

Setting up a food production facility: Regulations/guidance to consider

What building considerations are required?

When designing a food production facility, considerations must include the building construction, utilities provision and location of equipment. The workflow is of paramount importance to allow the production of safe food, with available space and facilities dependent upon the nature and expected volume of business. All floors, walls and ceilings must be easy to clean and disinfect regularly. Floors must prevent pooling of water. Drainage is required to flow from high to low-risk areas (high to low-care zones) to reduce risk of contamination (1). Separate drains are also needed for on-site laboratories. Water storage tanks should be included in cleaning and sanitation schedules. Water quality is dependent upon its use, potential hazards and measures to decrease contamination. A business can use water companies' reports to show compliance as potable (drinkable) water. Its own HACCP programme will include testing regimes and risk assessments conducted to ensure fit for use. Directive (EU) 2020/2184 (2) regulates water quality intended for human consumption. Minimisation of microorganisms and safe levels of minerals and essential elements should be in accordance with local conditions (3).

Allergen information must be provided to the consumer, and food and drink businesses must manage allergens, from intake to distribution, to ensure good practices are implemented with controls in place. This also ensures minimal risk of cross contamination. All food handlers are required to be trained in the safe handling of allergens (4). Food business operators should also ensure that the competent authority has up-to-date information on their establishments, approved following at least one site visit.



FSA recommendations for food production facilities:

Recommendation	Why is it required?
Handwashing facilities and toilets	Legal obligation which reduces the risk of food contamination and ensures good food hygiene practices
Personal hygiene	Legal obligation to prevent contamination as well as reporting of illnesses
Changing facilities	Allow for personal clothing to be kept separate from food and production facilities
Windows and doors	Installed for ventilation; must be fitted with insect-proof screens and seals to avoid pests entering premises. Ensure easily cleanable to prevent build-up of dust. Use devices e.g. fly killers (insectocutors) over doors and traps beside openings
Floors and walls	Intact surfaces prevent microbiological harbourage and build-up of biofilms and dirt so easier to clean
Cleaning facilities for equipment, material handling, production and storage areas	Prevent contamination from foodstuffs and equipment, as well as risk of build-up of biofilms, allergens and chemical residues
Pest management system	Prevent pest access contaminating food and support a safe and hygienic facility
Food waste management system	Increase food security and productivity and support climate change initiatives
Fire safety procedure	Minimise loss of a production facility, inventory and human life



How should materials be handled and transported?

It is necessary to ensure food safety throughout the food chain, for all stages of production, processing, handling, storage and transport. Primary responsibility for food safety rests with the business placing the product on the market. They must meet food safety standards, such as Regulation 178/2002, including measures for if a product recall occurs, and ensure that any sub-contracted manufacturers are due diligent with all food legislation. A business must also take responsibility for food information, hence be compliant with Regulation 1169/2011.

Material handling involves the movement, packaging and storing of foodstuffs from raw material through the supply chain to the finished product, storage, and distribution. The equipment and storage facilities are chosen based on the foodstuff's characteristics and qualities. At all stages of production, a food business operator's control requires implementation of procedures which are based upon a satisfactory food safety plan, according to HACCP principles.

Regulation (EC) 852/2004 covers hygiene of foodstuffs (5). Where relevant, food business operators must ensure due diligence with Regulation (EC) 853/2004, which focuses on the hygiene of food of animal origin (6).

What hygiene measures should be adopted?

Food business operators should ensure microbiological risks are managed with cross-contamination and temperature control, as well as the sampling and analysis of finished products. Similarly, allergen, chemical and physical risks should be minimised through prerequisites (measures that should be in place in a food business prior to undertaking a HACCP study), to help to support the establishment of hazard analysis and controls specific for site operations. Cleaning a premises must be focused upon the movement of production flow from raw materials to finished products, as well as the removal of allergens on surfaces and equipment to prevent contamination. Adherence to Regulation 852/2004 ensures the verification of allergen controls are effectively implemented and documented, with flow from clean to dirty zones.

Through effective cleaning and disinfection, food hygiene and safety standards can be maintained (7). Personal hygiene must also be maintained to reduce contamination. All personnel should be trained and must not handle food if suffering with any disease transmitted through food, infected wounds or sores or are experiencing diarrhoea or vomiting.

Why should equipment be carefully considered?

To reduce risk of cross contamination of pathogens, allergens, chemicals, and foreign objects into foodstuffs during production, there must be consideration of segregation within the facility, through scheduling of works, separate areas/zoning, and potential for dedicated equipment and utensils. These must be well-maintained and able to be effectively cleaned and disinfected. There must also be separate storage of cleaning equipment and chemicals to reduce contamination risks. A risk assessment should be performed, and validation data generated to determine cross-contamination management capability. A specific allergen risk assessment should be carried out to determine whether Precautionary Allergen Labelling (PAL) risk communication should be applied. It is to be used when a risk of allergen cross contact within the supply chain is identified but cannot be removed through risk management. It can also be used in combination with vegan and vegetarian labels.



Why is storage an important focus when building a food production facility?

All food storage areas within the premises should be kept at suitable recommended temperatures and humidity levels. It is important for food that cannot be stored safely at ambient temperatures, particularly frozen or chilled food, to maintain the cold chain. It is necessary to establish microbiological criteria and temperature control requirements based on scientific risk assessments. Storage of foodstuffs and packaging materials should be proofed against pests, using effective control measures such as insect proof screens, kept in sealed containers, off the floor and away from walls (8).

How is food safety achieved?

It is necessary that food business operators ensure food safety is effectively implemented throughout the food supply chain for the products they place on the market. The Codex Alimentarius General Principles of Food Hygiene is used as guidance for governments to legislate (9). Other useful resources include industry (10) and national guides to Good Manufacturing Practice (GMP), risk management, determination of shelf-life stability and regulatory requirements such as labelling. Having a HACCP programme is a legal requirement and should be reviewed on a regular basis by trained personnel. Through effective use and implementation of these resources, businesses will be equipped to produce safe food (11).

References

1. [Industry Guide to Good Hygiene Practice - UKHospitality](#)
2. [Directive \(EU\) 2020/2184 on water quality
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2020.435.01.0001.01.ENG&toc=OJ:L:2020:435:TOC](#)
3. [Guidance and codes of practice - Drinking Water Inspectorate \(dwi.gov.uk\)](#)
4. [Allergen guidance for food businesses | Food Standards Agency](#)
5. [Regulation \(EC\) No 852/2004 of the european parliament and of the council of 29 April 2004 on the hygiene of foodstuffs \(legislation.gov.uk\)](#)
6. [Regulation \(EC\) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin \(legislation.gov.uk\)](#)
7. [Setting up your food business premises | Food Standards Agency](#)
8. [Introduction to food material handling within food factories - ScienceDirect](#)
9. [General principles of food hygiene \(fao.org\)](#)
10. [Hygienic kitchen design for food safety from Campden BRI](#)
11. [Starting a Food Manufacturing Business – Safety and Compliance Road Map A3.pdf \(ifst.org\)](#)