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**DMS 50:2016**  
Second edition

**DRAFT MALAWI STANDARD**

# **Beer – Specification**

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# Beer – Specification

Obtainable from the  
Malawi Bureau of Standards  
Moirs Road  
P O Box 946  
BLANTYRE

Tel: +265 1 870 488  
Fax: +265 1 870 756  
E-mail: [mbs@mbsmw.org](mailto:mbs@mbsmw.org)  
Web-site: [www.mbsmw.org](http://www.mbsmw.org)

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## TABLE OF CONTENTS

Contents	page
Foreword.....	i
Technical committee.....	i
Notice.....	i
Scope.....	1
Normative references.....	1
Terms and definitions.....	1
Classification of beer.....	2
Essential composition and quality factors.....	2
Food additives.....	3
Contaminants.....	4
Hygiene.....	4
Packaging and labelling.....	4
Sampling and methods of test.....	4

## FOREWORD

This Malawi standard is a second edition of MS 50:1988, *Beer – Specification*. The revision of this standard has been done to incorporate contemporary information prevalent now due to technological and environmental changes. This Malawi standard has been prepared by MBS/TC 11, the Technical Committee on *Beverages*, to provide requirements for beer.

In preparing this Malawi standard reference was made to the following standard:

East African Standard, EAS 63:2014, *Beer – Specification*.

Acknowledgement is made for the use of the above information.

## TECHNICAL COMMITTEE

This Malawi standard was prepared by MBS/TC 11, the Technical Committee on *Beverages*, and the following companies, organizations and institutions were represented:

Blantyre Hotels Limited;  
Blantyre Water Board;  
Carlsberg (Malawi) Limited;  
Chibuku Products Limited;  
Consumers Association of Malawi;  
Dairibord Malawi Limited;  
Linga Fine Foods and Winery;  
Malawi Bureau of Standards;  
Mkombezi Wine Cooperatives;  
Peoples Trading Centre; and  
The Malawi Polytechnic (University of Malawi).

## NOTICE

*This standard shall be reviewed every five years, or earlier whenever 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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**1 SCOPE**

This draft Malawi standard specifies the requirements and methods of sampling and test for beer.

**2 NORMATIVE REFERENCES**

The following standards contain 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 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: *Labelling of prepacked foods – General standard;*

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

MS 107: *Alcoholic beverages – Methods of test;*

MS 214: *Drinking water – Specification;*

MS 237: *Food additives – General standard.*

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

ISO 4832: *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coliforms – Colony-count technique;*

ISO 4833-1: *Microbiology of the food chain – Horizontal method for the enumeration of micro-organisms – Part 1: Colony-count at 30 °C – Pour plate technique; and*

ISO 16050: *Foodstuffs – Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products – High-performance liquid chromatographic method.*

**3 TERMS AND DEFINITIONS**

For the purposes of this draft standard, the following terms and definitions shall apply;

**3.1****adjuncts**

any source of fermentable sugar from an agricultural origin other than malted barley

**NOTE:** These materials are usually but not exclusively added in the brew house during the process of brewing.

**3.2****alcohol**

as ethyl alcohol (C<sub>2</sub>H<sub>5</sub>OH)

**3.3****beer**

a beverage prepared by fermentation of sugars derived mainly from malted and/or unmalted cereal grains and/or approved adjuncts

### 3.4

#### **brewing**

process of converting malt and/or unmalted cereal grains and adjuncts into beer

### 3.5

#### **extraneous matter**

includes inorganic matter such as sand, glass, metal, gravel, dirt, pebbles, stones, lumps of earth, clay and mud and organic matter such as chaff, straw, weed seeds and grains of crops, insects or insects fragments, rodent hairs or any other foreign matter. Extraneous matter does not include substances produced by interaction of normal beer ingredients as a result of natural ageing process such as polyphenols-protein interactions

### 3.6

#### **malt**

cereal grain (often barley), which has been steeped, allowed to germinate and then dried or kilned to halt further germination

### 3.7

#### **potable water**

water complying with the requirements of MS 214

### 3.8

#### **unmalted cereal grains**

cereal grains that have not undergone the processes in 3.6

## 4 CLASSIFICATION OF BEER

Beer shall be classified into one of the following classes:

- 4.1 **Non-alcohol beer**, containing less than 0.5 % ethyl alcohol by volume;
- 4.2 **Low alcoholic beer**, 0.5 % – 2.4 % ethyl alcohol by volume;
- 4.3 **Mild beer**, containing 2.5 % – 4.0 % alcohol by volume;
- 4.4 **Medium beer**, containing 4.1 % – 5.5 % alcohol by volume; and
- 4.5 **Strong beer**, containing more than 5.5 % alcohol by volume.

## 5 ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 5.1 Ingredients

5.1.1 The following ingredients complying with the relevant Malawi standards, shall be used for the production of beer:

- a) malted and/or unmalted grains;
- b) hops and/or products derived from hops; and
- c) potable water.

5.1.2 The following optional ingredients complying with the relevant Malawi standards, may be used for the production of beer:

- a) barley and or any other cereal grain;
- b) Adjuncts; and
- c) Food additives.

## 5.2 General requirements

Beer shall be free from:

5.2.1 Any substances injurious to health;

5.2.2 Any extraneous matter;

5.2.3 Artificial sweetening agents;

5.2.4 Any artificial colorants except for those colouring agents prepared from sugar, barley, malt or any cereal grains; and

5.2.5 Any added alcohol.

5.3 Bright lager beer shall have maximum haze of 2.5 EBC units.

## 5.4 Specific quality requirements

Beer shall comply with the specific quality requirements specified in Table 1.

**Table 1 – Quality requirements for beer**

S/N	Characteristic	Requirement	Test method
1	Ethyl alcohol content, %, v/v		MS 107
	Non-alcoholic beer	Less than 0.5	
	Low alcohol/light beer	0.5 – 2.4	
	Mild beer	2.5 – 4.0	
	Medium beer	4.1 – 5.5	
	Strong beer	more than 5.5	
2	pH	3.5 – 4.75	
3	Carbon dioxide, %, v/v		
	Bottled/ canned beer	2.4 – 7.0	
	Kegged beer	1.0 – 2.5	

## 5.5 Microbiological limits

Beer shall comply with limits for micro-organisms specified in Table 2.

**Table 2 – Microbiological limits for beer**

1	2	3	4
S/N	Organism	Limit	Test method
1	Coliforms, cfu/ml	0	ISO 4832
2	Total plate count, cfu/ml, max.	100	ISO 4833-1

## 6 FOOD ADDITIVES

Food additives may be used in the preparation of beer in accordance with MS 237.

## **7 CONTAMINANTS**

### **7.1 Heavy metals**

The products covered by this standard shall comply with the maximum levels of heavy metals and toxic substances prescribed in MS 302.

### **7.2 Pesticide residues**

All the raw materials used in the production of beer shall comply with the maximum residue limits for pesticides as established by the Codex Alimentarius Commission.

### **7.3 Aflatoxin limits**

Total aflatoxin shall not exceed 10 µg/l and aflatoxin B1 shall not exceed 5 µg/l when tested with ISO 16050.

## **8 HYGIENE**

The product covered by the provisions of this draft standard shall be prepared and handled in accordance with the requirements set out in MS 21.

## **9 PACKAGING AND LABELLING**

### **9.1 Packaging requirements**

Beer shall be packaged in suitable food grade containers. Beer shall be packaged for bulk delivery and storage in containers that shall prevent contamination of the product and preserve its safety and quality.

### **9.2 Labelling requirements**

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

- a) name, physical location and address of manufacturer;
- b) ethyl alcohol content, % by volume;
- c) class of beer;
- d) best before date;
- e) the net contents shall be declared by volume in millilitres or litres;
- f) list of ingredients in descending order of proportion by mass;
- g) date of manufacture;
- h) batch identification number/code;
- i) country of origin; and
- j) statutory warnings.

## **10 SAMPLING AND METHODS OF TEST**

**10.1** The products covered by the provisions of this draft standard shall be sampled as prescribed in MS 107.

**10.2** The product shall be tested using appropriate standard methods declared in this draft standard.

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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, Trade and Tourism. 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.

