

**RWANDA  
STANDARD**

**DRS**

**81**

Third edition

2023-0x-0x

---

---

**Processed meat products — Code of  
hygienic practice**



Reference number

DRS 81: 2023

© RSB 2023

In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

©RSB 2023

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from RSB.

Requests for permission to reproduce this document should be addressed to:

Rwanda Standards Board

P.O Box 7099 Kigali-Rwanda

Tel. +250 788303492

Toll Free: 3250

E-mail: [info@rsb.gov.rw](mailto:info@rsb.gov.rw)

Website: [www.rsb.gov.rw](http://www.rsb.gov.rw)

ePortal: [www.portal.rsb.gov.rw](http://www.portal.rsb.gov.rw)

<b>Contents</b>		Page
<b>1</b>	<b>Scope</b> .....	<b>1</b>
<b>2</b>	<b>Normative references</b> .....	<b>1</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>1</b>
<b>4</b>	<b>Ingredient requirements</b> .....	<b>3</b>
<b>5</b>	<b>Establishment: registration, design and facilities</b> .....	<b>4</b>
5.1	Registration and location .....	4
5.2	Buildings design.....	4
5.3	Sanitary facilities .....	5
5.4	Lighting .....	7
5.5	Ventilation .....	7
5.6	Equipment and utensils .....	7
<b>6</b>	<b>Establishment: Hygiene requirements</b> .....	<b>8</b>
6.1	Maintenance .....	8
6.2	Cleaning and disinfection.....	8
6.3	Hygiene control programme .....	8
6.4	Storage and disposal of waste.....	8
6.5	Exclusion of domestic animals.....	8
6.6	Pest control.....	9
<b>7</b>	<b>Handling and storage of hazardous substances</b> .....	<b>9</b>
<b>8</b>	<b>Personnel hygienic requirements</b> .....	<b>9</b>
8.1	Hygiene training .....	9
8.2	Medical examination .....	9
8.3	Communicable diseases .....	10
8.4	Injuries.....	10
8.5	Washing of hands.....	10
8.6	Personal cleanliness.....	10
8.7	Personal behaviour.....	11
8.8	Gloves.....	11
8.9	Visitors .....	11
8.10	Supervision .....	11
<b>9</b>	<b>Hygienic processing requirements</b> .....	<b>11</b>
9.1	Prevention of cross-contamination .....	11
9.2	Use of water .....	12
9.3	Handling and processing hygienic requirements.....	12
9.4	Sampling and laboratory control procedure .....	15
9.5	End product requirements .....	16

## **Foreword**

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 81 was prepared by Technical Committee RSB/TC 005, *Meat and meat products*.

In the preparation of this standard, reference was made to the following standard:

- 1) ES 1114, *Code of hygienic practice for processed meat products*

The assistance derived from the above source is hereby acknowledged with thanks.

This third edition cancels and replaces the second edition (RS 81: 2018), which has been technically revised.

## **Committee membership**

The following organizations were represented on the Technical Committee on Meat and meat products (RSB/TC 005) in the preparation of this standard.

Rwanda Food and Drugs Authority (RFDA)

Rugari Meat Processing Ltd

Res Populi Ltd

Rwanda Inspectorate, Competition and Consumer Protection Authority (RICA)

Umurage interprise Ltd

Zamura Feeds Ltd

City of Kigali

Rwanda Institute for Conservation Agriculture

Kigali Marriott Hotel

National Industrial Research and Development Agency (NIRDA)

National Agricultural Export Development Board (NAEB)

Rwanda Standards Board (RSB) – Secretariat

Copy for public review



# Processed meat products — Code of hygienic practice

## 1 Scope

This draft Rwanda Standard covers the minimum requirements of hygienic practices at reception, handling, processing, packaging, storage and transportation of quality and safe processed meat products

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

RS 185, *Code of Hygienic practice for meat*

RS CXC 1, *General principles of food hygiene — Code of practice*

RS EAS 12, *Potable water — Specification*

RS EAS 38, *General requirements of labelling of pre-packaged foods*

## 3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

### 3.1

#### **abattoir**

any establishment where specified animals are slaughtered and dressed for human consumption and that is approved, registered and/or listed by the competent authority for such purposes.

### 3.2

#### **cleaning**

removal of soil, food residues, dirt, grease or other objectionable matter

### 3.3

#### **contamination**

introduction or occurrence of a contaminant in food or food environment

### 3.4

#### **contaminant**

any biological or chemical agent, foreign matter, or other substance not intentionally added to food that may compromise food safety or suitability

### 3.5

#### **controlling authority**

official authority charged by the government with the control of hygiene including inspection of meat and meat products

### 3.6

#### **competent authority**

official authority charged by the government with the control of meat hygiene, including setting and enforcing regulatory meat hygiene requirements

### 3.7

#### **disinfection**

reduction, of number of microorganisms to a level that will not lead to harmful contamination of meat and meat products by applying hygienically satisfactory chemical agents and/or physical methods, without adversely affecting the food

### 3.8

#### **establishment**

building or area used for performing meat hygiene activities that is approved, registered and/or listed by the competent authority for such purposes

### 3.9

#### **hermetically sealed container**

container which is designed and intended to protect the content against the entry of microorganisms during and after heat processing

### 3.10

#### **ingredient**

any substance including food additives used in the manufacture or preparation of a meat product



**3.11****lot**

definite quantity of a commodity produced under essentially the same conditions

**3.12****meat**

all parts of an animal that are intended for, or have been judged as safe and suitable for human consumption

**3.13****meat product**

product intended for human consumption containing meat from animals

**3.14****processed**

includes all methods of manufacture and preservation but does not include pre-packaged fresh, chilled or frozen meat

**3.15****protective clothing**

special garments intended to prevent the contamination of meat and/or meat products and used as outer-wear by persons in an establishment and includes head coverings, face masks, footwear and gloves

## **4 Raw materials and ingredients**

**4.1** All meat used in the manufacture of meat products shall have been produced in compliance with the provisions of RS 185.

**4.2** All other raw materials and ingredients; whether of animal, vegetable or other origin; shall be fit for human consumption, and if applicable shall have been produced in compliance with RS CAC/RCP 1.

**4.3** No meat, or other ingredient which has undergone deterioration or any other process of decomposition or which has been contaminated with foreign matter, making it unfit for human consumption shall be used for the processing and manufacture of meat products. Where there is doubt, laboratory tests shall be made of the ingredients prior to their being moved into the production area of the establishment.

**4.4** Although passed for human consumption by an inspector, the meat may have undergone such changes, e.g. during transportation, that in the establishment producing products it is found no longer fit for human consumption. Such meat may be used for other purposes than human consumption or be destroyed. In cases where only superficial contamination has taken place, trimming of the contaminated part may suffice. The decision whether or not the meat is still fit for human consumption may be guided by microbiological, chemical or physical analysis relative to the changes observed or suspected.

**4.5** Raw materials and ingredients stored on the premises of the establishment shall be maintained under conditions that will prevent spoilage, protect against contamination and minimize damage.

## **5 Establishment: registration, design and facilities**

### **5.1 Registration and location**

**5.1.1** Establishments shall be approved and registered by the Competent Authority.

**5.1.2** Establishments shall be located in areas not subject to regular and frequent flooding and free from objectionable odours, smoke, dust and other contaminants.

**5.1.3** Establishments shall have access to the road and not be near farming facilities and residential areas.

### **5.2 Buildings design**

**5.2.1** Establishments shall provide adequate working space for the satisfactory performance of all operations.

**5.2.2** The construction such as that of chilling room, freezing room, freezer store or freezer shall be sound and ensure adequate ventilation, good natural or artificial lighting and easy cleaning, all construction materials shall be such that they do not transmit any undesirable substances to the meat or meat products.

**5.2.3** The establishment shall be laid out and equipped so as to facilitate proper supervision of meat hygiene including performance of inspection and control.

**5.2.4** The establishment shall be of such construction as to protect against the entrance and harbouring of insects, birds, rodents or other vermin, as well as the entry of environmental contaminants such as smoke, dust, etc.

**5.2.5** Buildings and facilities shall be designed to provide separation, by partition, location or other effective mean, between those operations which may be used to avoid cross-contamination.

**5.2.6** Establishments shall be laid out and equipped so as to ensure that meat and meat products do not come into contact with floors, walls or other fixed structure, except those which are specifically designed for contact with meat.

**5.2.7** Roadways and areas used by wheeled traffic such roadways and areas serving the establishment which are within its boundaries or in its immediate vicinity shall have a hard paved surface suitable for wheeled traffic. There shall be adequate drainage and provision shall be made to allow for cleaning. Where appropriate, establishments shall be so designed that access can be controlled.

**5.2.8** In rooms where work on meat and meat products is undertaken, the following shall be in place:

- a) floors shall be of water-proof, washable and non-slip materials, without crevices, and shall be easy to clean and disinfect. Where appropriate, floors shall slope sufficiently for liquids to drain to trapped outlets including grates;
- b) walls shall be of water-proof, non-absorbent and washable materials and shall be light-coloured. Up to a height appropriate for the operation they shall be smooth and without crevices, and shall be easy to clean and disinfect. Where appropriate, angles between walls and floors shall be sealed and coved, and angles between walls and walls, and ceilings and walls, shall be sealed to facilitate cleaning;
- c) ceilings shall be so designed, constructed and finished as to prevent the accumulation of dirt and minimize condensation, mould development and flaking, and shall be easy to clean;
- d) windows and other openings shall be so constructed as to avoid accumulation of dirt and those which open shall be fitted with insect-proof screens. Screens shall be easily movable for cleaning and kept in good repair. Internal windowsills, if present, shall be sloped to prevent use as shelves;
- e) doors shall have smooth, non-absorbent surfaces and, where possible, be self-closing and close fitting;
- f) stairs lift cages and auxiliary structures such as platforms, ladders and chutes, shall be so situated and constructed as not to cause contamination to meat. They shall be capable of being effectively cleaned. Chutes shall be constructed with inspection and cleaning hatches;
- g) the use of construction materials which cannot be adequately cleaned and disinfected, such as wood, shall be avoided unless its use would clearly not be a source of contamination; and
- h) office accommodation shall be provided for the use of the inspection service.

### **5.3 Sanitary facilities**

#### **5.3.1 Water supply**

**5.3.1.1** A permanent supply of potable water conforming to RS EAS 12, under adequate pressure shall be available with appropriate facilities for its storage, and distribution, and with adequate protection against contamination.

**5.3.1.2** An adequate supply of hot potable water shall be available at all times during working hours. For disinfection purposes hot water at e.g. 82 °C for no less than two minutes could be used and dispensed in such a way (e.g. in specially designed boxes near the working area) that blades of knives etc. can be submerged in the water for an adequate contact time (no less than two minutes). Often this water supply is separate from other hot water supplies used for cleaning, hand-washing etc. But if there is only one hot water supply the term "adequate" shall mean that even at times where large amounts of hot water are used (e.g. during cleaning operations) the water supply from any tap in the establishment shall not be decreased.

**5.3.1.3** Ice shall be made from potable water and shall be manufactured handled and stored so as to protect it from contamination.

**5.3.1.4** Steam used in contact directly with meat and meat products shall be produced from potable water and contain no substances which may be hazardous to health or may contaminate the food.

**5.3.1.5** Non-potable water used for steam production, cooling of refrigeration equipment, fire control and other similar purposes not connected with meat and meat products shall be carried in completely separate lines, identifiable preferably by colour and with no cross-connection with or back siphonage into the system carrying potable water.

### **5.3.2 Effluent and waste disposal**

Establishments shall have an efficient effluent and waste disposal system. All effluent lines (including sewer systems) shall be large enough to carry peak loads and shall be constructed in such a manner as to avoid contamination of potable water supplies and the environment.

### **5.3.3 Facilities for storage of waste and inedible material**

Facilities shall be provided for the storage of waste and inedible material prior to removal from the establishment. These facilities shall be designed to prevent access to waste or inedible material by pests and to avoid contamination of food, potable water, equipment or buildings on the premises.

### **5.3.4 Changing facilities and toilets**

Appropriately located changing facilities and toilets shall be provided in all establishments. Toilets shall be so designed as to ensure hygienic removal of waste matter. These areas shall be well lit, ventilated and where appropriate heated and shall not open directly onto food handling areas. Hand washing facilities with hot and cold water, a suitable hand-cleaning preparation, and with suitable hygienic means of drying hands, shall be provided adjacent to toilets and in such a position that the employee shall pass them when returning to the processing area. Where hot and cold water are available mixing taps shall be provided. Where paper towels are used, a sufficient number of dispensers with paper towels and receptacles for used towels shall be provided adjacent to each washing facility. Taps of a non-hand operable type are preferable. Notices shall be posted directing personnel to wash their hands after using the toilet.

### **5.3.5 Hand washing facilities in processing areas**

Adequate and conveniently located facilities for hand washing and drying shall be provided wherever the process demands. Where appropriate, facilities for hand disinfection shall also be provided. Hand washing facilities shall be equipped as under 5.3.4. The facilities shall be furnished with properly trapped water pipes leading to drains.

### **5.3.6 Cleaning and disinfection facilities**

**5.3.6.1** All rooms used for deboning, preparing, packaging or other handling of meat and meat products shall be equipped with adequate facilities for cleaning and disinfecting implements, conveniently located for the use of personnel during operations. These facilities are for use exclusively in the cleaning and disinfection of knives, steels, cleavers, saws and other implements

**5.3.6.3** All facilities for cleaning and disinfecting implements shall be of such nature and size as to permit proper cleaning and disinfection of implements. These facilities shall be constructed of corrosion-resistant materials and shall be capable of being easily cleaned.

**5.3.6.4** All facilities for cleaning and disinfecting of implements shall be fitted with suitable means of supplying hot water in sufficient quantity at all times while meat or meat products are being handled in that part of the establishment.

## **5.4 Energy and Lighting**

**5.4.1** there shall be adequate and reliable power supply throughout the establishment. **5.4.2** Adequate natural or artificial lighting shall be provided throughout the establishment. Where appropriate, natural light shall be augmented by artificial light and the lighting shall not alter colour.

**5.4.3** Light bulbs and fixtures suspended over meat in any stage of production shall be of a safety type and protected to prevent contamination of meat and meat products in case of breakage.

## **5.5 Ventilation**

Appropriate ventilation shall be provided to prevent excessive heat, steam condensation and dust, and remove contaminated air. The direction of the airflow shall never be from a dirty area to a clean area. Ventilation openings shall be provided with an insect screen or other protective enclosure of non-corrodible material. Screens shall be easily removable for cleaning.

## **5.6 Equipment and utensils**

**5.6.1** All equipment and utensils used in meat handling areas and which may contact exposed meat and meat products shall be made of food grade material which is non-absorbent, is resistant to corrosion and is capable of withstanding repeated cleaning and disinfection. Surfaces shall be smooth and free from pits and crevices. The use of wood and other materials which cannot be adequately cleaned and disinfected shall be avoided except when their use would clearly not be a source of contamination. The use of different materials in such a way that contact corrosion can occur shall be avoided.

**5.6.2** Equipment and utensils used for inedible materials or waste shall be so identified and shall not be used for edible products.

**5.6.3** All equipment and utensils shall be so designed and constructed as to prevent hygienic hazards and permit easy and thorough cleaning and disinfection and, where practicable, be visible for inspection. Stationary equipment shall be installed in such a manner as to permit easy access and thorough cleaning.

**5.6.4** Containers for inedible material and waste shall be leak-proof, constructed of non-corrosive metal or other suitable impervious material which shall be easy to clean or disposable and, where appropriate, able to be closed securely.

**5.6.5** All refrigerated spaces shall be equipped with temperature measurement or recording devices

## **6 Establishment: Hygiene requirements**

### **6.1 Maintenance**

The buildings, rooms, equipment and all other physical facilities of the establishment, including drains, shall be maintained in good repair and in orderly condition. Except for rooms where heat processing or cleaning operations are performed they shall be free from steam, vapour and surplus water.

### **6.2 Cleaning and disinfection**

**6.2.1** Cleaning and disinfection shall allow the level of hygiene required by several clauses of this standard in addition to those stipulated in RS CAC/RCP 1.

**6.2.2** Facilities provided for the use of employees and the inspection service including changing facilities, toilets and the inspection office space shall be kept clean at all times.

**6.2.3** If rooms intended and most of the time used for the handling, preparation, processing, packaging or storage of meat and meat products are used for any other food preparation purposes, then cleaning and disinfection are necessary immediately before and after such use.

### **6.3 Hygiene control programme**

**6.3.1** Each establishment should designate a person whose duties divorced from production, to be held responsible for the cleanliness of the establishment. This person shall be a permanent staff of the organization and shall be well trained in the use of special cleaning tools, methods of dismantling equipment for cleaning and in the significance of contamination and the hazards involved.

**6.3.2** A permanent cleaning and disinfection schedule shall be drawn up to ensure that all parts of the establishments are cleaned appropriately and that critical areas, equipment and material are designated for cleaning and/or disinfection daily or more frequently if required.

### **6.4 Storage and disposal of waste**

Waste material shall be handled in such a manner as to exclude contamination of food or potable water. Precautions shall be taken to prevent access to waste by pests. Waste shall be removed from the meat and meat products handling and other working areas at intervals and at least daily. Immediately after disposal of the waste, receptacles used for storage and any equipment which has come into contact with the waste shall be cleaned and disinfected. Waste storage containers shall be cleaned and disinfected at least daily.

### **6.5 Exclusion of domestic animals**

Domestic animals that are uncontrolled or that could be a hazard to health shall be excluded from establishments.

## **6.6 Pest control**

**6.6.1** There shall be an effective and continuous programme for the control of insects, birds, rodents or other vermin. Establishments and surrounding areas shall be regularly examined for evidence of infestation. Where pests gain entrance to the establishment or surrounding areas, eradication measures shall be instituted. Control measures involving treatment with chemical, physical or biological agents shall only be undertaken by or under direct supervision of personnel who have a thorough understanding of the potential hazards to health resulting from the use of these agents, including those, which may arise from residues retained in the product. Such measures shall only be carried out in accordance with the recommendations of the official agency having competent authority.

**6.6.2** Pesticides shall only be employed if other precautionary methods cannot be used effectively. Only pesticides approved for use in an establishment by the competent authority shall be used and the greatest care shall be exercised to prevent any contamination of the meat or meat products, equipment or utensils. Before pesticides are applied all meat and meat products shall be removed from the room and all equipment and utensils shall be thoroughly washed prior to being used again.

## **7 Handling and storage of hazardous substances**

**7.1** Pesticides or other substances which may represent a hazard to health shall be labelled with a warning about their toxicity and use. Except as required for purposes of hygiene such substances which may contaminate meat and meat products, packaging materials and ingredients shall be handled and stored in a part of the establishment which is not used for the preparation, processing, handling, packaging or storage of meat and meat products. They shall be handled and dispensed only by authorized and properly trained personnel or by persons under strict supervision of trained personnel. Extreme care shall be taken to avoid contamination of meat and meat products.

**7.2** Many substances used for the purposes of pest control, disinfection, painting, etc. may contain substances harmful to human being, and if they contaminate meat products they may present a public health hazard. The inspector shall learn the potential danger of such substances to human, the storage of them and their use. The inspector shall discourage the use of such substances during operation, and satisfy himself that they; when used, do not leave any residues on meat and meat products or on surfaces or utensils that meat and meat products may contact.

## **8 Personnel hygienic requirements**

### **8.1 Training on Hygiene**

Managers of establishments shall arrange for adequate and continuing training of every handler of meat and meat products in hygienic handling of meat and meat products and in personal hygiene so that they understand the necessary precautions to prevent contamination. Training package shall include relevant parts of this standard. For this purpose, material elaborated by the competent authority or the establishment in cooperation with the inspector shall be used.

### **8.2 Medical examination**

**8.3** Person who directly work with meat or meat product processing activities shall have a medical examination from recognized medical institution prior to their employment if the competent authority considers that this is necessary, whether because of epidemiological considerations, the nature of the meat product prepared in a particular establishment or the medical history of the prospective meat or meat product handler.

Medical examination of meat or a meat product handler shall be carried out at other times when clinically or epidemiological indicated communicable diseases

**8.3.1** The management shall take care to insure that no person, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through meat and meat products or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work in any area in any capacity in which there is any likelihood of such a person directly or indirectly contaminating meat or meat products with pathogenic microorganisms. Any person so affected shall immediately report to the management that s/he is ill.

**8.3.2** Persons with infected wounds or skin infections may contaminate meat and meat products (Even such in cans immediately after retorting) with Staphylococci. Persons with diarrhoea and even symptom less carriers of microorganisms causing gastroenteritis may contaminate meat and meat products with Salmonellae or other gastrointestinal pathogens. Such persons shall not be allowed to handle meat and meat products even in closed containers, until the responsible medical authority has declared that they do not create a hazard to health.

## **8.4 Injuries**

**8.4.1** Any person who has a cut or a wound shall discontinue working with meat and meat products and until he is suitably bandaged. He shall not be engaged in the preparation, handling, packaging or transportation of meat and meat products. No person working in any establishment shall wear exposed bandage unless the bandage is completely protected by a waterproof covering which is conspicuous in colour and is of such a nature that it cannot become accidentally detached. Adequate first-aid facilities shall be provided for this purpose.

**8.4.2** If unprotected, wounds become easily infected with pathogenic microorganisms like staphylococci. These may then subsequently contaminate meat and meat products. To prevent infection and contamination wounds shall immediately be dressed with e.g. detectable bandage. Workers shall report such accidents to the management.

## **8.5 Washing of hands**

**8.5.1** Every person engaged in a meat and meat products handling area shall wash his/her hands frequently and thoroughly with a suitable hand cleaning preparation under running potable water while on duty. Hands shall always be washed before commencing work, immediately after using the toilet, after handling contaminated material and whenever else necessary. After handling diseased or suspect materials hands shall be washed and disinfected immediately. Notices requiring hand-washing shall be displayed.

**8.5.2** It shall be the responsibility of management to arrange for easy access to hand-washing facilities outside toilets, near the working area, etc. Also management shall motivate and instruct the employees in proper hand-washing. There shall be adequate supervision to ensure compliance with this requirement.

## **8.6 Personal cleanliness**

**8.6.1** Every person engaged in an area in an establishment where meat and meat products are handled shall maintain a high degree of personal cleanliness while on duty, and shall at all times while so engaged wear protective clothing including head covering and footwear, all of which shall be washable unless designed to be disposed of and which shall be maintained in a clean condition consistent with the nature of work in which the person is engaged.



**8.6.2** In the establishment clothing may easily become, contaminated with meat scraps, fat and blood. Besides being anaesthetic such contamination may give rise to microbial proliferation, which may affect adversely meat and meat products. At the end of a shift all protective clothing shall be thoroughly washed and dried. Aprons and similar items shall not be washed on the floor. Such items shall not be left on equipment in the working area. They shall preferably be deposited in locked safes, protected against vermin. Under no circumstances shall they be left on implements in the working area.

**8.6.3** Personal clothing shall not be kept in food handling areas and cleaning as well as maintenance tools shall not be stored in a food handling area.

## **8.7 Personal behaviour**

Any behaviour which can potentially contaminate the meat and meat products, such as eating, use of tobacco, chewing, spitting, shall be prohibited in any part of an establishment used for the preparation, packaging storing or transportation of meat and meat products.

## **8.8 Gloves**

**8.8.1** Gloves if used in the handling of meat and meat products shall be maintained in a sound and clean condition. The wearing of gloves does not exempt the operator from having thoroughly washed hands. Gloves shall be made of an impermeable material except where their usage would be inappropriate or incompatible with the work involved.

**8.8.2** Disposable gloves are to be preferred, to be changed as often as the work involved requires or at least after every break. Special care shall be given to metal gloves. Such gloves shall be cleaned and disinfected at least once a day and also whenever they become contaminated. Metal gloves with worn or missing links shall be promptly repaired or replaced.

## **8.9 Visitors**

Every person who visits an area in an establishment where meat and meat products are handled shall wear clean protective clothing.

## **8.10 Supervision**

Responsibility for ensuring compliance by all personnel with all requirements of paragraphs 8.1 to 8.10 inclusive shall be specifically allocated to competent supervisory personnel.

# **9 Hygienic processing requirements**

## **9.1 Prevention of cross-contamination**

**9.1.1** Every department in which meat products are prepared, processed or stored shall be used at that time only for that purpose or for the preparation and storage of other edible products subject to the same conditions of hygiene.

**9.1.2** Uncleaned personnel, machine, or equipment shall not come into contact with any raw materials or semi-processed meat products and finished products.

**9.1.3** If Equipment/ personnel can be used interchangeably for raw products and processed products, it shall be completely cleaned and disinfected before moving to the area designated for processed meat products.

**9.1.4** Exposed ready-to-eat or cooked products shall not be stored in the same room with raw meat.

**9.1.5** The operations such as deboning and trimming shall always be carried out as rapidly as possible to minimize exposure to contamination.

## **9.2 Use of water**

Potable water conforming to RS EAS 12 shall be used in meat processing.

## **9.3 Handling and processing hygienic requirements**

### **9.3.1 Reception**

Acceptance criteria of raw materials shall be set. Raw materials shall be transported and received in hygienic conditions.

### **9.3.2 Processing**

**9.3.2.1** Competent personnel shall supervise processing. All steps in the production process, including packaging, shall be performed without unnecessary delay and under conditions which will prevent the possibility of contamination, deterioration, or the development of pathogenic and spoilage microorganisms.

**9.3.2.2** Ideally a production process shall be so designed that all steps are performed immediately after each other in a continuous flow. If, however, for some reason delays are necessary, semi-manufactured products shall during the delay be chilled to and held at temperatures below 10 °C. Processing of meat often shall mean a change of the state of the meat product so that it will be more susceptible to microbial attack. Exceptions are e.g. controlled drying and curing, processes that will reduce the potential for microbial growth. Otherwise time and temperature, under certain circumstances water activity, oxidation-reduction potential or the microbiology of the meat product shall be regularly monitored.

**9.3.2.3** Processing tools shall be regularly cleaned.

**9.3.2.4** Methods of preservation and necessary controls shall be such as to protect against contamination or development of a public health hazard and against deterioration within the limits of good commercial practice. Meat shall be preserved by use of only permitted preservatives.

### **9.3.3 Packaging**

**9.3.3.1** All packaging materials shall be food grade, clean and capable of maintaining the integrity of the product

**9.3.3.2** The material shall be stable under storage conditions of the meat products.

**9.3.3.3** Rough treatment of the containers shall be avoided to prevent the possibility of contamination of the finished meat product. Meat products shall be packaged in a manner, which will protect them from contamination and deterioration under normal condition of handling, transportation and storage.

### **9.3.4 Preservation of meat products in hermetically sealed rigid containers**

**9.3.4.1** The products packed in hermetically sealed rigid metal containers shall be processed so that they present no public health hazard and withstand spoilage during subsequent storage, transport and sale. The temperature and duration of processing of specific formulations of canned meats shall be based on the recommendations of technical specialists competent in canning technology.

**9.3.4.2** Processing shall be supervised in the establishment by competent personnel and be subject to check by the inspector. Seam measurements shall be made regularly during production and these, with processing records adequate to identify the processing and history of each batch of product, shall be kept by the management and made available to the inspector.

**9.3.4.3** No water, other than potable water, shall be used for washing of empty containers or for the cooking or cooling of any hermetically sealed container. Where heat processed containers are cooled in water; any recalculated water shall be filtered and treated by the addition of chlorine. Such water, depending upon the potential degree of non-portability, shall contain from one to two parts per millions of residual chlorine at the discharge end of the cooler. Any other acceptable disinfectant may be used in effective concentration in place of chlorine.

**9.3.4.4** Rough treatment of containers both before and after processing shall be avoided to prevent the possibility of contamination of the processed product. If it is essential to handle wet cans, personnel shall do so exercising hygienic precautions. Belts, runways, and other can conveying equipment shall be maintained in a clean condition and good repair.

**9.3.4.5** Adequate facilities shall be provided for the incubation of random samples of individual batches of containers and, after establishment of a satisfactory history for the product involved, batches may be released provided the controlling inspection authority is assured that the product will be returned, if required.

**9.3.4.6** Every container shall be permanently marked with the information specified in RS EAS 38 and/or in specific product standard.

### **9.3.5 Preservation of meat products heat treated prior to packaging**

**9.3.5.1** In establishments in which meat products are heat treated prior to packaging a chill room shall be available for holding raw unprocessed meat on its reception and for storing boned, cut or otherwise prepared raw unprocessed meat which is not transferred directly to the sections in which it is cooked or otherwise processed.

**9.3.5.2** The meat products shall be heat treated. Handling subsequent to heat treatment and packaging shall be in such a way that contamination is kept to a minimum so that they present no public health hazard and will withstand spoilage under the conditions of handling, storage, transport and sale indicated on the label. Particular care shall be taken to prevent cross-contamination from raw unprocessed meat, preferably by physical separation of processing areas where exposed processed heat-treated meat products are handled.

**9.3.5.3** The heat treatment of meat products shall be such that the heat treatment alone or in combination with other preserving processes protects public health.

**9.3.5.4** On arrival in the cooking section the prepared products shall be placed in the cookers without delay. Cooking processes shall be supervised by competent personnel and be subject to inspection by the competent authority. Cooking operations shall be controlled and also monitored by suitable and accurate recording devices. Processing records adequate to identify the processing and history of each batch of products shall be kept by the management and made available to the Controlling Inspection Authority.

**9.3.5.5** There shall be adequate means for rapidly chilling in a hygienic manner of cooked meat product to an internal temperature of not more than 7°C (45°F). Water used for cooling any cooked meat product shall be of potable quality and may be re-circulated if treated and returned to initial quality.

**9.3.5.6** At all stages following cooking, manual handling of exposed meat products shall be kept to an absolute minimum and, if possible shall be replaced by mechanical methods.

**9.3.5.7** Packaging of meat products preserved by heat treatment shall be carried out without undue delay in a separate room. However, packaging may be carried out in the same room provided precautions acceptable to the competent authority are taken to prevent contamination of the product. Where primary packaging follows slicing and cutting these operations shall preferably take place in the same room under satisfactory conditions of hygiene. Packaged finished meat shall be inspected to ensure the detection and rejection of visibly defective packages.

**9.3.5.8** Meat products heat treated prior to packaging which require refrigeration shall be stored in chilled accommodation and protected from contamination.

**9.3.5.9** Adequate laboratory facilities shall be available for the purpose of making regular microbiological examinations of meat products. Regular microbiological checks shall be made for all food contact surfaces to ensure that cleaning and disinfecting procedures are satisfactory.

### **9.3.6 Labelling**

Packaged meat products shall be labelled in accordance with the requirements specified in RS EAS 38.

### **9.3.7 Processing and production records**

Permanent legible and dated records of pertinent processing and production details concerning each lot shall be kept. These records shall be retained for a period that exceeds the shelf life of the product, but unless a specific need exists they need not be kept for more than two years. Records shall also be kept of the initial distribution by lot.

### **9.3.8 Storage**

**9.3.8.1** Meat and meat products shall be stored under such conditions as will preclude the contamination with and/or proliferation of microorganisms and protect against deterioration of the product or damage to the container.

**9.3.8.2** During storage, periodic inspection of the meat and meat products shall take place to ensure that only meat products, which are fit for human consumption, are dispatched. The product shall be dispatched in the sequence of the lot/batch numbers. The product shall comply with the respective standard if any.

**9.3.8.3** Entry shall be restricted to personnel necessary to carry out operations efficiently. Doors shall not be left open for extended periods and shall be closed immediately after use. Meat or meat products as well as containers holding meat or meat products shall not be stacked directly on the floor.

**9.3.8.4** Warm products shall be chilled before packaging into large containers to prevent deterioration of the central part of the product. Rapid cooling down of all parts or all packages of meat products and maintaining non-shelf-stable meat products at chill temperature are essential. They shall be placed on pallets or on dunnage in such a way that there is adequate air circulation.

**9.3.8.5** No chilling room shall be loaded beyond its designed capacity. Where refrigeration equipment is not manned, automatic temperature recorders shall be installed. If no automatic device is installed, temperatures shall be read at regular intervals and the readings recorded in a log book.

**9.3.8.6** Maintenance of the desired temperature in chilling rooms is extremely important. Accidentally the cooling equipment may fail with consequent temperature rise in the room and in the products. To detect such temperature failures, records automatic or manual shall be taken and the results reported to the manager who will, if necessary, inform the inspector for him to decide what action to be taken.

### **9.3.9 Transport of the end product**

Means of transport of containers shall comply with the following conditions:

- a) all internal finishes shall be made of corrosion resistant material, be smooth, impervious and easy to clean and disinfect. Joints and doors shall be sealed so as to prevent the entry of pests and other sources of contamination;
- b) the design and equipment shall be such that the required temperature can be maintained throughout the whole period of transport. Where transportation is under refrigeration it is desirable to install temperature recorders. If no automatic device is installed, temperature shall be read at regular intervals and the reading recorded in a logbook;
- c) vehicles intended for the transport of meat products shall be equipped in such a manner that the meat products do not come into contact with the floor. Meat products shall not be carried in any mean of transport which is used for conveying live animals;
- d) meat products shall not be carried in the same means of transport as other goods in a way, which may adversely affect the meat products;
- e) meat products shall not be placed in any means of transport which are not clean. If necessary, it shall be cleaned and disinfected before loading; and
- f) every effort shall be made to prevent changes in temperature of frozen meat products at any time during storage and transport but where accidental thawing takes place, the meat products shall be examined and evaluated by the inspector before any further step is taken.

## **9.4 Sampling and laboratory control procedure**

**9.4.1** In addition to the routine control carried out by the inspection services, it is desirable that each establishment shall have access to laboratory control of the meat products processed, on a periodic basis of six

months. The amount and type of such control will vary with the type of meat product as well as the needs of management. Such control shall reject all meat products that are unfit for human consumption.

**9.4.2** Laboratory facilities shall be available for the purpose of monitoring hygiene. This could be the establishment's own laboratory or an official laboratory or any other appropriate laboratory.

**9.4.3** The inspector shall have access to all information relevant to his/her duties and responsibilities. Samples of the production shall be taken to assess the safety and hygiene of the meat product.

**9.4.4** Laboratory procedures used shall preferably follow recognized methods in order that the results may be readily interpreted.

**9.4.5** Laboratories checking for pathogenic microorganisms shall be well separated from meat production area.

## **9.5 End product requirements**

**9.5.1** Criteria such as microbiological, chemical or physical may be required depending on the nature of the meat product. However, application of the hazard analysis critical control point concept shall be more effective than intensive end product testing in ensuring that the requirements of this standard are followed and its purpose achieved. If end product testing is carried out, criteria shall include sampling procedures, analytical methodology, specifications and limits for acceptance.

**9.5.2** To the extent possible in good manufacturing practice the products shall be free of objectionable matters.

**9.5.3** When tested by appropriate methods of sampling and examination, the processed meat and meatproducts shall be free from pathogenic microorganisms or any substances originating from those microorganisms in amounts which may represent a hazard to health.

Copy for public review



ICS 67.120.10