

**ICS 67.120.10**

**DMS 769:2021**

**Second edition**

**DRAFT MALAWI STANDARD**

# **Meat burgers – Specification**

**NOTE: This is a draft Malawi standard and it shall neither be used nor regarded as a Malawi Standard**

# Meat burgers – Specification

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## FOREWORD

This draft Malawi standard has been prepared by *MBS/TC34 the Technical Committee on Meat, poultry and their products* to provide requirements for meat burgers

This is the first revision of the Malawi standard MS 769, which was first published in 2007.

In preparing this draft Malawi standard reference was made to the following standards;

Malaysian standard MS 1126:2003, *Specification for meat burgers*; and

Kenya standard KS 2844:2020, *Freshly ground coarse meat products – Specification*.

Acknowledgement is made for the use of the information.

## TECHNICAL COMMITTEE

This draft Malawi standard was prepared by the Technical Committee *MBS/TC 34 Meat, poultry and their products* and the following companies, organizations and institutions were consulted:

Central Poultry;  
Conforzi Gleanae Poultry Farm;  
Consumer Association of Malawi;  
Kapani Foods Limited;  
Kel Foods Limited;  
Lilongwe University of Agriculture and Natural Resources;  
Malawi Bureau of Standards;  
Malawi University of Business and Applied Sciences;  
Meatco Halaal;  
Ministry of Agriculture and Food Security – Department of Animal Health and Livestock Development;  
Ministry of Health – Blantyre District Health Office;  
Ori Meat Products;  
Peoples Trading Center;  
Shoprite Trading; and  
University of Malawi.

## NOTICE

*This standard shall be reviewed every five years, or earlier when it is necessary in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being reviewed .*

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**DRAFT MALAWI STANDARD**

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**Meat burgers - Specification**

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**1. SCOPE**

This draft Malawi standard prescribes the requirements and method of sampling for meat burgers made from comminuted meat (beef, lamb and mutton, poultry, pork).

**2 NORMATIVE REFERENCE**

The following standards contains provisions, which through reference in this text, constitute provisions of this Malawi standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this draft Malawi standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *Labeling of prepacked foods – General standard;*

MS 21: *Food and food processing units – Code of hygienic conditions;*

MS 188: *Edible salt – Specification;*

MS 200: *Meat animals for ante-mortem and post mortem – Transportation, handling and inspection – Code of practice;*

MS 214: *Drinking water – Specification;*

MS 237: *Food additives – General standard;*

MS 302: *Contaminants and toxins in food – General standard;*

MS 1243: *Meat and meat products – Determination of total fat content (Reference method);*

MS 1250: *Meat and meat products – Determination of moisture content (Reference method);*

MS 1251: *Meat and meat products – Determination of nitrogen content;*

MS 1280: *Meat and meat products – Determination of total ash content,*

ISO 4833-1: *Microbiology of the food chain – Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique;*

ISO 6579: *Microbiology of food and animal feeding stuffs – Horizontal methods for the detection of Salmonella spp;*

ISO 7251: *Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of presumptive Escherichia coli – Most Probable Number technique;*

ISO 6888-1: *Microbiology of food and animal feeds – Horizontal method for enumeration of coagulase – positive staphylococci. (Staphylococcus aureus and other species), Detection and MPN technique for low numbers; and*

### 3 TERMS AND DEFINITIONS

For the purpose of this draft Malawi standard, the following terms and definitions shall apply:

#### 3.1

##### **binders**

agents that are mixed homogeneously in the processing to help in the structural consistency of the meat product

#### 3.2

##### **fillers**

these are mostly plant substances, low in protein and high in carbohydrates that are used in increasing the product volume

#### 3.3

##### **meat burger**

a flat round mass meat product prepared from comminuted meat with or without the addition of fillers, binders, herbs and spices, salt, sweeteners and other food additives. Common types include beef burgers, chicken burgers, hamburgers, bacon burgers or fish burgers

### 4 ESSENTIAL COMPOSITION AND QUALITY FACTORS

#### 4.1 Raw materials

The meat shall be obtained from carcasses prepared and processed according to the requirements of MS 200.

##### 4.1.1 Meat and meat by-products

**4.1.1.1** All meat including mechanically deboned meat shall be obtained from healthy animals slaughtered in a hygienically-managed slaughter-house or poultry processing plant and shall be wholesome and free from contagious and infectious diseases and fit for human consumption.

**4.1.1.2** Trimmings which are bruised or from damaged parts of bellies shall not be used. Feet and other by-products including brain, gastrointestinal tract, paunches, udders, sweetbreads (thymus, pancreas), tripe, spleen, lungs, salivary glands, lymphatic glands, testicles, uterus, ovaries, cartilage and bony tissue shall not be used.

##### 4.1.2 Fillers

Textured vegetable proteins, cereal rusks, flours or other wholesome edible materials of farinaceous origin may be used.

##### 4.1.3 Binders

Other non-meat protein from soya bean or dairy products may be used.

##### 4.1.4 Fat

Only wholesome, edible vegetable or animal fat derived from the same species of animal used in the product may be used.

##### 4.1.5 Herbs and spices

Permissible herbs, spices and extracts complying with relevant Malawi standards used shall be clean, sound, and wholesome.

##### 4.1.6 Salt

Edible white refined salt shall be used complying with MS 188.

#### 4.1.7 Sweeteners

Only sugar (sucrose) complying with MS 202 or dextrose or other permissible sweeteners shall be used.

#### 4.2 Preparation and processing.

The meat burgers shall be prepared and processed according to approved good manufacturing practices.

#### 4.3 Finished product

4.3.1 The meat burgers shall be uniform in size and shape. They shall show no signs of deterioration at any time.

#### 4.3.2 Flavour and appearance

The meat burgers shall be palatable, have a pleasant flavour, characteristic appearance with no visible damage, objectionable colour and odour.

#### 4.3.3 Texture

Meat burgers shall be of a good uniform texture, characteristic of the product.

#### 4.3.4 Freedom from defects

Pieces of hair, bristle, skin and particles of bone shall not be present in the product. The product shall be free from dirt and from insect and rodent contamination or any other foreign matter. Poisonous or deleterious substances shall not be present.

#### 4.4 Specific requirements

4.4.1 The product shall contain not less than 65% by weight of meat. Salt, sugar and seasoning all together shall not exceed 4 % by weight.

4.4.2 Meat burgers shall conform to the compositional requirements as outlined in **Table 1**.

**Table 1: Compositional requirements for meat burgers**

S/No	Characteristic	Maximum requirement (% by wet weight)	Method of test
i)	Moisture content	60.0	MS 1250
ii)	Total fat content	30.0	MS 1243
iii)	Protein content	15.0	MS 1251
iv)	Total ash content	3.0	MS 1280

#### 4.5 Microbiological limits

Meat burgers shall comply with microbiological limits given in **Table 2**.

**Table 2: Microbiological limits for meat burgers**

<b>S/No</b>	<b>Micro-organisms</b>	<b>Limit</b>	<b>Method of test</b>
i)	<i>Staphylococcus aureus</i> , per g	100	ISO 6888-1
ii)	<i>Salmonella</i> per 25 g,	Absent	ISO 6579
iii)	<i>E. coli</i> per gram	Absent	ISO 7251
iv)	Coliforms CFU per g	100	ISO 4833-1
v)	<i>Listeria monocytogenes</i> per 25g	Absent	ISO 11290-1

## **4.6 Temperature**

**4.3.6.1** Chilled meat burgers. After being processed, the meat burgers shall be brought to a temperature between 1 °C and 5 °C within 8 h. The chilled product is recommended to be consumed within three days under normal storage conditions.

**4.3.6.2** After being processed, the meat burgers may be chilled before freezing and the freezing completed at -12 °C or lower within 8 h. The product shall be stored at a temperature at or below -18 °C throughout the storage period.

## **5 FOOD ADDITIVES**

Only those food additives listed under this product in MS 237, shall be used and only within the limits specified.

## **6 CONTAMINANTS**

### **6.1 Heavy metals**

Products covered by this draft Malawi standard shall comply with the maximum limits indicated under this product in MS 302.

### **6.2 Veterinary drug residues**

The products covered by this draft Malawi standard shall comply with the maximum veterinary drug residue limits established by the Codex Alimentarius Commission and limits from World Organisation for Animal Health OIE, Malawi Government and other relevant codes of practice.

## **7 HYGIENE**

**7.1** The product covered by the provisions of this draft Malawi standard shall be prepared and handled in accordance with the provisions of MS 21 and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

**7.2** All meat used in the processing of meat burgers shall have been subjected to the inspection processes prescribed in MS 200 and other relevant Codes of Practice recommended by the Codex Alimentarius Commission.

## **8 PACKAGING AND LABELING**

### **8.1 Packaging**

**8.1.1** Unless agreed otherwise between the purchaser and the manufacturer or the packer, meat burgers shall be packed in properly sealed bags/packaging material made of suitable food grade flexible transparent packaging material or in hermitically sealed containers.

**8.1.2** The containers shall not present any health hazard or permit contamination under normal conditions of storage and handling. They shall be clean, and where applicable, show evidence of vacuum.

## **8.2 Labelling**

In addition to the provisions of MS 19, the following specific provisions shall apply:

### **8.2.1 The name of the food**

A declaration indicating the common name of animal from which the meat is derived shall be given for example "Beef burger";

**8.2.2** Name and address of the manufacturer and/or packer;

**8.2.3** Net weight in grams;

**8.2.4** List of ingredients in descending order of proportions;

**8.2.5** Expiry date;

**8.2.6** Date of production/manufacture;

**8.2.7** Batch number;

**8.2.8** Country of origin; and

### **8.2.9 Storage instructions**

For products which are not fully shelf-stable, i.e. which may be expected not to keep for at least one year in normal conditions of storage and sale, adequate storage instructions shall be given on the label. These instructions shall state the recommended maximum temperature or conditions of storage and, in the case of products sold to the consumer, an indication of the recommended maximum period of storage in specified conditions shall be given.

## **9 SAMPLING AND METHODS OF TEST**

### **9.1 Sampling**

Sampling shall be carried out according to the method prescribed in **Annex A**.

### **9.2 Method of test**

Testing of meat burgers shall be done according to the test methods prescribed in **Tables1** and **2**.



**Annex A**  
(Normative)

**SAMPLING OF MEAT BURGERS**

**A1 General Requirements of Sampling**

**A1.1** Sampling shall be done by a person agreed upon between the purchaser and the manufacturer or the packer and, if so desired by them, in the presence of the purchaser or his representative and the manufacturer or the packer or his representative.

**A1.2** Samples shall be stored in such a manner that the temperature of the material does not vary unduly from the normal storage temperature.

**A2 Scale of sampling**

**A2.1** In any consignment all the packets containing meat burgers of the same size and from the same batch of manufacture shall be grouped together to constitute a lot.

**A2.2** The number of packets to be selected from the lot for testing shall depend upon the size of the lot, and shall be in accordance with Columns 1 and 2 of **Table A1**. A sub-sample as given in Column 4 shall be taken at random from the sample selected as in Column 2.

**A2.3** the packets to be selected from the lot (**A2.2**) shall be chosen at random from the lot and for this purpose a random number table shall be used. Where such tables are not available, the following procedures may be adopted:

Arrange all the packets in the lot in a systematic manner and starting from any packet, count them as 1, 2, 3, etc. up to r and so on in one order. Every  $r^{\text{th}}$  packet thus counted shall be withdrawn from the lot to give a sample for test, where  $r = N/n$ , N being the total number of packets in the lot and n the number of packets to be selected according to **Table A1**.

In case r comes out to be a fractional number, its value shall be taken to be as equal to the integral part of it.

**A3 Number of tests**

**A3.1** Tests for flavour and appearance, texture, freedom from defects and colour shall be carried out individually on each of the packets selected as in Column 2 of **Table A1**.

**A3.2** Tests for composition requirements and microbiological tolerance shall be carried out individually on each of the packets selected as in Column 4 of **Table A1**.

**Table A1 – Number of packets to be selected for sampling**

1	2	3	4
No of packets in the lot	No of packets to be selected	Permissible no. of defectives	Size of sub-sample
Up to 150	5	0	2
151 to 300	10	1	3
301 to 500	13	1	4
501 to 1 000	20	2	5
1 001 to 3 000	32	3	6
3 001 to above	50	5	7

**A4 Criteria for conformity**

**A4.1** The lot shall be considered satisfactory in respect to the requirements tested in **A3.1** if the number of defective packets found in **A3.1** does not exceed the corresponding number given in Column **3** or Table **A1**.

**A4.2** The lot shall be considered satisfactory in respect to the requirements tested in **A3.2** if each sample satisfies all these requirements.

**A4.3** The lot shall be declared to be in conformity with all requirements of this standard if it has been found satisfactory in **A4.1** and **A4.2**.

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### THE MALAWI BUREAU OF STANDARDS

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

### CERTIFICATION MARK SCHEME

To bring the advantages of standardization within the reach of the common consumer, the Bureau operates a Certification Mark Scheme. Under this scheme, manufacturers who produce goods that conform to national standards are granted permits to use the Bureau's "Mark of Quality" depicted below on their products. This Mark gives confidence to the consumer of the commodity's reliability



