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**Wooden and bamboo toothpicks —
Specification**

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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification	4
4.1 Shape	4
4.2 Structural types	5
5 Requirements	7
5.1 Species	7
5.2 Size and tolerances	8
5.3 The quality of surface finish	9
5.4 Sensory requirements	9
5.5 Moisture content	9
5.6 Test methods	10
5.6.1 Size	10
5.6.2 Length	10
5.6.3 Diameter	10
5.6.4 End taper angle	10
5.6.5 Width and thickness	10
5.6.6 The quality of surface finish	10
5.6.7 Sensory requirements	11
5.6.8 Moisture content	11
6 Hygiene	11
7 Packaging	11
8 Labelling	11
9 Storage and transportation	11
10 Sampling	11

Foreword

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

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

DRS XXX was prepared by Technical Committee RSB/TC 67, Consumer Products.

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

Chinese standard on wooden toothpick (木制牙签的中国标准)

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

Committee membership

The following organizations were represented on the Technical Committee on Consumer Products (RSB/TC 67) in the preparation of this standard.

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Wooden and Bamboo toothpicks — Specification

1 Scope

This Draft Rwanda Standard specifies the terms and definitions, classification, requirements, packaging, labelling, transportation and storage of wooden and bamboo toothpicks. This standard applies to wooden and bamboo sticks processed from wood and bamboo for tooth picking.

2 Normative references

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

RS 427, *Round and sawn timber — Nomenclature of timbers used in Rwanda*

RS 413, *Furniture — Quality and grading of wooden furniture*

RS ISO 13061-1, *Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 1: Determination of moisture content for physical and mechanical tests*

RS ISO 2859-1:1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

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

RS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of β -glucuronidase-positive *Escherichia coli* — Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide*

RS 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*

RS ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0,95*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

tip

slender end of a toothpick.

3.2

Split tip

Stubble on the tip of a toothpick.

3.3

Arris tip

The longitudinal prismatic tip of the tip of a toothpick.

3.4

Decay

Due to the invasion of decaying bacteria, the cell wall material is decomposed, resulting in the loosening of bamboo tissue structure, the decrease of strength and density, and the phenomenon of colour change.

3.5

wooden toothpick

Wooden sticks are made from wood as raw materials, and are processed by rotary cutting, shearing, drying, rod making, and sharpening

3.6**Bamboo toothpick**

bamboo sticks are made from bamboo as raw materials, and are processed by rotary cutting, shearing, drying, rod making, and sharpening

3.7**Surface arris**

Longitudinal ribs on the surface of toothpicks

3.8**little tip**

The slender tip of the toothpick

3.9**barbed tip**

Toothpick tip with barb-shaped tip

3.10**obtuse tip**

toothpick with a thicker tip than the specified diameter

3.11**split tip**

Stubble at the tip of a toothpick

3.12**arris tip**

Longitudinal prismatic tip on the tip of a toothpick

3.13

split

Separation of wood or bamboo fibers along the direction of the grain

3.14

wane

Defects due to machining, planing, sanding or impact

3.15

prickle

During the processing of toothpicks, raised wood or bamboo fiber bundles are formed on the surface

3.16

decay

decomposition of material due to the invasion of decaying bacteria and/or fungi resulting to reduced strength and structure.

3.17

staining

Influenced by other substances, the surface color is different from the original color or has an odor

3.18

fungus

Changes in material and material color due to mold growth

4 Classification

4.1 Shape

The main shapes of wooden or bamboo toothpicks include the following four:

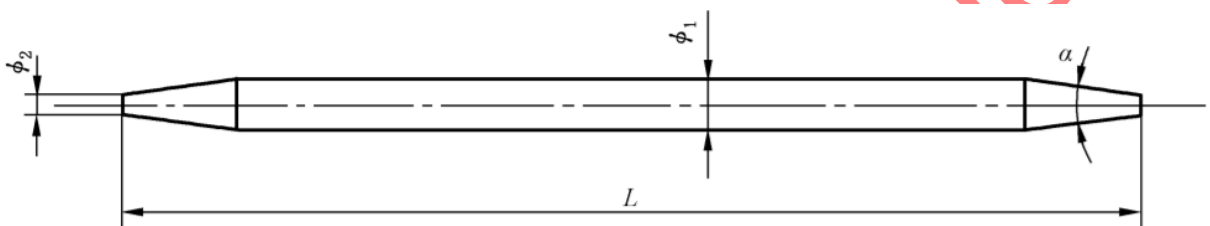
a) round bi-pointed toothpicks;

- b) circular single-pointed toothpicks;
- c) circular carved toothpicks;
- d) Flat toothpicks.

4.2 Structural types

- a) Round bi-pointed toothpicks

A toothpick with a cone at both ends and a cylinder at the middle, see Figure 1.



where:

ϕ_1 : the diameter of the cylinder in the middle section

ϕ_2 : the diameter of tip plane

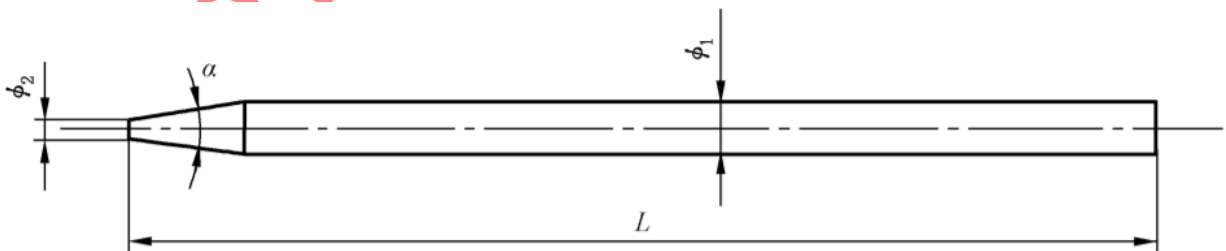
α : end taper angle

L : length

Figure 1: Round bi-pointed toothpick

- b) Round single-pointed toothpicks

A toothpick with a cone at one end and a cylinder at the middle and the other end, see Figure 2.



where:

ϕ_1 : the diameter of the cylinder in the middle section

ϕ_2 : the diameter of tip plane

α : end taper angle

L: length

Figure 2: Round single-pointed toothpicks

c) Round carved toothpicks

One end is a cone, the other end is engraved, and the middle is a cylindrical toothpick, see Figure 3.

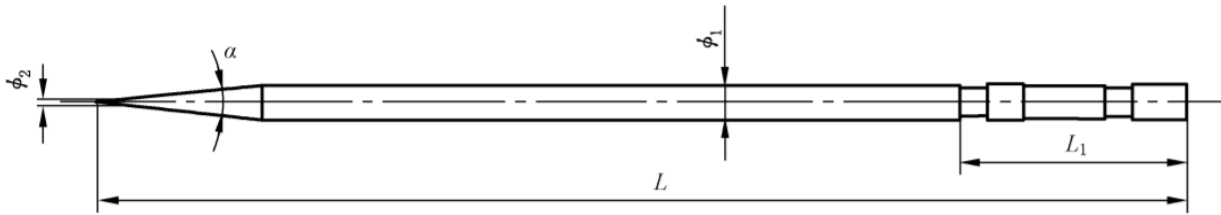
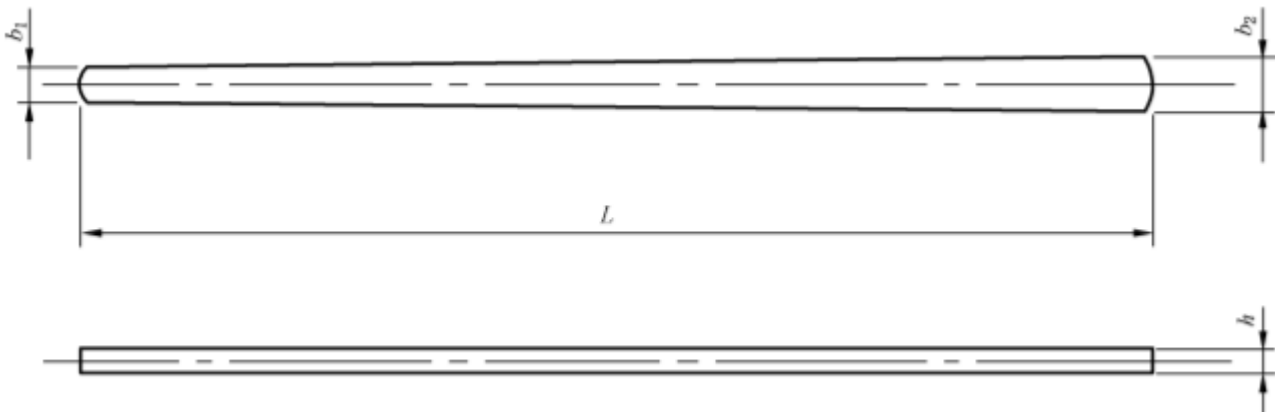


Figure 3: Round carved toothpicks

d) Flat toothpicks

A toothpick with a wedge-shaped prolate, see Figure 4.



Where:

b_1 : length

b_2 : width of small head

L: width of large head

h: thickness

Figure 4: Flat toothpicks

5 Requirements

5.1 Species

The wood and bamboo used to make wooden and bamboo toothpicks shall be one of the species specified in one of the following species:

- a) *Betula* spp. (Birch)
- b) *Tilia* spp. (Basswood)
- c) *Populus* spp. (poplar)
- d) *Picea* spp. (spruce)
- e) *Abies* spp. (fir)
- f) *P. Sylvestris* var. *mongolica* Litv. (*Pinus sylvestris*)
- g) *Alnus* spp. (Alder)
- h) *A. mono maxim* (maple)
- i) *phyllostachys aureo* (yellow bamboo)
- j) *phyllostachys bisseti*, (green bamboo)
- k) Other species

5.2 Size and tolerances

- a) Sizes and tolerances of round wooden and bamboo toothpick shall be according to Table 1.

Table 1: Sizes and tolerances of round toothpick

Requirement	Unit	Size	Tolerance
Length (L)	mm	60, 65, 68, 70, 80, 100, 105	±0.5
Engraving length (L ₁)	mm	9-12	-
Diameter (ϕ_1)	mm	2, 2.2, 2.4, 2.5, 3.0	±0.1
Diameter of tip plane (ϕ_2)	mm	0.2	±0.1
End taper angle (α)	(°)	11	±3

- b) Sizes and tolerances of flat wooden and bamboo toothpicks shall be according to Table 2

Table 2: Sizes and tolerances of flat toothpicks

Requirement	Unit	Size	Tolerance
Length (L)	mm	58-60	±1.0
Width of small head (b ₁)	mm	1.3	±0.2
Width of large head (b ₂)	mm	2.3, 2.7	±0.2

Thickness (<i>h</i>)	mm	0.5	±0.2
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5.3 The quality of surface finish

The quality of surface finish of wooden and bamboo toothpicks shall be according to Table 3.

Requirement	Permissible limit
Decay, cavities, peeling, mildew, pollution, odour	Not permitted
Splitting	Not permitted
Cracks	Not more than 20% of the length
Roughness	Small
Consistency of fiber and length direction	Consistent
Void, hook, blunt and edge points	Slight

Note: Slight means that it can be observed with the naked eye at a distance of 50 cm from the product under natural light.

5.4 Sensory requirements

toothpicks shall have a clean, smooth and odor-free surface. It shall not contain any foreign chemicals harmful to human beings.

5.5 Moisture content

Wooden and bamboo toothpicks shall have a moisture content ranging from 8 -12%.

5.6 Test methods

5.6.1 Size

The measuring instruments used shall be:

- a) Steel ruler: the division value is 0.5 mm
- b) Vernier calliper: the division value is 0.02 mm
- c) The degree value is: 0.02'

5.6.2 Length

The length shall be measured with a steel ruler. The accuracy shall be 0.5 mm.

5.6.3 Diameter

The diameter of round wooden or bamboo toothpicks shall be measured at one-half of the full length.

The diameter of the tip plane shall be measured with a vernier calliper at the smallest point of the tip.

The accuracy of the measurement shall be 0.02 mm.

5.6.4 End taper angle

The cone angle of the end of round wooden or bamboo toothpicks shall be measured at the end with a universal angle ruler. The accuracy shall be 0.02'.

5.6.5 Width and thickness

The width of the flat wooden or bamboo toothpick shall be measured at the small end and the large end with a vernier calliper.

The thickness shall be measured at half of the full length.

The accuracy shall be 0.02mm

5.6.6 The quality of surface finish

The quality of surface finish of wooden or bamboo toothpicks

When tested using visual inspection and nose-sniffing methods under normal lighting or natural light, wooden or bamboo toothpicks shall meet requirements specified in Clause 5.3 of this standard.

5.6.7 Sensory requirements

When wooden or bamboo toothpicks are tested one by one by visual inspection and nose olfactory, they shall meet requirements specified in Clause 5.4 of this standard.

5.6.8 Moisture content

When tested in accordance with RS ISO 13061-1, wooden or bamboo toothpicks shall meet requirements specified in Clause 5.5 of this standard.

6 Hygiene

6.1 Toothpicks shall be handled, produced in a hygienic manner in accordance with RS CAC/RCP 1 (General principles for food hygiene)

6.2 Wooden toothpicks shall not exceed the microbiological limits in table 4 when tested in accordance with test methods specified therein

Table 4 – Microbiological limits for wooden toothpicks

S/N	Microorganism	Maximum limits	Test method
i.	Total Viable Count, cfu/g	10 ³	RS ISO 4833-1
ii.	<i>Escherichia coli</i> , cfu/g	Absent	RS ISO 16649-2
iii.	<i>Staphylococcus aureus</i> , cfu/g	Absent	RS ISO 6888-1
iv.	moulds, cfu/g, max	25	RS ISO 21527-2

7 Packaging

7.1 The packaging shall be firm, clean and moisture-proof.

7.2 The packaging materials shall be dry, and free of peculiar smell, which will not affect the product quality.

8 Labelling

The packaging shall be marked with the factory name, factory address, product name, specifications, quantity, grade, date of manufacture, implementation standard number, expiry period, safety warning and other signs which can be stamped with other product signs according to the supply and demand contract.

9 Storage and transportation

During storage and transportation, the product shall be protected from moisture, fire and pollution.

10 Sampling

Sampling shall be performed in accordance with RS ISO 2859-1

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