SOUTH AFRICAN NATIONAL STANDARD

Processed meat products
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Foreword

This South African standard was approved by National Committee SABS TC 1027, *Canned and processed meat products*, in accordance with procedures of SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was published in xxxx 2009. This document supersedes SANS 885:2003 (edition 2).

A reference is made in the scope to "the current relevant national legislations". In South Africa this means the Regulations Governing the Composition and Labelling of Raw Boerewors, Raw Species Sausage and Raw Mixed-Species Sausage, 1990 (R 2718 of 1990).

A reference is made in 3.3, 3.30, 6.2, 12.1.1 and 12.3 to "the current relevant national legislations". In South Africa this means the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972).

A reference is made in 5.1.1 and 5.2.1.1 to "the current relevant national legislations". In South Africa this means the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Health Act, 1977 (Act 63 of 1977).

A reference is made in 5.6.1.1 to "the current relevant national legislations". In South Africa this means the Health Act, 1977 (Act 63 of 1977).

A reference is made in 6.1.1 to "the current relevant national legislations". In South Africa this means the regulations framed under the Meat Safety Act, 2000 (Act No. 40 of 2000).

Annex A is for information only.
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Processed meat products

1 Scope
This standard specifies the minimum requirements, including compositional requirements for the production of processed meat products.

NOTE This standard excludes requirements for raw boerewors, species sausages and mixed species sausages which are governed by the current relevant national legislation (see foreword).

2 Normative references
The following referenced documents are indispensable for the application 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. Information on currently valid national and international standards can be obtained from the SABS Standards Division.

SANS 49, Edible gelatin.

SANS 241, Drinking water.

SANS 4833/ISO 4833, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 °C.

SANS 5761, Examination for the presence of viable spores of mesophilic Clostridium organisms in foods.

SANS 5763, Efficacy of cleaning plant, equipment and utensils: swab technique.

SANS 6317, Methods of chemical analysis of meat and fish products.

SANS 6579/ISO 6579, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.

SANS 6887-2/ISO 6887-2, Microbiology of food and animal feeding stuffs - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination Part 2: Specific rules for the preparation of meat and meat products.

SANS 6888-1/ISO 6888-1, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 1: Technique using Baird-Parker agar medium.

SANS 6888-2/ISO 6888-2, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 2: Technique using rabbit plasma fibrinogen agar medium.
SANS 7251/ISO 7251, Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of presumptive Escherichia coli - Most probable number technique.

SANS 7937/ISO 7937, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of Clostridium perfringens - Colony-count technique.

SANS 7954/ISO 7954, Microbiology — General guidance for enumeration of yeasts and moulds — Colony count technique at 25 °C.

SANS 11290-1/ISO 11290-1, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Listeria monocytogenes - Part 1: Detection method.


ISO 13720, Meat and meat products - Enumeration of Psedomonas

ISO/TS 16649-3 Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of β-glucuronidase-positive Escherichia coli — Part 3: Most probable number technique using 5-bromo-4-chloro-3-indolyl-β-D-glucuronide.

SANS 16654/ISO 16654, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli 0157.

SANS 21528-1/ISO 21528-1, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 1: Detection and enumeration method by MPN technique with pre-enrichment.

SANS 21528-2/ISO 21528-2, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count method

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 acceptable
acceptable to the authority administering this standard, or to the parties concluding the purchase contract, as relevant

3.2 actual lean meat, per cent
the result after the mass percentage of nitrogen, represented by the non-meat proteinaceous material present in the product, multiplied by a factor of 30, has been deducted from the lean meat content, per cent

3.3 address
address as defined under the current relevant national legislation (see foreword)

3.4 adequate
a) with regard to quality: of quality such as to ensure performance of the projected activity or function
b) with regard to quantity (or size): of such magnitude as will comfortably accommodate the maximum number of persons or operations (or size of unit) envisaged as being involved

3.5 ambient
same as room temperature or air temperature and for the purposes of this standard means a temperature not less than 10 °C and not higher than 25 °C

3.6 batch
definite quantity of a processed meat product produced essentially under the same conditions

3.7 burger pattielflattened and formed (normally round) product made from meat that has been reduced in size, with or without added ingredients

3.8 chilled
storage temperature of -1 °C – 5 °C of which the maximum core temperature is 5 °C

3.9 comminuted processed meat product
processed meat product of which the meat pieces have been reduced in size by either mincing, grinding, chopping, dicing or emulsifying, with or without other ingredients and which is then either filled into a casing, formed in a mould or pre-formed

3.10 cured processed meat product
processed meat product where curing agents (for example nitrites or nitrates) have been added

3.11 disinfectant
chemical agent that kills most vegetative forms of pathogenic and other microorganisms (but not necessarily all bacteria and fungal spores, mycobacteria, rickettsiae, or viruses) on inanimate surfaces

3.12 edible offal
a) in the case of food animals other than poultry: blood, blood plasma, brain, cow-heels, diaphragm, gut (casings), washed head, kidneys, omentum, pancreas, pluck (oesophagus, trachea, lungs, heart, pericardium, associated lymph nodes, pillars of the diaphragm and liver or part thereof (without the gall bladder)), spleen, tail, thymus, tongue, cleaned tripe, trotters and udder (in the case of a heifer)

b) in the case of poultry, giblets (the heart, the clean and stripped gizzard, the liver without the gall bladder).

NOTE 1 If offal is used in a product, the specific type must be named in the ingredient listing.

NOTE 2 Where natural casings are used, it is not necessary to declare, unless specific claims are made (for example Halaal).
3.13 extension
all ingredients, including water, that are added to meat as defined in this standard during processing in order to produce a processed meat product

3.14 extraneous matter
objectionable matter or any material in the product that has not been derived from meat, edible offal or other edible ingredients used

3.15 fat
edible fat or oil from animal or plant origin or combinations thereof

3.16 factory
processing facilities
premises in which meat (see 3.23) or products (see 3.32) are handled or treated to process for commercial purposes

NOTE This definition excludes shops, hotels, boarding houses, restaurants or other eating houses.

3.17 fermented product
meat product that has been processed by fermentation and in addition, may have undergone a process of air drying and may be smoked

3.18 frozen
appropriate temperature which will preserve such product by freezing, and specifically means for these products a maximum core temperature of -12 °C

3.19 heat treated
processed meat product that has been subjected to a heat treatment which results in a core temperature of at least 72 °C being achieved for more than 5 minutes during processing and that does not require to be further cooked before being eaten

3.20 inedible offal
a) in the case of food animals other than poultry: with the exception of bone, all parts of the animal not covered by the definitions of edible offal (see 3.12) and meat (see 3.23)

b) in the case of poultry: the trachea, lungs, crop, gall bladder, and oviducts

3.21 lean meat percentage
meat protein nitrogen, in percentage times 30

3.22 lean meat equivalent percentage
LME
percentage protein nitrogen multiplied by a factor of 30 [Lean Meat Equivalent (LME) = percentage protein × 4,8 %, Protein = Protein N % × 6,25]
NOTE   LME is to be expressed as a percentage of the product mass as offered for sale.

3.23 meat
sound skeletal musculature (excluding the musculature of the lips, snout, scalp and ears), of healthy food animals, with or without connective tissue, blood vessels, lymphatic and nerve tissue, bone, fat, cartilage, scraped skin (pigs), and defeathered skin (poultry) that are naturally associated with such musculature in situ in the dressed carcass and head and includes mechanically recovered meat (MRM) with the provision that where MRM is used it shall be declared in the relevant order in the list of ingredients and shall be qualified by species. MRM shall not be abbreviated

3.24 mechanically recovered meat
MRM
residual muscular tissue, collagen, marrow and fat which has been recovered, using mechanical equipment, from animal bones or poultry carcasses from which the bulk of meat has been previously manually removed, and shall have a maximum calcium content of 0.15%.

NOTE   MRM is synonymous with MSM (mechanically separated meat), MDM (mechanically deboned meat) and MBM (mechanically boned meat).

3.25 minced meat (Please choose one)
ground meat
meat reduced to small fragments for easy processing or mixing with spices and other ingredients minced skeletal musculature of any animal used for food and shall contain not less than 60% of lean meat with a minimum of 2% of protein nitrogen

3.26 name of the product
product name
word or words giving a true description of the nature of the food product concerned, sufficiently precise to avoid misleading or confusing the consumer in regard to the true nature, physical condition, type of packing medium, style, condition and type of treatment it has undergone to enable such product to be distinguished from products which it could be confused with

3.27 no or partial heat treatment
processing of any processed meat product and ensuring a core temperature of 72 °C for at least 5 minutes is not reached

3.28 percentage fat
percentage solvent extractable fat

3.29 percentage protein
percentage protein nitrogen times 6.25

3.30 pre-formed processed meat product
meat mixture which has been shaped orformed by mechanical or manual means into shapes resembling drumsticks, schnitzels or any other suitable shape
3.31 processed meat
meat that has been subjected to any process which alters its original state, excluding sectioning, and freezing, with or without other ingredients, and which as a result of this process or these processes the product is irreversibly changed.

NOTE It excludes raw processed meat as defined in the current relevant national legislation (see foreword)

3.33 product
particular processed meat product, indicated by the context, either prepared or in the process of preparation

3.33 ready-to-eat
processed meat product that does not require any further cooking or heating before consumption

3.34 reformed processed meat product
a processed meat product of which the individual visible meat pieces are no smaller than 13 mm, with or without the addition of finely comminuted meat and other permitted ingredients, the soluble proteins of which bind the meat pieces together and which, upon cutting, has the typical appearance of meat muscle

3.35 shelf life
length of time a product may be stored without becoming unsuitable for use or consumption

3.36 suitable
suitably complying with the requirements of the intended purpose

3.37 suitably prepared
prepared for the intended purpose

3.38 total meat percentage
lean meat percentage (including mechanically recovered meat, except where the latter is specifically excluded) plus fat percentage. The total meat content is calculated from the recipe at the mixing bowl stage

3.39 total meat equivalent
TME
lean meat equivalent plus any fat or edible oils, edible offal or combination thereof, expressed as a percentage of the product mass as offered for sale

3.40 total meat extender
vegetable non-meat proteinacious material that is used to increase the percentage of protein by substituting it for real meat
3.41 traceability
ability to follow movement of a food product through specified stages of production, processing and distribution

3.42 uncured processed meat product
processed meat product where curing agents (for example nitrites or nitrates) are absent during the processing of such products

3.43 whole muscle processed meat product
processed meat product of which the whole muscle(s) is (are) still intact and which may have been subjected to any process resulting in protein extraction and may, in addition, have been placed into a mould to shape the product

NOTE Whole muscle processed meat product may or may not contain bone, rind, show, batter or crumbs, and may be smoked or unsmoked.

4 Food safety management system

Management shall implement documented methods and procedures based on the requirements of clause 5 that can support that an acceptable product safety management system has been incorporated.

5 Requirements for the factory

5.1 General

5.1.1 All the statutory requirements contained in the current relevant national legislation (see foreword) shall be complied with.

5.1.2 The factory and equipment used in the preparation of the product shall comply with the requirements given in 5.2 to 5.5 (inclusive).

5.1.3 The employees engaged in the preparation and processing of the product shall comply with the requirements given in 5.6.

5.1.4 Where a part of the preparation of a product for packaging is done at a factory other than the packaging factory, the other factory concerned and its employees shall also comply with the requirements of 5.1 to 5.6, inclusive.

5.2 Factory construction, layout and conditions

5.2.1 Location, size, hygienic design and conditions

5.2.1.1 The location of the factory shall be such that the buildings can be kept acceptably free from objectionable odours, smoke, dust and other sources of contamination, in order to comply with the current relevant national legislation (see foreword) for hygiene and sanitation.

5.2.1.2 The factory and equipment shall be so designed and arranged as to permit:

a) an orderly, uninterrupted flow of production without any cross flows that could have an adverse effect on the quality and safety of the product;
b) the processing of raw materials without undue delay;

c) proper maintenance of hygiene; and

d) facilities to carry out functions such as quality control and process control.

5.2.1.3 The factory buildings shall be so designed and constructed as to prevent the entry and harbouring of insects, birds, rodents and other vermin.

5.2.1.4 The buildings shall be of sound construction, in good repair and large enough to prevent crowding of equipment and employees, and to permit adequate cleaning and the maintenance of product quality, safety and hygiene.

5.2.1.5 The factory premises shall be graded, well drained and adequately fenced to keep out larger animals such as cats and dogs, as well as unauthorized persons and vehicles.

5.2.2 Roofs and ceilings

5.2.2.1 The roof shall be weatherproof and made of non-absorbent material and shall be well maintained to prevent contamination of the product and ingredients, and to prevent other structures from becoming damp.

5.2.2.2 Roofs and, where applicable, ceilings, shall fit tightly to the walls and shall be faced with a suitable corrosion-resistant, light-coloured and impermeable material that is so constructed and finished as to minimize condensation, mould development, flaking of paint and the lodgement and accumulation of dirt, and shall be capable of being cleaned without damage.

5.2.2.3 Areas where unprotected processed meat and meat products are handled, or where ingredients and packaging materials are stored, shall have a ceiling.

5.2.3 Walls, windows and doors

5.2.3.1 Outer walls shall be weatherproof and impermeable to water.

5.2.3.2 All interior wall surfaces shall be faced with a smooth, light-coloured material, washable, water-impermeable, and impact-resistant material. However, if soiling of the walls can occur above this height, then the facing shall be continued to a higher level.

5.2.3.3 All ledges on the inside of the walls and all windowsills shall be sloped towards the floor.

5.2.3.4 Wall-to-wall and wall-to-floor junctions in production areas shall be closed and coved.

5.2.3.5 Doors and door frames shall be sheathed with, or made from, a suitable corrosion-resistant material and shall have a smooth, seamless, light-coloured, water-impermeable and readily cleanable surface. If wood is used, it shall be sheathed to render it impermeable to water.

5.2.3.6 Doors through which work in progress and the product is moved between the preparation, processing and packaging areas shall be wide enough to prevent contamination of the product and damage to the doors.

5.2.3.7 All doors that open directly from the outside into the preparation, processing and packaging areas shall be provided with effective air screens or shall, as far as is practicable, be self-closing and tight-fitting. Freezer, chill room and freezer storage room doors shall be tight-fitting.
5.2.4 Floors and drainage

5.2.4.1 Floors shall be constructed of concrete or any other material that is water-impermeable, corrosion-resistant and easy to clean, and shall be laid to an even surface that is smooth but not slippery, and free from cracks, crevices and open joints.

5.2.4.2 Floors in the preparation, processing and packaging areas and in freezers, chill rooms and freezer storage rooms shall be suitably sloped and shall drain into external gullies, sumps and sewers. Each outlet shall have, immediately outside the factory walls, a trap that prevents the entry of rodents.

5.2.4.3 Drainage channels shall be of the open type with, where necessary, removable covers, and shall be designed to cope with the maximum expected flow of liquid without overflowing or causing flooding.

5.2.4.4 There shall be no installations in a drainage channel that could obstruct the flow of water or the activities of cleaning. Gully traps shall be fitted with easily removable strainers.

5.2.5 Lift cages and staircases

5.2.5.1 Lift cages shall have a corrosion-resistant inside surface that is smooth, easy to clean and is water-impermeable, and the floor shall be properly drained. Mesh doors may be used, provided that they are not conducive to unhygienic conditions.

5.2.5.2 Staircases in rooms where the product is handled, prepared, processed or packaged shall have solid risers, and shall be provided with closed balustrades of a height that will prevent contamination of products underneath the stairs.

5.2.6 Cables and pipes

5.2.6.1 Cables and pipes shall, where applicable, be

a) fixed above ceilings,

b) chased into walls,

c) carried under floors, or

d) fixed away from walls or ceilings and above the floor, and spaced in such a manner that the ceilings, walls, floor, cables and pipes can be easily cleaned and maintained in a hygienic condition.

5.2.6.2 Drainage and sewer pipes shall not be installed above ceilings in the preparation, processing or packaging areas, nor shall they be installed in such a way that accidental leakages could contaminate the product. The drainage and sewer pipes shall be properly vented to the outside.

5.2.7 Illumination

5.2.7.1 An illuminance of at least 220 lux is required for general operations, while at least 540 lux is required at points where close examination of the product is carried out.

5.2.7.2 Artificial illumination, if used, shall be such that the colour of the product is not altered.
5.2.7.3 Luminaires suspended over the production areas shall be of the safety type or otherwise so protected as to prevent contamination of the product in the event of breakage of a luminaire or lamp.

5.2.8 Ventilation

5.2.8.1 The ventilation shall keep the air fresh and remove excess water vapour, and shall prevent the build-up of excessive heat, the formation of condensate and the growth of mould. Natural ventilation shall be augmented, where necessary, by mechanical means.

5.2.8.2 The air shall be free from noxious fumes, vapours, dust and contaminating aerosols. The airflow shall be from the more hygienic to the less hygienic areas of the factory.

5.2.8.3 Windows that open for ventilation purposes shall be insect-screened. The screens shall be easily removable for cleaning, and shall be made of a suitable corrosion-resistant material and kept in good repair.

5.2.9 Hand-washing facilities

5.2.9.1 The following shall be provided at entrances to the preparation and processing areas of the factory used by the employees, at other conveniently situated places within easy reach of the employees, and at toilet exits:

a) an acceptable number of wash-hand basins with an abundant supply of hot and cold or warm potable running water, in the temperature range 40 °C to 50 °C, that complies with the requirements of 5.4.1;

b) a sufficient supply of unscented liquid soap or hand cleaning detergent and, where required to dry hands, single-use disposable paper towels; and

c) taps operated by means other than the hands or elbows (for example, knee-operated or foot-operated taps) with pre-set volume control.

5.2.9.2 Hand-washing facilities shall, at all times, be unobstructed by equipment and operating activities. Hand-wash basins shall be of a suitable corrosion-resistant water-impermeable material, shall have a smooth finish, be easy to clean, and shall drain directly into drainage channels.

5.2.9.3 Disinfectant hand dips, where provided, shall be of such a design that they can be adequately cleaned.

5.2.10 Footbaths

5.2.10.1 Unless their absence in particular circumstances is acceptable, or unless alternative acceptable facilities for cleaning and disinfection are provided, footbaths that contain a suitable disinfectant solution shall be provided at each entrance to the preparation, processing and packaging area that is used by employees, and shall be so located that employees cannot obtain access to those areas without disinfecting their footwear.

5.2.10.2 Footbaths shall be so constructed that they can be adequately drained and cleaned.
5.2.11 Production areas

5.2.11.1 Production areas shall be so designed, equipped and staffed as to allow free movement of workers and to facilitate the free movement and cleaning of movable equipment.

5.2.11.2 Except where other statutory regulations apply, the deboning of red meat or poultry carcasses and the cutting up and preparation of meat shall, except where the nature of the process makes it impossible, be performed in work areas the temperature of which does not exceed 12 °C.

5.2.11.3 The temperature of meat being deboned shall at no time exceed 7 °C except when hot deboning is performed. These areas shall be physically separated from the heat processing areas of the factory.

5.2.11.4 Areas where raw food is being handled shall be separated from areas where cooked food is being handled.

5.2.12 Freezers, chill rooms and freezer storage rooms

5.2.12.1 Freezers, chill rooms and freezer storage rooms shall operate efficiently and shall be hygienically maintained. The floors of chill rooms shall be sloped to effect complete draining.

5.2.12.2 Where freezers, chill rooms and freezer storage rooms are located in processing areas, their floor shall either be an integral part of the floor of the processing area or be adequately sealed to that floor. All storage units shall be installed high enough above the floor to permit easy and adequate cleaning of the area underneath them.

5.2.12.3 Freezer storage rooms shall be equipped with automatic temperature recorders with enough suitably placed sensing elements to monitor the overall air temperature. The temperature in freezer storage rooms shall be automatically and continuously monitored and a record of the temperature shall be kept and be made available for inspection.

5.2.12.4 Products shall not be stacked direct on the floors, against walls or against wall panels. Walls and floors shall have a smooth finish and shall be water-impermeable, and measures shall be taken to prevent the flaking off of surface material from ceilings and walls.

5.2.12.5 Unless an alarm system is installed to alert the operator of system failure, freezer storage room temperature shall be verified manually every 4 h to ensure correct operation of equipment and recorders.

5.2.12.6 The entrances to freezers, chill rooms and freezer storage rooms shall be protected from the inflow of warm air by the provision of an ante-room, a mechanical air curtain, strip curtains or self-closing shutters.

5.2.13 Storage facilities for edible ingredients

5.2.13.1 Storage facilities for edible ingredients that are used in the preparation of the product shall be dry, free from dust and any other source of contamination, and shall be verminproof.

5.2.13.2 Edible ingredients shall be stored in closed containers and away from the floor and the walls.

5.2.14 Storage facilities for packing and packaging materials

Clean, dustproof, verminproof and dry storerooms shall be provided for the storage of packaging materials.
5.2.15 Storage facilities for poisonous and other harmful substances

5.2.15.1 Storage facilities for pesticides or other poisonous and harmful substances

Pesticides or other poisonous and harmful substances, and the equipment for their application, shall be stored in a room or cupboard in which no foodstuff, food-handling equipment, packaging material or food containers are stored and shall be kept locked. These poisonous or harmful substances shall at all times be segregated from edible materials. All these substances shall be prominently and distinctly labelled with a warning about their toxicity and use, and shall at no time come into contact with food containers, packaging materials, raw materials or the product.

5.2.15.2 Storage facilities for substances used for cleaning and disinfection

Substances used for cleaning and disinfection, and the equipment for their application, shall be stored in a room in which no foodstuff, food-handling equipment, packaging material or food containers are stored and shall at no time come into contact with food containers, packaging materials, raw materials or the product. All substances used for cleaning and disinfection shall be prominently and distinctly labelled.

5.2.16 Storage facilities for utensils and spare parts

5.2.16.1 Utensils and spare parts that come into contact with the product shall, when not in use, be kept in a disinfectant solution or be stored in a hygienic manner in a dry area that is free from dust and any other source of contamination, and that is verminproof.

5.2.16.2 Spare parts for machinery that are capable of contaminating the product shall be kept in a separate storage area away from the production areas.

5.2.17 Storage facilities for lubricants

Lubricants shall be stored away from the production area and in such a manner that they do not cause contamination of the product.

5.2.20 Storage facilities for finished products

5.2.20.1 Finished products awaiting dispatch shall be stacked away from the floors and walls in well-ventilated, acceptably dust-free, dry and clean rooms.

5.2.20.2 The storage area for finished products shall be physically separated from areas where steam is generated.

5.2.20.3 The finished product shall be protected against elements of the environment or any other condition that could adversely affect the product.

5.2.20.4 Finished products found not to comply with the requirements of this standard shall be stacked apart from finished products that do comply with the requirements, and shall be clearly identified.

5.2.21 Smoke rooms

Doors used during the firing of smoke rooms shall not open directly into production areas, unless the smoke generator is so designed as to obviate pollution of these areas. Separate facilities shall be provided for the storage of smoke-generating materials.
5.2.24 By-products

5.2.24.1 Any processing of by-products and non-meat products that are not intended for human consumption shall be conducted in buildings that are physically separated from the factory in such a way that there is no possibility of contamination of the product.

5.2.25 Refuse

A separate, suitable refuse facility shall be provided on the premises and shall be cleaned daily.

5.2.26 Comfort facilities

5.2.26.1 An acceptable number of suitable change rooms, shower baths, wash-hand basins whose taps operate as described in 5.2.9 (c), toilet facilities (separate for each sex), and, where appropriate, urinals, shall be provided within practical distance from the factory processing areas.

5.2.26.2 Shower baths shall connect directly to the change rooms. Comfort facilities shall be separated and shall not open directly into the preparation, processing, packaging or storage areas.

5.2.26.3 Toilets shall be completely separate from change rooms, the only permissible access being through a vestibule with close-fitting, self-closing doors. Toilet blocks shall have their own hand-washing facilities, separated from those provided in change-rooms.

5.2.26.4 An ample supply of toilet paper, hot and cold running water, nailbrushes, unscented liquid soap or an acceptable detergent solution, and disposable paper towels shall be provided for employees. Receptacles shall be provided for used paper towels. Refuse bins of hygienic construction shall be provided.

5.2.26.5 The comfort facilities shall be kept clean, tidy. The comfort facilities shall be adequately ventilated. Change rooms and dressing-rooms shall not be used as living quarters or for the preparation or consumption of meals.

5.2.26.6 Staff dining-rooms shall be separate from the change rooms or dressing-rooms.

5.2.27 Facilities for cleaning and disinfecting portable equipment

5.2.27.1 Facilities with proper drainage shall be provided for the cleaning and disinfection of portable equipment.

5.2.27.2 Such facilities shall be located in a separate room or in a designated area in the preparation, processing and packaging areas where there is an ample supply of cold potable water (see 5.4.1) and hot water, where required, or saturated steam, under adequate pressure.

5.2.26.4 The direction of drainage flow shall be away from the handling areas.

5.3 Equipment for production

5.3.1 Design and installation

5.3.1.1 Production areas shall be so designed, equipped and staffed as to allow free movement of workers to facilitate cleaning and the maintenance of hygiene, product quality and safety.

5.3.1.2 All factory, equipment and utensils that come into contact with the product shall be smooth-surfaced, light-coloured and of a suitable corrosion-resistant non-absorbent material (i.e not wood
or other absorbent or porous material), which may have an acceptable plastics-coated surface suitable for use with food but should preferably be made of stainless steel.

5.3.1.4 The equipment for production shall be of hygienic design with no open joints or crevices and shall be so constructed to facilitate their cleaning and disinfecting. Open ends and curled edges shall be satisfactorily sealed to prevent the accumulation of organic material and dirt. Where necessary, as in the case of equipment that cannot be cleaned in situ, it shall be possible to dismantle the equipment for cleaning and disinfection.

5.3.1.6 Surfaces with which the product comes into contact shall not be painted.

5.3.1.7 All parts of stationary equipment or equipment that is not readily movable shall be installed away from the walls and ceilings at distances sufficient to allow access for cleaning and inspection. All permanently mounted equipment shall be either installed high enough above the floor to allow access for cleaning and inspection, or shall be completely sealed to the floor.

5.3.1.8 Equipment shall preferably not be sunk into the floor but if this is unavoidable, the installation of the equipment shall be such as to be acceptable. Sunken areas shall be well drained.

5.3.1.10 Copper, lead and their alloys (other than solder), and other metals or materials detrimental to health, shall not be used in the construction of equipment that comes into contact with raw materials or with the unprotected product at any stage of its processing.

5.3.1.11 The use of solder in equipment shall be minimized.

5.3.1.12 Equipment and utensils used for inedible materials or for waste shall be identified as such and shall not be used for edible products.

5.3.1.13 Equipment used in areas outside the food handling areas, such as in the toilet or ablution facilities, shall not be used in the areas for the processing of food for human consumption.

5.3.2 Tables

5.3.2.1 Wooden tables shall not be used in processing areas. Tables shall be of such a design and construction that will prevent the development of unhygienic conditions and bacterial build-up. Frames shall be made of smooth corrosion-resistant metal or shall have been so coated as to protect them from corrosion.

5.3.2.2 Table tops shall be of seamless stainless metal or other seamless, corrosion-resistant, smooth, water-impermeable material with similar surface characteristics. The tops shall be of hygienic construction and shall either be removable for cleaning or so secured to their frames as to allow easy cleaning and disinfection.

5.3.2.3 Where metal tops are folded at the edges, the folds shall be so effectively soldered, welded or sealed with an acceptable mastic sealant as to prevent the accumulation of organic matter and dirt. All joints in tables shall be watertight.

5.3.2.4 Tables shall, as far as possible, allow rapid and effective drainage, shall be easy to clean and shall be free from cracks, crevices and openings.

5.3.3 Cutting boards

If cutting boards are used, they shall be of hygienic construction and shall be made of acceptable light-coloured material (other than wood or other absorbent or porous material), that is suitable for use with food products. Cutting boards shall be easily removable.
5.3.5 Utensils and implements

5.3.5.1 Knives, shovels, brooms and other utensils or implements used in the processing or packaging areas shall not have handles of wood or of absorbent material or porous material.

5.3.5.2 Wicker baskets shall not be used as containers for the product at any stage before, during or after processing.

5.3.6 Food containers

5.3.6.1 All food containers that contain materials, other than those that contain the finished product, shall at all times be kept on shelves or stands of corrosion-resistant water-impermeable material.

5.3.6.2 Food containers that contain materials shall not be stacked one upon the other in such a way that the contents of one food container can be contaminated by the bottom of another container.

5.3.6.3 Food containers shall be of hygienic design and shall either be light-coloured or shall have a bright metal finish.

5.3.7 Facilities for cleaning and disinfection

5.3.7.1 Facilities for disinfecting gloves and knives shall be available at convenient and acceptable points.

5.3.7.2 Materials used for cleaning and disinfection, hot and cold running water or saturated steam, hose pipes, spray nozzles, brushes, scrapers and other equipment needed for the cleaning of the factory, equipment and utensils shall be made available.

5.3.7.2 These materials and equipment shall not be stored in a room where food-handling equipment is stored and shall at no time come into contact with raw materials, the products or their containers or packages.

5.3.8 Ice-making equipment

5.3.8.1 All surfaces of ice-making equipment that come into contact with the ice shall be of suitable corrosion-resistant material.

5.3.8.2 The ice-making equipment shall be of hygienic construction throughout.

5.3.8.3 Whenever ice is transferred, stored or transported, it shall be effectively protected from contamination.

5.3.9 Compressed air, gases and steam

Compressed air, gases and steam used in direct or indirect contact with food or with food-contact surfaces shall contain no substances that could be hazardous to health or that could contaminate the food.
5.4 Water

5.4.1 Potable water

5.4.1.1 The water used shall comply with the requirements of SANS 241.

5.4.1.2 Every factory shall have an adequate supply of clean portable water that is free from suspended matter and the substances that could be deleterious to the product or harmful to health.

5.4.1.3 All water coming into contact with the product, product contact surfaces or that is used in the preparation areas of the factory shall have been so treated by flocculation, filtration, chlorination or any other acceptable process as to ensure compliance with the requirements for drinking water in terms of SANS 241.

5.4.1.4 Factory installations for the treatment of water shall be thoroughly cleaned at least once a week by an acceptable method.

5.4.2 Ice

The purity of ice shall be such that the water derived from it (by melting the ice under aseptic conditions at a temperature not higher than 10 °C) immediately after the ice has been manufactured, complies with the requirements of 5.4.1.

5.4.3 Water for cleaning

5.4.3.1 Water for cleaning the factory shall comply with the requirements of 5.4.1. Chlorinated water that could have any deleterious effect on the product shall be dechlorinated immediately before use. In all cases, the free residual chlorine concentration shall be determined by the $N,N'$-diethyl-1,4-ℓ-phenylene diamine test or any other acceptable test that has equivalent sensitivity.

5.5 Hygienic operating requirements

5.5.1 General

5.5.1.1 In relation to the handling, preparation, processing, packaging, freezing, transportation and storage of the product, no operation(s) shall be performed and no conditions shall exist that are detrimental to the product. Materials liable to contaminate the product shall be kept away from the production areas.

5.5.1.2 Non-edible substances shall not be stored in the same room as edible ingredients or in the preparations or packaging areas of the factory.

5.5.1.3 Uncooked meat or meat products shall not, in the course of handling, processing and storage, be unnecessarily exposed to conditions that affect them adversely.

5.5.1.4 Care shall be taken to ensure that there is no contact between raw materials and finished products. Raw food shall not be handled or stored in areas where cooked food is handled or stored.

5.5.1.5 There shall be no unhygienic conditions on the factory premises. Smoke from factory chimneys or from smoke rooms shall not be allowed to enter the factory buildings in a quantity or manner that is offensive, injurious or dangerous to health, or that causes contamination at any stage during processing of the product.
5.5.2 Removal of refuse and disposal of effluent and waste

5.5.2.1 Litter, waste and overflow shall not be allowed to accumulate or give rise to unhygienic conditions, and shall be disposed of promptly in an efficient and hygienic way.

5.5.2.2 Containers of waste that are awaiting removal from the factory premises shall be color-coded to separate them from the processing areas.

5.5.2.3 A separate refuse room or other acceptable refuse facility shall be provided on the premises and shall be cleaned and disinfected daily.

5.5.2.4 Establishments shall have an efficient effluent and waste disposal system that shall, at all times, be maintained in good order and repair.

5.5.2.5 All effluent lines (including sewer systems) shall be large enough to carry peak loads and shall be so constructed as to avoid contamination of potable water supplies or the environment.

5.5.2.6 Hazardous substances shall be disposed of in an environmentally acceptable way.

5.5.3 Vermin control

All buildings in which raw materials, ingredients and the product are stored, or in which the product is handled, prepared, processed or packaged, shall be kept free from insects, birds, rodents and other vermin and shall be insectproof and rodent-proof.

5.5.4 The use of pesticides

5.5.4.1 Containers with pesticide bait or open bait shall not be present in any area or room where the exposed product or ingredients are present or are handled.

5.5.4.2 Pesticides shall not be used in work areas while preparation, processing and packaging are in progress, and precautionary measures shall be taken to ensure that equipment and work surfaces are free from pesticide residues.

5.5.4.3 Pesticides shall at no time come into contact with, wrapping materials, containers, raw materials or the product.

5.5.4.5 Pesticides shall only be handled by authorized and properly trained personnel or by persons under strict supervision of trained personnel.

5.5.5 Animals

Animals, including birds, shall not be allowed in any part of the factory.

5.6 Requirements for employees engaged in the handling, preparation, processing, packaging and storage of the product

5.6.1 Health

5.6.1.1 All the health requirements of the current relevant national legislation (see foreword) shall be complied with.
5.6.1.2 Before being engaged, employees shall pass an appropriate medical examination to ensure that they are free from communicable diseases, and shall thereafter pass an annual medical examination (see 5.6.1.1).

5.6.1.3 No employee who is a carrier of, or is suffering from, any communicable disease, especially a carrier of *Salmonella* or *Shigella*, or one who shows symptoms of, or is suffering from, gastro-enteritis or an enterobacterial infection or a disorder or condition that causes discharge of fluid from any part of the skin or body shall be allowed to come into contact with the product or product contact surfaces. Any such employee shall immediately report to the factory management.

NOTE The Department of Health has all the information regarding communicable diseases.

5.6.1.4 The management shall ensure that no employee who is known or suspected to be infected with a disease capable of being transmitted through food shall be permitted to work in any part of the factory in a capacity in which there is a likelihood of the employee contaminating the product with pathogenic organisms.

5.6.1.5 In the case of any absence of more than one day owing to illness, the employee shall, before resuming duty, report the nature of the illness that necessitated the absence to the factory hygiene officer, who shall, should he deem it necessary, take the appropriate steps to obtain a medical opinion on the employee's fitness for work.

5.6.1.6 An appropriate medical record of each employee shall be kept. Medical records and medical certificates submitted by an employee of a factory shall be made available for inspection by the authority administering this standard.

5.6.1.7 The management shall ensure that no employee who is suffering from any cut, an injury, an infected wound or an infected skin irritation shall be allowed to come into contact with the product or product contact surfaces unless the cut or injury has been so treated or dressed that the discharge of body fluid has been prevented, and the wound and its dressing have been so covered as to ensure that infection or contamination of the product is no longer possible.

5.6.2 Protective clothing

5.6.2.1 All employees engaged in the handling, preparation and processing of the product up to and including the packaging stage, but excluding employees operating within freezer storage rooms and chill rooms, shall wear clean, light-coloured, protective clothing, waterproof aprons, waterproof slipovers or boots, and clean, washable or disposable headgear that completely covers their hair. Woollen caps may be worn in freezer storage rooms and chill rooms only.

5.6.2.2 Overalls shall completely cover the personal clothing of the employees. At the end of each working day, soiled overalls and headgear shall be handed in for laundering. Employees shall not remove protective clothing from the factory.

5.6.2.3 Gloves, if used, shall be made from impermeable material and shall be of the disposable type. Gloves shall be thoroughly cleaned and then disinfected using chlorinated water or any other acceptable solution or procedure.

5.6.2.4 Sleeves shall not extend below the elbows, except when covered by plastics sleevelets or when worn in freezer storage rooms and chill rooms.

5.6.2.5 Protective clothing, other than waterproof aprons, sleevelets and gloves, shall not be stored in work areas. When not in use, protective clothing shall be kept in change rooms (see 5.2.26.5) and shall not be removed from the premises except for laundering under hygienic conditions. The homes of employees shall not be regarded as acceptable for laundry purpose.
5.6.2.6 Waterproof protective clothing shall be of plastics, rubber or other similar acceptable material. All protective clothing shall be of hygienic design, shall have no external pockets, shall be in good repair and shall not constitute a source of contamination to the product.

5.6.2.7 Waterproof aprons, sleevelets and gloves shall be cleaned and disinfected at each time of removal and as frequently as necessary, and shall be hung on hooks or pegs at exits from the production areas during intervals between work and during visits to the toilet. Waterproof aprons, sleevelets and gloves, as well as all equipment used in the preparation, processing and packaging of the product shall not be removed from the work areas except for repairs and for cleaning under hygienic conditions.

5.6.3 Personal hygiene and personal effects

5.6.3.1 Workers shall, at all times, maintain a high degree of personal and cleanliness and conform to hygiene practices while on duty. Workers shall be trained and educated in personal cleanliness and hygienic practices. Adequate control shall be exercised to ensure that employees are in compliance with the hygienic requirements such as supervision at the hand-washing facilities before commencing work at the beginning of a work shift and after breaks.

5.6.3.2 Before starting work, after each absence from the factory production area, at regular intervals during production, or at any time when necessary, employees shall wash their hands with warm water and an acceptable unscented liquid soap or detergent and rinse them in clean, running water. They may then sanitize them with an acceptable disinfectant solution, after which they shall rinse their hands in clean running water, if so required by the usage directions of the sanitizer.

5.6.3.3 Neither employees' personal effects nor their food shall be present in any area where the product and its ingredients and packaging materials are handled and stored. Employees' personal effects, including their personal clothes, shall be kept in lockers or hangers provided for this purpose in the change rooms (see 5.2.26.5).

5.6.3.4 Containers used in the preparation, processing or packaging of the product shall not be used for any other purpose.

5.6.3.5 The use of chewing gum and of tobacco in any form shall not be permitted within areas where the product and its ingredients and packaging materials are handled or stored. Spitting shall not be allowed anywhere within the factory premises.

5.6.3.6 Neither varnish nor lacquer shall be used on fingernails, and fingernails shall be kept short and clean. Jewellery, except plain wedding bands which needs to be covered, shall not be worn by employees who handle raw material or the unprotected product (or both).

5.6.4 Notice boards and supervision

5.6.4.1 Notices shall be strategically displayed in the preparation, processing, packaging and storage areas, in the change rooms and in the toilet facilities.

5.6.4.2 Notices that prohibit eating, spitting and the use of chewing gum and tobacco in any form shall be posted in each production area and in each area designated for the storage of ingredients. Notices that request employees or, where applicable, visitors to wash their hands on entering the production areas shall be posted at each entrance used by employees or visitors to gain access to those areas. Notices that direct employees to wash their hands after using the toilet shall be posted at toilet facilities (see 5.2.26.3).

5.6.4.3 Adequate supervision shall at all times be practised to ensure compliance with 5.6.4.2.
5.6.4.4 The responsibility of ensuring observance of all personal practices, operations and requirements of this clause by all persons shall be given to competent staff members.

5.6.4 Visitors

Any person, including employees, who visits or enters the production areas of the factory during the hours of operation, shall, when in those areas, observe and adhere to all the relevant hygiene requirements and shall wear clean protective clothing that shall be provided by the factory.

6 Ingredient requirements

6.1 Meat

6.1.1 Meat shall have been inspected and passed as fit for human consumption in accordance with the current relevant national legislation (see foreword) governing animal slaughtering, meat hygiene, and meat inspection.

6.1.2 The use of frozen meat is allowed, provided that it has been frozen and stored under acceptable conditions and, where relevant, at the specified temperature, shows no significant evidence of rancidity or discoloration, and has been defrosted in a manner that does not adversely affect the food safety of the product.

6.2 Ingredients and additives

All ingredients and additives used, whether specified or not, shall comply with the current relevant national legislation (see foreword) as may be applicable, and only permitted ingredients shall be used.
## 7 Microbiological requirements at end of shelf-life (maximum permitted levels)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>TVC (cfu/g)</th>
<th>Coliforms (cfu/g)</th>
<th>Yeast and Moulds (cfu/g)</th>
<th>E.coli 0157 (cfu/g)</th>
<th>Salmonella species</th>
<th>Staph aureus (cfu/g)</th>
<th>Clostridium perfringens (cfu/g)</th>
<th>Campylo-bacter species (cfu/g)</th>
<th>Listeria monocytogenes (cfu/g)</th>
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<td>0 / 25 g</td>
<td>&lt;20</td>
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<td>&lt;1 000</td>
<td>N/D</td>
<td>0 / 25 g</td>
<td>&lt;20</td>
<td>N/A</td>
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<td>0 / 25 g</td>
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<td>Category</td>
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<td>TVC (cfu/g)</td>
<td>Coliforms (cfu/g)</td>
<td>Yeast and Moulds (cfu/g)</td>
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<td>Campylo-bacter Species</td>
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<tr>
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<td>&lt;1000</td>
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<td>&lt;1000</td>
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<td>0 / 25 g</td>
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<td>6.2</td>
<td>Liver spreads, pâté and terrines Species and mixed species preformed burger patties and bangers</td>
<td>&lt;1000000</td>
<td>&lt;100</td>
<td>&lt;1000</td>
<td>N/D</td>
<td>0 / 25 g</td>
<td>&lt;100</td>
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<td>N/D</td>
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<td>7.2</td>
<td>Reformed, cured, cooked and chilled products</td>
<td>&lt;1000000</td>
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<td>&lt;1000</td>
<td>N/D</td>
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<td>Reformed hams</td>
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<td>&lt;100</td>
<td>&lt;1000</td>
<td>N/D</td>
<td>0 / 25 g</td>
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<td>Comminuted, uncured and cooked products (chilled or frozen)</td>
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<td>&lt;100</td>
<td>&lt;1000</td>
<td>N/D</td>
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8 Specific requirements for particular products

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<th>Class</th>
<th>Examples per class</th>
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<tr>
<td>1</td>
<td>Gammons, Pastrami, Cooked Silverside, Roast beef (cured), Country Ham, etc.</td>
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<tr>
<td>2</td>
<td>Roast pork, Roast beef (uncured), etc.</td>
</tr>
<tr>
<td>3</td>
<td>Uncured Biltong, etc</td>
</tr>
<tr>
<td>4</td>
<td>Kasseler, Bacon</td>
</tr>
<tr>
<td>5</td>
<td>Cured Biltong, Smoked beef, Koppa, Pancetta, etc</td>
</tr>
<tr>
<td>6</td>
<td>Emulsion products (Viennas, Polonies, etc)</td>
</tr>
<tr>
<td>7</td>
<td>Burger patties, Bangers, etc</td>
</tr>
<tr>
<td>8</td>
<td>Dried wors, biltong wheels or discs, etc.</td>
</tr>
<tr>
<td>9</td>
<td>Salami, Cervelat, Cabanossi, Mettwurst, Teewurst, etc</td>
</tr>
<tr>
<td>10</td>
<td>Blanched pork sausages, uncured chicken viennas and polonies, etc.</td>
</tr>
<tr>
<td>11</td>
<td>Reformed nuggets, schnitzels etc</td>
</tr>
<tr>
<td>12</td>
<td>Reformed hams, chicken, turkey rolls etc.</td>
</tr>
<tr>
<td>13</td>
<td>Reformed bacon, Reformed kasseler chops etc</td>
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### Chilled, Frozen and certain Ambient processed meat products

<table>
<thead>
<tr>
<th>Category</th>
<th>Whole muscle</th>
<th>Bone in / Boneless</th>
<th>Rind-on/ Rindless</th>
<th>With /without show Crumbed /Battered Smoked / Unsmoked</th>
<th>Comminuted With / without show Formed /Unformed Crumbed /Battered / Smoked / Unsmoked</th>
<th>Reformed Crumbed / Battered With /without show</th>
<th>Cured</th>
<th>Uncured</th>
<th>Heat treated</th>
<th>No/Partial Heat Treatment</th>
<th>Dried</th>
<th>Fermented</th>
<th>Chilled</th>
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Note that where no classification is stipulated under storage, then this indicates that the classes ambient, chilled or frozen can apply
### Minimum requirements per product at mixing bowl stage

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatine Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
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<tbody>
<tr>
<td>1 Whole muscle, cured, cooked and chilled products</td>
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<td></td>
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<td>Actual meat content Min %</td>
<td>Fat Max %</td>
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<td>Gelatin Max %</td>
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<td><strong>5 Whole muscle, cured, uncooked and dried products</strong></td>
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<tr>
<td>Polonies, Viennas, Frankfurters, Loaves, Russians, Smokies, etc.</td>
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<td>30**</td>
<td>8</td>
<td>30*</td>
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</tr>
<tr>
<td>*Added MRM and Offal should not exceed 30 % combination. Offal should not exceed 35 % when used on its own, without any addition of MRM.</td>
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<tr>
<td># Rinds and chicken skin should not exceed 15 % (singularly or in combination).</td>
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<tr>
<td>NOTE For poultry rashers/bacon, combination of fat/skin not exceed 20% combined.</td>
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<tr>
<td>MRM if obtained from cap with attached fillets, MRM can be 60 % as trimming % is included.</td>
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<tr>
<td>MRM if bone extracted, this should be 30%.</td>
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<tr>
<td><strong>6.2 Liver spreads, pâté and terrines</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Liver spreads, pâté and terrines</td>
<td>N/A</td>
<td>60</td>
<td>20</td>
<td>40**</td>
<td>4</td>
<td>0</td>
<td>40</td>
<td>2.5</td>
<td>0</td>
<td>5*</td>
<td>15**</td>
<td>15</td>
</tr>
<tr>
<td><em>Gelatin only for topping of terrines – not added to mix</em></td>
<td></td>
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<tr>
<td><strong>The total fat on analysis should not exceed 40 % (singularly or in combination)</strong></td>
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<tr>
<td>Product naming must be linked to source of offal</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Product</td>
<td>Extension Max %</td>
<td>TME Min %</td>
<td>Actual meat content Min %</td>
<td>Fat Max %</td>
<td>Starch Max %</td>
<td>MRM Max %</td>
<td>Offal Max %</td>
<td>Salt Max % (final product)</td>
<td>Added Rinds Max %</td>
<td>Gelatin Max %</td>
<td>Oil Max %</td>
<td>Defeathered Chicken Skin % Max</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
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<tr>
<td><strong>6.3 Products in aspic</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Brawn,</td>
<td>N/A</td>
<td>N/A</td>
<td>15</td>
<td>15</td>
<td>1</td>
<td>0</td>
<td>60</td>
<td>2.5</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Suelze, other products containing cured meat pieces in aspic</td>
<td>N/A</td>
<td>N/A</td>
<td>15</td>
<td>15</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>2.5</td>
<td>10</td>
<td>15</td>
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<tr>
<td><strong>6.4 Products made from blood</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Blutwurst, black pudding, etc</td>
<td>N/A</td>
<td>N/A</td>
<td>10</td>
<td>30</td>
<td>5</td>
<td>0</td>
<td>50</td>
<td>2.5</td>
<td>50</td>
<td>5</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Class 7 – Comminuted, uncured, uncooked and frozen products</strong></td>
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<tr>
<td><strong>7.1 Species and mixed species preformed burger patties and bangers</strong></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Preformed burger patties, bangers (Species and mixed species), formed schnitzels &amp; nuggets, fingers, etc</td>
<td>N/A</td>
<td>60</td>
<td>40*</td>
<td>20**</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>5</td>
<td>0</td>
<td>10**</td>
<td>10</td>
</tr>
</tbody>
</table>

*A minimum of 40 % actual meat of which 75 % should be of the species indicated in the name (e.g. beef, chicken, etc)

** The total fat on analysis should not exceed 20 % (singularly or in combination)
### 7.2 Preformed burger patties and bangers

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatin Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preformed burger patties, bangers, formed schnitzels &amp; nuggets, fingers, etc</td>
<td>N/A</td>
<td>60</td>
<td>15</td>
<td>20**</td>
<td>5</td>
<td>15</td>
<td>5</td>
<td>2.5</td>
<td>5</td>
<td>0</td>
<td>10**</td>
<td>10</td>
</tr>
</tbody>
</table>

** The total fat on analysis should not exceed 20% (singularly or in combination)

### 8 Comminuted, uncured, uncooked and dried products (chilled, frozen or ambient)

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatin Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried wors, bitong discs/wheels, etc</td>
<td>N/A</td>
<td>N/A</td>
<td>80</td>
<td>35</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>6.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 9 Comminuted, cured, uncooked, dried and fermented products (chilled, frozen or ambient)

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatin Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salami, Cervelat, Cabanossi, Teewurst, Mettwurst etc</td>
<td>N/A</td>
<td>90</td>
<td>80</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>10*</td>
<td>0</td>
<td>0</td>
<td>10*</td>
</tr>
</tbody>
</table>

*Added rinds and chicken skins not to exceed 10% (singularly or in combination)

### 10 Comminuted, uncured and cooked products (chilled or frozen)

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatin Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanched pork bangers, chicken viennas, chicken polonies, etc</td>
<td>N/A</td>
<td>60</td>
<td>40*</td>
<td>20**</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>10**</td>
<td>5</td>
</tr>
</tbody>
</table>

* A minimum of 40% actual meat of which 75% should be of the species indicated in the name (e.g. beef, chicken, etc)

** The total fat on analysis should not exceed 20% (singularly or in combination)

### 11 Reformed, uncured, uncooked products (chilled or frozen)

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatin Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reformed nuggets, schnitzel, etc with muscle pieces</td>
<td>N/A</td>
<td>60</td>
<td>50</td>
<td>10*</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5**</td>
<td>0</td>
<td>10*</td>
<td>5**</td>
</tr>
</tbody>
</table>

*The total fat on analysis should not exceed 10% (singularly or in combination)

**Added rinds and chicken skins not to exceed 5% (singularly or in combination)
### Product Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>Extension Max %</th>
<th>TME Min %</th>
<th>Actual meat content Min %</th>
<th>Fat Max %</th>
<th>Starch Max %</th>
<th>MRM Max %</th>
<th>Offal Max %</th>
<th>Salt Max % (final product)</th>
<th>Added Rinds Max %</th>
<th>Gelatine Max %</th>
<th>Oil Max %</th>
<th>Defeathered Chicken Skin % Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12. Reformed, cured, cooked and chilled products</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>12.1 Reformed hams</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cooked ham</td>
<td>40</td>
<td>70</td>
<td>70</td>
<td>12</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Shoulder ham</td>
<td>75</td>
<td>60</td>
<td>57</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sandwich ham</td>
<td>150</td>
<td>60</td>
<td>40</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other reformed hams not specified above, e.g. Picnic / Pizza / Breakfast ham</td>
<td>200</td>
<td>60</td>
<td>33</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>12.2 Reformed, cured, cooked and chilled species and mixed species products</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Chicken/Turkey Roll</td>
<td>75</td>
<td>75</td>
<td>40</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reformed beef products</td>
<td>75</td>
<td>60</td>
<td>57</td>
<td>10</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other reformed, cured, cooked and chilled products not specified above</td>
<td>200</td>
<td>60</td>
<td>33</td>
<td>5</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>13 Reformed, cured, uncooked products (chilled or frozen)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Reformed kasseler steaks</td>
<td>40</td>
<td>70</td>
<td>70</td>
<td>15</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reformed bacon</td>
<td>40</td>
<td>70</td>
<td>70</td>
<td>15</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other reformed, cured and uncooked products sold chilled or frozen</td>
<td>75</td>
<td>60</td>
<td>57</td>
<td>10</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

TME = Protein N as analysed x 30 + % Fat
LME = Protein N as analysed x 30
9 Methods of chemical analysis

9.1 Preparation of the test samples

From each sample taken in accordance with A.1.1 and A.1.2 for all determinations other than that of sulfur dioxide content, take a large enough representative portion of the product, and ensure thorough mixing by passing it twice through a mincing machine. Transfer the minced test sample to a mortar, and, by grinding with a pestle, ensure homogeneity. For the determination of sulfur dioxide content, take a representative portion of the product, but do not mince or grind it.

9.2 Determination of lean meat content

Use the relevant methods in AOAC 928.08 or any other accredited method.

10.3 Determination of fat content

Use the relevant methods in AOAC 960.39 or any other accredited method.

10.4 Determination of starch content

Use the relevant methods in Pearson (404) or any other accredited method.

10.5 Determination of salt

Use the relevant methods in Pearson (page 13) or any other accredited method.

11 Methods of microbiological analysis

11.1 Preparation of the test samples

11.1.1 Use SANS 6887-2 or any other accredited method.

11.1.2 Check for compliance with clause 8.

11.2 Total count of viable organisms

11.2.1 Use SANS 4833 or any other accredited method.

11.2.2 Check for compliance with clause 8.

11.3 Determination of Escherichia coli and E. coli 0157

11.3.1 Use SANS 7251, SANS 16649-3 and SANS 16654 or any other accredited method.

11.3.2 Check for compliance with clause 8.

11.4 Determination of Salmonella organisms

11.4.1 Use SANS 6579 or any other accredited method.

11.4.2 Check for compliance with clause 8.
11.5 Determination of *Clostridium organisms*

11.5.1 Use SANS 5761 and SANS 7937 or any other accredited method.

11.5.2 Check for compliance with clause 8.

11.6 Determination of *Staphylococcus aureus*

11.6.1 Use SANS 6888-1 and SANS 6888-1 or any other accredited method.

11.6.2 Check for compliance with clause 8.

11.7 Determination of yeasts and moulds

11.7.1 Use SANS 7954 or any other accredited method.

11.7.2 Check for compliance with clause 8.

11.8 Determination of *Listeria monocytogenes*

11.8.1 Use SANS 11290-1 and SANS 11290-2 or any other accredited method.

11.8.2 Check for compliance with clause 8.

11.9 Determination of *Campylobacter species*

11.9.1 Use any other accredited method.

11.9.2 Check for compliance with clause 8.

11.9 Determination of *Pseudomonas species*

11.9.1 Use ISO 13720 or any other accredited method.

11.9.2 Check for compliance with clause 8.

11.10 Determination of *coliforms*

11.10.1 Use SANS 21528-1 and SANS 21528-2 or any other accredited method.

11.10.2 Check for compliance with clause 8.

11.11 Efficacy of cleaning and disinfecting of plant, equipment and utensils

11.11.1 Use SANS 5763 or any other accredited method.

11.11.2 Check for compliance with clause 8.
12 Packing and marking

12.1 Packages

12.1.1 Subject to the relevant requirements of the regulations promulgated under the current relevant national legislation (see foreword), packaging for the product shall be, clean, non-toxic and inert, of low moisture-vapour permeability, and shall not contain substances deleterious to the product or harmful to health.

12.1.2 No packaging shall impart a flavour to the product or in any way cause discoloration or enhance coloration of the product, or be discoloured itself by coming into contact with the product.

12.1.3 Packaging shall

a) not be such as to impair the organoleptic characteristics of the product;

b) not be capable of transmitting substances injurious to the product or harmful to human health; and

c) be strong enough to protect the product adequately.

12.2 Outer containers

12.2.1 Only fibreboard or any other acceptable outer containers shall be used for packing wrapped products.

12.2.2 Outer containers shall be unused, clean and intact, and shall be neatly and securely closed.

12.2.3 Wooden outer containers shall not be made of green wood and shall not contain any substance that is injurious to the product or harmful to health.

12.2.4 Outer containers shall be so securely closed as to prevent contamination of the contents by dust or foreign matter and shall be strong enough to protect the product adequately.

12.3 Marking on packages

The markings shall be in type of such size and presentation as is prescribed under the current relevant national legislation (see foreword). The information shall appear in legible and indelible marking on each package or, on the overwrap covering the package, or on a label attached to the package or, in the case of a transparent package, on a label enclosed in the package.

12.4 Labels

12.4.1 The information required in 12.1 shall be printed on each individual package or on the overwrap covering such a package, or on a label of acceptable material attached to the package.

12.4.2 Labels on packages shall be clean and neat and securely attached. They shall not be super-imposed on other labels or on printed matter printed directly on the packages. They shall not be applied by any person other than the manufacturer or his authorized agent.

12.4.3 Labels or sealing adhesives that are liable to deteriorate under the conditions of storage of the packaged products shall not be used.
Annex A
(informative)

Quality verification of processed meat products

When a purchaser requires ongoing verification of the quality of processed meat products, it is suggested that, instead of concentrating solely on evaluation of the final product, he also direct his attention to the processors quality system. In this connection it should be noted that SANS 9001 covers the provisions of an integrated quality system.

Bibliography

SANS 9001/ISO 9001, Quality management systems — Requirements.

SANS 22000/ISO 22000, Food safety management systems - Requirements for any organization in the food chain.

SANS 22005/ISO 22005 Traceability in the feed and food chain — General principles and basic requirements for the system design and implementation.