

GUIDELINES FOR IMPLEMENTING GMP IN FOOD PROCESSING

1. Factory Structure and Fabrication

1.1 *Adequate separation including clean and dirty processes*

1.1.1 The flow of raw materials, work in progress, finished product, personnel and equipment through the factory should be as linear as possible.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Production and process flows in the factory area(s) describing raw material, personnel, finished product, packaging and waste.	Product Flow Diagram Process Flow Diagram Product and Process segregated in high and low risk zones

1.1.2 Where practical, key process operations should be kept in separate rooms, segregating the early dirty part of the process from the later clean stages.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Points of possible cross contamination within the flow(s) within the factory	Factory layout with flows indicated clearly with description and no possible crossing to enable cross-contamination

1.1.3 Storage of raw materials and packaging must be segregated to avoid cross contamination and must be separated from the product in production areas.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Observations in plant and production activity	Separated store rooms for dry goods, materials, raw food materials and finished products

1.1.4 Where segregation is difficult, for example in small, open plan factories, good process flow layout is critically important. The risk of cross contamination may be greatly reduced by the use of physical barriers such as partitions (single skin only) or specific layouts of floor machinery requiring adequate space.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Production and process operations	Segregation of raw / uncooked product from end product within the factory flow diagrams Use of physical boundaries to prevent "free" movement

- 1.1.5 There must be complete physical separation of the high and low risk areas in terms of raw materials, products and personnel. The incorporation of filtered air supplies, positive air pressure and appropriate personnel controls are recommended to maintain the integrity of high-risk areas. This includes facilities to change clothing on entering the department.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Segregation of High and Low risk	Segregation of High and Low Risk areas is clearly indicated in factory Personnel controls are established at production area entry and exit points, with changing areas segregated from production to maintain control

1.2 ***Drainage - good repair, dirty and clean separation***

- 1.2.1 The capacity of the drains must be sufficient to cope with the maximum process requirements placed on them.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Drainage points in factory and drain capacity	Location of drains in factory related to factory activity to allow suitable drainage for process requirement

- 1.2.2 The floors must be adequately drained with the fall of the floors carefully designed to ensure that all liquids flow towards proper drainage channels. There shall be no standing pools of liquid. These could be minimised by using PVC pipes.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan	Camber / slope of floor should be sufficient to safely allow flow to drainage channels

- 1.2.3 Drainage channels that are half round in section with both the drains and gullies covered with removable easily cleaned grids are recommended.

Auditor's Recommendations:

Look At:	Look For:
Drainage Channels	Design to meet standard requirements
Drain covers / grids suitable for process activity and aid flow	Size of apertures in grid suitable to prevent large gross debris from entering main drain, but does not restrict flow to and through drainage channels
Maintenance / cleaning of grids	Frequency and maintenance of drain covers / grids prevents drain blockage and formation of standing pools of liquid

1.2.4 In high-risk premises, the flow of the drains shall be from high to low risk to avoid contamination of the clean environment.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Drainage channels	Slope of drain and separation of drain from high and low risk areas where possible.
Flow of drainage through factory	If not possible ensure drain flows from high to low risk to avoid contamination.

1.2.5 Positioning of machinery in relation to access to drains shall not compromise regular cleaning.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Location of equipment and materials	Positioning of equipment does not create blockage of drains nor does it create an unsafe working environment
Cleaning Plan and Schedule	Use of cleaning schedule to ensure cleaning of drains and their maintenance

1.2.6 Adequate debris traps should be fitted to all drains and any manhole covers properly greased and sealed.

Auditor's Recommendations:

Look At:	Look For:
Design and positioning of debris traps	Positioning of debris traps ensure effective retention of heavy / gross debris
Manhole covers	Located outside the working environment and properly sealed and maintained to ensure safe access

1.2.7 Drainage entry and exit points into the building must be pest proofed. Fumigation of drains is acceptable.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Entry and exit points of drainage system	Ability for pests to enter Suitable pest proofing activities in place to prevent access by pests

1.2.8 Damaged drains must be repaired as quickly as possible to prevent any blockages or accumulation of debris.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection records	Up to date records of inspection and maintenance of the drains. This may be covered within appropriate cleaning activities
Preventative measures	Drain blockages and preventative measure(s)

1.3 ***Personnel movement, wash hand basin facilities on entry***

Auditor's Recommendations:

1.3.1 All operatives must enter the factory by a specific entrance, to a dedicated changing area where showering, hand washing and toilet facilities are available, and where outer garments are exchanged for work wear.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan	Production staff / personnel movement within factory meets food safety requirements for entry and exit from production areas Personnel confined to designated work areas

1.3.2 At the entrances to process areas, personnel should be guided to hand wash stations using appropriate means e.g use of guard rails, guard rail supervisor.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Position of hand wash basins	Clarity of hand wash signs
Partitioning of basins on entrance / exit	Segregated / partitioned hand wash facilities on entry / exit

1.3.3 Hand-washing facilities must be suitably trapped and plumbed directly to drains.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Design of wash basins and plumbing	Plumbing of hand-wash facilities directly to drains with suitable traps. This should lead directly into the drain and not allow splash, spillage or standing pools of liquid to form

1.3.4 Movement between different areas of the factory must be minimised, and constantly monitored by management. Recommended that the use of process areas as corridors from one area to another should be controlled.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan	Description and clear indication of the routes for product, by-product, personnel and raw material transport through the factory

1.3.5 To reduce the risk of cross contamination, boot washing facilities of adequate size and capacity shall be provided at entry points to processing areas and at transfer points between dirty and clean areas. Transfer of operatives across these boundaries limited.

Auditor's Recommendations:

Look At:	Look For:
Factory Layout and Plan Washing facilities provided at transfer points	Positioning of suitable wash facilities outside or segregated from the factory production must be provided to restrict and cross-contamination and personnel movement.

1.4 ***Siting of equipment***

1.4.1 All machinery should be positioned to give easy access to all parts for cleaning. Equipment must be at least 50cm from adjacent walls.

Auditor's Recommendations:

Look At:	Look For:
Location and positioning of equipment in factory production	Positioning of equipment from segregated points and from factory area walls

1.4.2 Equipment must be designed and laid out to minimise any possible contamination from external sources.

Auditor's Recommendations:

Look At:	Look For:
Equipment Specifications	Contained operation within the equipment i.e. covered
Equipment location	Equipment located in a suitable position to prevent cross contamination

1.4.3 All frameworks in and around equipment should be in tubular sections to minimise accumulation of debris and to facilitate cleaning and reduce the risk of infestation e.g. with maggots, molds and ants.

Auditor's Recommendations:

Look At:	Look For:
Equipment Design	Cleaning schedule and frequency Equipment suitable for purpose and prevents build up and harbouring of soil Use of food grade materials in design

1.4.4 Machinery mounted on the floor must be installed on a foundation of easily clean-able, non-absorbent material. It must be either properly sealed to the floor with sealing material which is resistant to the environment or raised off the floor to allow access underneath for cleaning purposes, particularly to drains.

Auditor's Recommendations:

Look At:	Look For:
Equipment Design and Purpose	Position of equipment within the factory floor Use of food grade materials in design No absorbent material Use of appropriate cleaning plans and schedules with maintenance and inspection records

1.5 **Condition of floor**

1.5.1 Floors should be designed to withstand the rigours of the production processes that are being conducted.

Auditor's Recommendations:

Look At:	Look For:
Floor and factory layout	Design specifications for floor meet requirements to stand up to rigours of production activity

1.5.2 Floors must be in good condition and must be laid using impervious materials with an even, easily cleaned surface which is free from cracks, pitting and open joints e.g Terrazzo

Auditor's Recommendations:

Look At:	Look For:
Floor design	Use of impervious materials
Floor maintenance schedule	Floor free from cracks and open joints

1.5.3 The floor surface must be impervious to moisture and grease, resistant to chemicals and food materials to which it may be exposed and safe to walk on when wet, dry or greasy i.e non-slip surface

Auditor's Recommendations:

Look At:	Look For:
Floor design	Use of impervious materials and smooth surface to allow easy and simple run-off and collection of waste and drainage, yet enable safe movement by personnel
Floor cleaning and maintenance	Cleaning schedule and records

1.5.4 Floors must be kept clean and free from the accumulation of water or other spillage's, especially in corners and areas hidden by equipment, materials etc.

Auditor's Recommendations:

Look At:	Look For:
Floor cleaning and maintenance	Cleaning schedule and records to ensure cleaning of potential harbourage areas

1.5.5 Coved wall and floor junctions should facilitate cleaning.

Auditor's Recommendations:

Look At:	Look For:
Floor design	Wall and floor 'joints' are covered to prevent inaccessible cleaning and harbourage of pests

1.5.6 Damaged flooring must be repaired as quickly as possible with materials compatible with the original flooring and in a permanent fashion. Temporary measures must be rectified with an action plan in a specified time.

Auditor's Recommendations:

Look At:	Look For:
Floor Maintenance Schedule	Inspection and maintenance of floor undertaken. On identification suitably adequate methods of control are actioned and original flooring scheduled for repair. Completion of relevant maintenance documents to prove undertaking

1.5.7 Where mezzanine floors are adopted, they should be completely sealed and include side walls of adequate height. Drainage within these floors should be completely self contained and there must be no risk of contamination of machinery or products sited below.

Auditor's Recommendations:

Look At:	Look For:

1.5.8 Any stairways to or from mezzanine floors or gangways over production lines must be sealed and include side walls to prevent product contamination.

1.6 ***Condition of walls, doors and windows***

1.6.1 All interior walls in rooms where open food is stored or processed must be in good condition and finished with a hygienic, easy to clean surface, which does not pose a foreign body hazard e.g. walls should be finished with a continuous, bonded surface and protected from damage. Corners, joints between cladding sheets or ceramic tiles must be sealed with a suitable impervious sealant.

Auditor's Recommendations:

Look At:	Look For:
Interior Walls	Hygienic and Food Grade Material No decomposition Protection for wall cladding against damage Food grade impervious sealant used to seal joints Cleaning records Easy to clean with suitable cleaning records to support

1.6.2 Walls and wall surfaces should be free from shelves and other protruding attachments wherever possible. The design must be such as to avoid any horizontal surface, which could act as a dust trap, or impromptu shelf space.

Auditor's Recommendations:

Look At:	Look For:
Interior Walls	Maintenance of vertical surfaces Free from shelf space or possible dust traps

1.6.3. All wall-wall and wall-floor junctions should be covered. Wall-ceiling junctions and other junctions should be covered or sealed to facilitate cleaning.

Auditor's Recommendations:

Look At:	Look For:
Wall and ceiling junctions	Food grade impervious sealant used to seal joints Cleaning records

1.6.4. All signs of deterioration and damage should be dealt with immediately and the repairs should be compatible with the original finish.

Auditor's Recommendations:

Look At:	Look For:
Visible defects to walls, ceilings and floors	Inspection and maintenance records

1.6.5 Where notices are required they should not be nailed, pinned or taped to walls, self adhesive notices or food grade painted notices are preferred in production areas.

Auditor's Recommendations:

Look At:	Look For:
Notice Boards in factory	Presence of notice boards in the factory Where they are required they should be self adhesive and no material which may cause foreign body and cross contamination should be used. Notices should only be used where required to meet legislative needs

1.6.6. Recommended that walls must be protected in vulnerable areas by the use of guard-rails.

Auditor's Recommendations:

Look At:	Look For:
Use of guard rails	Protection of vulnerable wall surfaces Maintenance and cleaning of guard rails Positioning not to inhibit process or production movement

- 1.6.7. Services must be sealed into any walls through which they pass e.g. electrical fittings, plumbing etc.. Where fabricated walls are used, services must be sealed onto them e.g. electrical fittings

Auditor's Recommendations:

Look At:	Look For:
Services (i.e. electric / water) provided into factory	Entry point into factory complies with food safety and hygiene requirements Suitable seals are provided and maintained through records and inspection

- 1.6.8. Where temporary walls are constructed, they must give adequate protection from contamination and they must not present a hazard to the process or the product.

Auditor's Recommendations:

Look At:	Look For:
Location of temporary walls	Compliance with product and process flows Compliance with Health & Safety requirement and food hygiene requirement

- 1.6.9. All external-opening doors must be kept closed. Where frequent use makes this impractical then either automatic doors, rubber swing doors, plastic strip curtaining or air curtain should be provided to prevent bird and insect ingress

Auditor's Recommendations:

Look At:	Look For:
Factory Plan and process flows	Possible access into production areas by pests Ability for cross contamination routes to be formed Use of locked / alarmed doors as appropriate Use of strip curtains, air ciurtains or rubber swing doors Appropriate cleaning and maintenance schedules and records

- 1.6.10 All doors to production areas should be self-closing to maintain the necessary atmospheric conditions. They should be close fitting on all sides and the doorframes and corners must be given protection against damage.

Auditor's Recommendations:

Look At:	Look For:
Access and flow of product and process Factory Plan	Self closing doors in place with suitable seals to ensure complete closure Maintenance and Inspection records

1.6.11 All windows should be kept closed. Those required to be opened to provide additional ventilation, should have the total opening area screened with a mesh small enough to exclude flying insects.

Auditor's Recommendations:

Look At:	Look For:
Factory Plan and location of windows Maintenance and Inspection Records	Ventilation is through food grade acceptable equipment with protection All windows maintained and covered to prevent contamination of product – no windows or glass should be in food production areas

1.6.12 All exterior windows must be clear, complete and properly fixed. Their frames must be of sound fitting and completely sealed to prevent insect ingress.

Auditor's Recommendations:

Look At:	Look For:
Cleaning Schedule Maintenance and Inspection	Windows cleaned and maintained frequently through visual inspection and record-keeping

1.6.13. Broken or cracked windows must be replaced immediately before production recommences. Approved shatterproof materials must be used.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection Records	Broken or cracked windows Records of Inspection, cleaning and maintenance Use of shatterproof / laminated materials as applicable

1.6.14 Windowsills and ledges should be sloping to prevent tools and other articles being placed on them.

Auditor's Recommendations:

Look At:	Look For:
Inspection Records	Cleaned sills and ledges Sloped to prevent "shelving" areas being formed

1.7 **Condition of ceiling and lights**

1.7.1 In any room where open food is stored or processed, the condition of the ceiling must be smooth, easily cleaned and kept in good repair. It must not pose a foreign body hazard to the area below.

Auditor's Recommendations:

Look At:	Look For:
Inspection and Maintenance Records	Good conditioned ceiling surface and in good repair Maintenance records and activity

1.7.2 Ceilings may be underdrawn or suspended, however, access must be provided to the void above to enable adequate cleaning and pest control inspections. Adequate walkways must be provided for this purpose and also for access to services.

Auditor's Recommendations:

Look At:	Look For:
Ceiling design and maintenance records	Ability of pests to harbour in the void Suitable access for good housekeeping activities

1.7.3 All junctions between walls and ceilings should be sealed and impermeable to facilitate cleaning. Additionally eaves and ridges must be sealed to prevent access to birds, insects and rodents.

Auditor's Recommendations:

Look At:	Look For:
Inspection and maintenance records	Junctions sealed and meet legislative requirements for food hygiene, preventing access and harbourage of pests and soil

1.7.4 Where painted surfaces are unavoidable, both these and underlying surfaces must be sound and free from flaking, and repainted as necessary with a paint approved for use in food preparation areas.

Auditor's Recommendations:

Look At:	Look For:
Inspection and maintenance records	Records of maintenance and use of food grade material Elimination of all possible paint derivative contaminants

1.7.5 Girders and overhead framework must be regularly maintained and cleaned, where possible these should be of circular cross section to aid maintenance and to prevent a build up of dust and debris.

Auditor's Recommendations:

Look At:	Look For:
Inspection and maintenance records	Prevention of dust build up and regular maintenance Design specifications enable prevention of dust etc.

1.7.6 Throughout production and inspection areas, good artificial lighting must be provided. Fluorescent strip lights should be protected by shatterproof diffusers or sleeve covers in production areas.

Any other form of lighting must be protected such that glass contamination of product is rendered impossible.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection records	Protection of work area from glass strip lights. Were they are used then suitable measures must be taken to prevent any glass contamination

1.7.7 Natural daylight tubes must be used in inspection areas, otherwise adequate lighting must be provided for operations.

Auditor's Recommendations:

Look At:	Look For:
Inspection and Maintenance Records	Use of natural light tubes for all operations available at all times with suitable maintenance records and inspection frequency are provided

1.7.8 Where special lighting conditions are required, for example on inspection belts, lighting of the correct colour and intensity must be provided.

Auditor's Recommendations:

Look At:	Look For:
Inspection and Maintenance Records	Use of appropriate lighting must be available and maintained

1.7.9 All light units must be kept clean, and bulb replacement or any other maintenance programme carried out when the department is not in production.

Auditor's Recommendations:

Look At:	Look For:
Inspection and Maintenance Records	Use of natural light tubes for all operations available at all times with suitable maintenance records and inspection frequency are provided
Cleaning Schedule	Cleaning plan and records completed

1.7.10 Sky lights should be designed to prevent access by pests, and must not be directly above any exposed raw material or finished product. If movement of production lines results in them being placed below skylights, then a canopy should be provided to protect the product or the light screened.

Auditor's Recommendations:

Look At:	Look For:
Inspection and Maintenance Records	Prevention of access by pests and not positioned directly above process operation Provision of suitable canopies should be provided to protect the product

1.8 ***Ventilation adequate, removes heat, steam etc***

1.8.1 Adequate temperature and dust control must be provided in all areas.

Auditor's Recommendations:

Look At:	Look For:
Environmental Controls	Maintenance of temperature and dust control

1.8.2 In steamy atmospheres, extraction fans must be provided to give adequate ventilation and minimise condensation. This will help to prevent mould formation on walls and ceilings and could also reduce the level of corrosion on fabric and equipment.

Auditor's Recommendations:

Look At:	Look For:
Environmental Control and Ventilation	Maintenance of environmental controls Prevention of mould growth and formation through suitable environmental records and cleaning records
Maintenance and Inspection	Corrosion and maintenance of equipment

1.8.3 In dry areas, dust extractors should be installed where necessary. These units must be regularly inspected and maintained to ensure that they are functional and that there are no signs of infestation.

Auditor's Recommendations:

Look At:	Look For:
Environmental Controls	Maintenance of environmental controls
Maintenance and Inspection Records	No encouragement of infestation Maintenance and Inspection records and frequency Meet expected requirements

1.8.4 Frying or other fume producing processes must be provided with adequate extractor facilities, trapped to prevent condensate falling back into the process.

Auditor's Recommendations:

Look At:	Look For:
Environmental Control	Records of control
Maintenance and Inspection	Maintenance and inspection records

1.8.5 Condensate from extraction systems and from evaporators, must be plumbed direct to drain, and the collection system sanitised daily.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Plumbing of condensate directly to drain
Cleaning Schedule	Cleaning records to ensure cleaned

1.8.6 Both ventilation systems and extraction systems must be kept scrupulously clean to avoid introducing contaminants into the process environment.

Auditor's Recommendations:

Look At:	Look For:
Cleaning Schedule and Plan	Records of cleaning and evidence of clean to reduce possible contamination

1.9 ***Condition of service/overheads, redundant items removed***

1.9.1 All water used in food factories whether for processing, cooling or pre-cleaning of cans, bottles or jars and for rinsing process equipment must be of potable quality and free from discoloration or taint. Its microbiological and chemical quality must be regularly checked..

Auditor's Recommendations:

Look At:	Look For:
Supplier Assurance Process control records	Meets statutory requirement
Process flow diagrams	Identification of waste stream and usage

1.9.2 Water tanks must be kept covered, frequently inspected to ensure that there has been no contamination and must be regularly cleaned.

Auditor's Recommendations:

Look At:	Look For:
Water storage containers	Records of use and source to determine potability. Ideally water for food use should be obtained from a known hygienic supply
Water condition and quality maintenance	Water storage facilities maintained and recorded with suitable protection to prevent contamination by foreign matter or pollutants

1.9.3 Where chlorination is necessary, contact time and free chlorine levels must be routinely monitored.

Auditor's Recommendations:

Look At:	Look For:
Chlorination Procedure	Records of chlorination by suitably trained personnel and use of correct equipment Monitor of free chlorine and contact time
Indicator of Quality	Microbiological results verify effectiveness of chlorination versus possible pathogens and spoilage organisms

1.9.4 All compressed air supplies must be filtered and passed across water and oil traps which should be drained regularly.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection of air supplies	Records of maintenance and inspection to ensure no harbouring of possible contaminants to the production area.

1.9.5 All services should ideally be routed down from ceilings, structures and services running below the ceiling must be kept to a minimum and be regularly cleaned.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Records of inspection and maintenance
Factory Plan and Layout	Entry of services is minimal and available were required only
Cleaning Schedule	Cleaning records

1.9.6 All overheads must be maintained in good condition i.e. free from rust, flaking paint or masonry and free from cobwebs, dust and other accumulations of debris.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection records	Records of maintenance and inspection

1.9.7 Steam lines must be adequately trapped and checked for carry over chemicals.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Frequency and records of inspections Inclusion of appropriate traps and cleaning to ensure no harbourage of dirt Safe to carry steam and chemicals without creating potentially hazardous environment to employees through Health & Safety

1.9.8 All pipework lagging must be kept clean and complete. Redundant pipework should be removed together with other redundant services.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Frequency and records of inspection Lagging complete and on active pipework. No redundant pipework

1.9.9 Electrical trunking and cable trays must be kept free of dust, cobwebs etc.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Electrical access not available through production environment and frequently monitored to ensure no harbourage of pests etc. Damage to cables etc, is reported and repaired immediately

1.9.10 Hoses must be kept in clean and hygienic condition. Wall mounted reels should be fitted for storage and they should always be kept off the floor.

Auditor's Recommendations:

Look At:	Look For:
Storage and maintenance	Maintained equipment free of defects Cleanliness and hygienic condition

1.9.11 Steam hoses must never be immersed in product. If live steam heating is required, the hose must be fitted with a stainless extension tube.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection Procedure for use	Maintained at regular intervals Used by trained and experienced personnel Use in food products must be approved and records for use are held to ensure specification required is attained

1.9.12 Regular audits of service lines, particularly water must be carried out to eliminate dead legs.

Auditor's Recommendations:

Look At:	Look For:
Audit Schedule and Frequency	Audit reports and non-conformances – ensure these have been implemented to remove dead spots

1.10 ***Good standards of decoration***

1.10.1 Throughout the site there should be evidence of good standards of decoration and the implementation of a maintenance programme. Signs of deterioration such as chipped tiles, flaking paint, damaged plasterwork should be limited and should definitely not be evident where they present a risk to the product.

Auditor's Recommendations:

Look At:	Look For:
Maintenance and Inspection	Records of maintenance and inspection Removal of prevalent risks to the product where they will have significant effect on the finished product