

Quality management MONDI SERBIA	BASIC PRINCIPLES OF GOOD MANUFACTURING PRACTICE	Nr.Doc.:H-GMP1/6 Date: 17.11.2005
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These principles represent a universal procedure which defines basic elements necessary for healthy food production. They have to be applied, documented and developed.

Objective

To prevent any kind of product contamination.

This procedure is backup to a successful implementation of the HACCP plan.

BUILDINGS AND EQUIPMENT

Construction and factory design shall:

- be of adequate size and meet purpose
- provide access for reparations, cleaning and disinfection
- prevent retaining dirt, product contact with surfaces, product contamination and mold growth
- prevent physical, chemical and microbiological contamination
- provide adequate temperature conditions
- facilitate movement of staff, goods and product

Factory grounds shall :

- facilitate cleaning and maintainace
- provide adequate bate control
- prevent water and waste accumulation
- have maintained roads, yards and parking lots to facilitate movements

Floors shall:

- be made of smooth concrete, un-absorbing and un-toxic surface
- not slippery
- prevent water and waste accumulation
- provide safe transport of goods
- be clean and disinfected as frequently as the production process requieres

Walls shall:

- be made of smooth materials, un-absorbing and un-toxic surface
- facilitate cleaning and disinfection
- prevent condensation and mold growth
- prevent retaining dirt
- have smooth, safe and waterproof junctures

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Ceilings/Overheads shall:

- be made of smooth materials, un-absorbing and un-toxic, light coloured
- prevent condensation and mould growth
- enable cleaning and disinfection
- prevent dirt accumulation
- provide adequate lighting
- be safe and waterproof
- be high enough to enable equipment washing
- protect light bulbs, fixtures, sky lights to prevent product contamination

Windows shall be:

- designed to be opened
- prevent dirt accumulation
- made of smooth materials, un-absorbing and un-toxic, suitable for cleaning
- adequately screened to prevent ingress of insects and pests

Doors shall :

- be made of smooth materials, un-absorbing and un-toxic, suitable for cleaning
- enable maintenance , cleaning and disinfection

Ventilation (natural & mechanical) shall:

- provide clean air and reduce condensation
- prevent smoke, steam and foreign odor

Lighting shall be:

- of adequate intensity
- protected and installed to facilitate cleaning and maintenance

Freezing units shall be:

- built to comply the process
- functioning to minimize forming of ice
- equipped with thermometers to control temperature
- enable cleaning and maintenance
- have a cooling system to provide -18⁰C and low

Pre-cooling units shall:

- provide adequate temperature
- provide adequate air circulation

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Equipment shall :

- be made of smooth materials, un-absorbing and un-toxic, suitable for cleaning
- provide safe work
- enable easy ground maintenance
- have all electric devices installed properly
- engines safe and without leaks
- unnecessary equipment removed from processing areas
- have smooth, safe and waterproof junctures

HYGIENE:

Plant, equipment, fixtures hygiene shall be maintained as follows:

- cleaning compounds, sanitizing agents and cleaning utensils intended for plant and equipment cleaning shall be applied in appropriate concentration (dilution) and stored in room intended for that purpose.
- contact surfaces and contact surfaces of equipment which come in contact with raw material, product or packaging material shall be cleaned as frequently as necessary .
- cleaning and sanitizing agents shall be free of undesirable microorganisms
- cleaning and sanitizing agents shall have adequate purpose , clearly labelled with detailed directions for use and storage
- any person responsible for hygiene maintenance shall be trained and informed about ways of chemical agents application and utensils handling.
- unnecessary equipment and material shall not be kept in production area

Plant surroundings hygiene shall be maintained as follows:

Pest control:

- pest control agents shall be adequately applied
- disable animal presence
- pest control agents shall not be applied inside the production/storage areas
- electric devices for flying insects control shall be used and appropriately located, covered and frequently controlled
- plant surroundings shall be protected from pests by using of traps
- pest control agents and devices shall not be harmful to people and warm-blooded animals
- pest control traps shall always be supplied with adequate baits

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Waste handling:

- waste has to be classified and disposed in for this purpose marked containers
- containers have to be made of un-absorbing, not corosive materials
- appropriate waste flow has to be organized
- not to dispose toxic waste on the factory grounds or enviroment
- waste shall be removed by licenced contractors
- waste disposed incontainers must have concrete enclosure
- pevent scattering waste
- prevent unplesant odor

Personal hygiene

Adequate personal hygiene is the base for preventing product contamination with microorganisms.

Toalets:

- toalet facilities shall be in place
- shall be equiped with hot and cold water
- shall have single service articles
- shall be located within the factory but not near production areas
- shall have adequate drainage
- shall have adequate ventilation

Hand –washing facilities shall be:

- maintained and adequate
- equiped with hot and cold water
- have liquid washing means
- have single service towels or suitable drying devices
- outstanding hand washing manuals
- baskests for used towels

Protetctive clothes maintainance shall:

- provide basic hygiene (protetctive clothes)
- be adequate
- be located near the production area

Dressing room shall

- be adequate equiped for cloth disposal
- have adequate ventilation

Protetctive clothes shall:

- be worn by every employee who comes in contact with food. This include:clean gloves, sleeves and aprons. Nats should by changed by each leaving of production area. All protective clothes should be changed once to twice per week. By each leaving of production area, staff should temporary hang protection clothes on a hook in appropriate place.

In case of tearing or any kind of damage during the work, it`s neccessery to change it with new one. It`s also neccessery to investigate if the part of the protective material is missing. If it is, shift leader is responsible to organize and find the missing part. If it`s not possible, certain quantity of the goods which was processing in that area should be put in quarantine.

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This procedure have to be done in order to avoid product contamination.
Working clothes should be changed once in two weeks.

- Nobody can enter the production area without:
- protective clothes
- clean footwear
- clean hands
- if he is sick
- protective clothes must be suitable for cleaning
- prevent clothing disposal on production equipment

Medical Screening

Procedures have to be in place for all employees, who will be working in areas where product safety could be compromised.

- personel working in production must remove jewelry and other objects that might fall into food
- tobacco, food and beverage must not enter production areas
- it's forbidden to take into production area the following metal objects like sharp objects, knives, scissors, paper clips, pins, needle, nails, keys.

PROCESS AND CONTROL

Raw material :

- shall be inspected and controled before processing
- earth and other contaminants shall be removed
- packaging material shall be inspected
- tested for pesticides and microorganisms
- stored at adequate temperature

Production process:

- acceptance, processing packaging, storage and transport have to be supervised and submitted to adequate hygienic rules
- chemical, biological and other analysis are evidence to cleaning efficiency
- production area and equipment are used only for this purpose
- equipment used in process has to be maintained on regular basis and disassembled if necessary for detailed cleaning.
- production process, packaging units and storage have to be carefully controled (time, temperature, preasure) as well as production operations (freezing and pre-cooling)
- final product is stored and maintained frozen

Packaging shall be :

- made of adequate, un-toxic, waterproof material without foreign bodies
- physicaly protect the product

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Storage and Transport shall:

- provide quality preservative
- provide adequate product temperature
- provide adequate manipulation

Training/Education

All personnel, including temporary personnel and contractors, shall be trained and adequately supervised throughout the working period.

Personnel manipulating with food as well as the supervisor have to be introduced to food manipulation techniques and principles of food protection.

They have to be aware of consequences in case of non-compliance to hygiene rules.

Management has to be informed about development of new processing technologies as well as quality assurance and packaging.

Conforming:

Application of these principles in practice is checked through internal audits with respect to referenced HACCP procedures.

Documentation:

- GMP survey
- HACCP plan
- HACCP procedure

Reference:

FDA Code of federal regulation 21CFR110-cGMP in manufacturing, packaging and holding human food.