## G. Facilities for on farm slaughter of poultry and game

L

### Legal requirement

**853/2004 Annex III Poultry Slaughter on Farm: Section II Chapter VI points 3, 4,5, 8 & 9 / Farmed Game: Section III points 3(e-h)**

**G1.** The (poultry) holding must have facilities for concentrating the birds to allow an ante-mortem inspection of the group to be made. The (farmed game) holding must have procedures for concentrating the animals to allow an ante-mortem inspection of the group to be made.

**G2.** The (poultry) holding must have premises suitable for the hygienic slaughter and further handling of the birds. The [farmed game] holding must have facilities suitable for the slaughter, bleeding and, where ratites are to be plucked, plucking of the animals.

**G3.** Animal welfare requirements must be complied with.

**G4.** In the case of poultry reared for the production of 'foie gras', the uneviscerated birds must be transported immediately and, if necessary, refrigerated, to a slaughterhouse or cutting plant.

**G5.** Delayed eviscerated poultry obtained at the farm of production may be kept for up to 15 days at a temperature of not more than 4°C. It must then be eviscerated in a slaughterhouse or in a cutting plant.

**G6.** Slaughtered and bled (farmed game) animals are to be transported to the slaughterhouse hygienically and without undue delay. If transport takes more than two hours, the animals are, if necessary, refrigerated. Evisceration may take place on the spot.

### G1. to G6. Compliance regarding poultry holdings and farmed game holdings

Food business operators may slaughter poultry destined for delayed evisceration in a slaughterhouse or cutting plant, geese and ducks reared for foie gras production, and poultry farmed as domestic animals on the farm in compliance with the following requirements:

- Provide facilities for concentrating the birds to allow an ante-mortem inspection of the group to be made and for animal welfare requirements to be met.
- Provide premises suitable for the hygienic slaughter and handling of the birds.
- Provide refrigeration facilities for storage of up to 15 days of 'delayed eviscerated poultry at no more than 4°C', and if necessary, for keeping uneviscerated 'foie gras' birds before transport to a slaughterhouse or cutting plant.

Food business operators may slaughter farmed ratites, deer and boar, and bison in exceptional circumstances, at the place of origin with the authorisation of the competent authority in compliance with the following requirements:

- Holdings have procedures for concentrating the birds/animals to allow an ante-mortem inspection of the group to be made. Animal welfare requirements are met.

- Holdings have facilities suitable for the slaughter, bleeding and, where ratites are to be plucked, plucking of the animals. If necessary there are refrigeration facilities prior to transport of carcasses to the slaughterhouse.

### **G1. to G6. Good practice**

For further information on facilities for animals awaiting slaughter see separate chapter 'Acceptance and slaughter of animals' and 'E. Red meat slaughterhouse: lairages and livestock transport'.

Provide adequate lighting, space and access to enable ante mortem inspection to be properly undertaken.

Rooms used for slaughter and storage should meet the same hygiene requirements as the equivalent areas in a slaughterhouse.

Farmed game may be shot in the field and bled there using sterilised knives carried for the purpose.

## H. Meat cutting and production establishments

**L**

### Legal requirement

**853/2004 Annex III Cutting: Section I Chapter III and Section II Chapter III / Farmed Game: Section III points 1 and 2; / Wild Game: Section IV Chapter II point 9 and Chapter III point 7 (indirectly) Production Establishments (Minced meat, Meat preparations, MSM): Section V Chapter I / Meat Products: Section VI 2**

**H1.** (Premises) are constructed so as to avoid contamination of meat and meat products, in particular by: allowing constant progress of the operations; or ensuring separation between the different production batches.

### H1. Compliance regarding layout of production area

- Make sure that premises are constructed to avoid contamination of meat and meat products, in particular by: allowing constant progress of the operations; or ensuring separation between the different production batches.

### H1. Good practice

The layout needs to allow for constant progress of product or separation between batches to avoid accumulation of exposed meat and the possibility of cross contamination and raised meat temperatures.

**L**

### Legal requirement

**853/2004 Annex III Cutting: Section I Chapter III and Section II Chapter III / Farmed Game: Section III points 1 and 2; / Wild Game: Section IV Chapter II point 9 and Chapter III point 7 (indirectly) Production Establishments (Minced meat, Meat preparations, MSM): Section V Chapter I / Meat Products: Section VI 2**

**H2.** Have rooms for the separate storage of packaged meat and exposed meat and products, unless stored at different times or in such a way that the packaging material and the manner of storage cannot be a source of the contamination for the meat or products.

### H2. Compliance regarding storage facilities

- Provide storage facilities that allow the physical separation of exposed and packaged meat in time or space so that cross contamination cannot occur.

### H2. Good practice

Where cutting plants receive packaged meat for further processing, there should be suitable facilities for deboxing meat and the hygienic disposal of the packaging.

See separate chapter on 'Wrapping, packaging and transport hygiene'.

**F**

Storage facilities and practices – packaged meat and exposed meat may be stored in the same chiller providing that arrangements are in place to prevent hygiene being compromised.

Vacuum-packed meat and meat in clean trays can be stored with exposed meat as long as it is not contaminated by carcass drip (i.e. there is spatial separation between exposed meat and vacuum-packs).

Protect meat in trays on racks from drip from meat above.

Ensure there is enough space to store raw meat separately from processed and/or packaged products. This can be done by keeping them in the same store at different times or at the same time with a permanent barrier between them.

**L**

#### Legal requirement

**853/2004 Annex III Cutting: Section I Chapter III and Section II Chapter III / Farmed Game: Section III points 1 and 2; / Wild Game: Section IV Chapter II point 9 and Chapter III point 7 (indirectly) Production Establishments (Minced meat, Meat preparations, MSM): Section V Chapter I / Meat Products: Section VI 2**

**H3.** Have rooms equipped to ensure compliance with the temperature requirements laid down in Chapter III.

### H3. Compliance regarding temperature control

- Make sure that cutting rooms are equipped to allow product to meet the statutory requirements for temperature control.

### H3. Good practice

See separate chapter on 'Temperature controls', and 'A15'.

L

**Legal requirement**

**853/2004 Annex III Cutting: Section I Chapter III and Section II Chapter III / Farmed Game: Section III points 1 and 2; / Wild Game: Section IV Chapter II point 9 and Chapter III point 7 (indirectly) Production Establishments (Minced meat, Meat preparations, MSM): Section V Chapter I / Meat Products: Section VI 2**

**H4.** Have equipment for washing hands used by staff handling exposed meat and products with taps designed to prevent the spread of contamination.

**H4. Compliance regarding hand washing facilities**

- Provide hand washing facilities for staff handling exposed meat that are fitted with taps designed to prevent cross contamination.

**H4. Good practice**

Provide staff handling exposed meat with washbasins fitted with taps that are not operated by hand as this may lead to re-contamination. Taps activated automatically by sensors or by using knees or feet are recommended in preference to elbow operated taps as staff may use their hands to operate them.

L

**Legal requirement**

**853/2004 Annex III Cutting: Section I Chapter III and Section II Chapter III / Farmed Game: Section III points 1 and 2; / Wild Game: Section IV Chapter II point 9 and Chapter III point 7 (indirectly) Production Establishments (Minced meat, Meat preparations, MSM): Section V Chapter I / Meat Products: Section VI 2**

**H5.** Have facilities for disinfecting tools with hot water supplied at not less than 82°C, or an alternative system having an equivalent effect.

**H5. Compliance regarding disinfecting tools**

- Where hot water is used for disinfecting tools, make sure it has a minimum temperature of 82°C.

F

Disinfecting tools – other systems shown to have an equivalent effect as water at 82°C may be approved.

Equivalent methods of disinfection – historically, disinfection of tools is achieved by immersion in hot water. Approval may be sought for alternative methods, e.g. using chemicals. Proposals for alternative systems supported by data may be submitted to the FSA.

## H5. Good practice

See 'D8.'

**L**

### Legal requirement

#### 853/2004 Annex III Cutting: Section II Chapter III point 2

**H6.** If the following operations are undertaken in a (poultry) cutting plant:

(a) the evisceration of geese and ducks reared for the production of “foie gras”, which have been stunned, bled and plucked on the fattening farm;  
or

(b) the evisceration of delayed eviscerated poultry,

...operators must ensure that separate rooms are available for that purpose.

## H6. Compliance regarding evisceration of certain poultry carcasses

- Have separate rooms in poultry cutting plants for foie gras production or evisceration of delayed evisceration birds.

## H6. Good practice

Cutting rooms may not be used for evisceration.

## I. Edible co-products

### Compliance regarding required rooms and facilities

See 'A. General rules for all food premises and foodstuffs', 'B. Rooms where food is handled' and 'C. Equipment' relating to general requirements of Regulation 852/2004 for food establishments and the industry guide on edible co-products available at:

[www.food.gov.uk/foodindustry/guidancenotes/meatregsguid/coproductbyproductguide](http://www.food.gov.uk/foodindustry/guidancenotes/meatregsguid/coproductbyproductguide)

**L**

#### Legal requirement

##### **854/2004 Article 4 point 4b**

Audits by officials of good hygiene practices shall verify that meat plant operators apply procedures continuously and properly concerning the design of premises and equipment.

##### **852/2004 Article 1 point 1(a)**

The operator is responsible for food safety in the food business.

##### **852/2004 Article 5 point 1**

Food business operators shall put in place, implement and maintain a permanent procedure or procedures based on the HACCP principles.

##### **178/2002 Article 17**

Food ... business operators at all stages of production, processing, and distribution within the businesses under their control shall ensure that foods ... satisfy the requirements of food law which are relevant to their activities and shall verify that such requirements are met.