

KENYA STANDARD

DKS 2980:2022

ICS ##.###

First Edition

**Bamboo toothpicks and skewers –
specification**



**Kenya Bureau of
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Kenya Bureau of Standards, Popo Road, Off Mombasa Road,
P.O. Box 54974 - 00200, Nairobi, Kenya



+254 020 6948000, + 254 722202137, + 254 734600471



info@kebs.org



@KEBS_ke



kenya bureau of standards (kebs)

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Foreword

This Kenya Standard was prepared by the Bamboo and Rattan Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards

Public Review Draft

Bamboo toothpicks and skewers – specification

1 Scope

This standard specifies the product types, technical requirements, inspection methods, inspection rules, identification, packaging, transportation and storage of bamboo toothpicks and skewers. This standard applies to bamboo toothpicks and skewers used for tooth picking, food and beauty industry. This standard does not apply to coated bamboo toothpicks and skewers

2 Normative references

The following referenced documents 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.

ISO 13061-1:2014 Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 1: Determination of moisture content for physical and mechanical tests

KS ISO 780:2015 Packaging-Distribution packaging-Graphical symbols for handling and storage of packages

ISO 10725:2000 Acceptance sampling plans and procedures for the inspection of bulk materials

3 Terms and definitions

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

3.1

Bamboo toothpicks

a short, pointed thin piece of bamboo with either one or sometimes two pointed ends used for removing bits of food lodged between the teeth after a meal.

3.2

little tip

the slender tip of the toothpick tip.

3.3

barbed tip

the barb-shaped tip of the toothpick tip.

3.4

Split tip

stubble at the tip of a toothpick

3.5

arris tip

longitudinal prismatic point at the tip of the toothpick.

3.6

decay

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

3.7

split

Bamboo fibers separated along the grain direction.

3.8

wane

cylinder edge defects caused by planing, sanding, bumping, or undersized bamboo stick wool.

3.9

stains

local discoloration on the surface caused by microorganisms, metals or chemicals.

3.10

mildew

a thin white coating caused by fungal hyphae growing on a damp wood or surface

3.11

glitch

bamboo fiber bundles that may cause splinter and scratches on the finished bamboo toothpick.

3.12

tip diameter

the smallest diameter of the toothpick tip/skewer.

3.13

Heat treatment

exposing the material to 56°C temperatures for 30 minutes to sterilize and eliminate pests

4 Product Type

4.1 Classification

According to the shape, it can be divided into round double-end pointed bamboo toothpicks/skewers and round single-end pointed bamboo toothpicks/skewers.

4.2 Round double-ended bamboo toothpicks/skewer

The round double-ended bamboo toothpicks/skewer are shown in Figure 1.

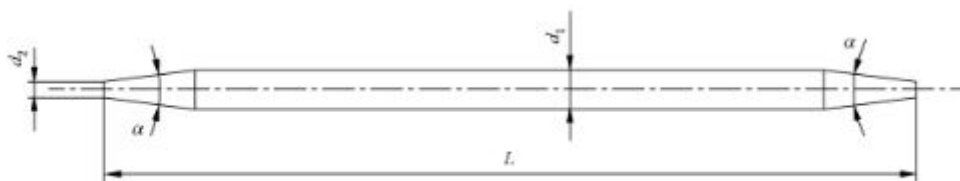


Figure 1. Round double-ended bamboo toothpicks/skewer

Key:

l — length;

d_1 — diameter of cylinder;

d_2 — the diameter of the tip plane;

α — End taper angle.

4.3 Round single-ended bamboo toothpicks/skewer

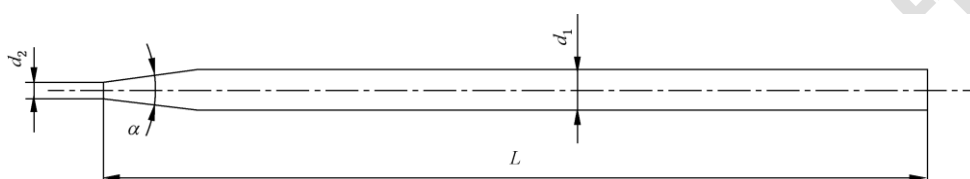


Figure 2 shows a round single-ended bamboo toothpick.

Key:

L — length;

d_1 — diameter of cylinder;

d_2 — the diameter of the tip plane;

α — End taper angle.

5 Technical requirements

5.1 Raw material requirements

The bamboo used should be 3 – 4 years old raw bamboo.

5.2 Sensory requirements

5.2.1 Odor

The material should be free from odour

5.2.2 Appearance quality

Should comply with the provisions of Table 1.

Table 1 Appearance quality requirements

Defects	Limit
blunt tip, hook tip, split tip, edge tip	Slightly

decay, mildew	not allowed
glitch	Slightly
stains	not allowed
Wane	Slightly
crack	not more than 15% of the length
NOTE – slightly means defects cannot be easily seen if the toothpick is placed 200mm away from the naked eye under natural light,	

5.3 Specifications and deviations for toothpicks and skewers

Toothpicks should comply with the provisions of Table 2 (a).

Dimension	unit	Standard sizes	allowable deviation
length (L)	mm	$50.0 \leq L \leq 70.0$	± 1.0
Cylinder diameter (i1)	mm	$1.4 \leq i1 \leq 1.8$	± 0.2
		$1.8 < i1 \leq 2.2$	± 0.3
Tip Plane Diameter (i2)	mm	0.40	± 0.10
End taper angle (α)	($^{\circ}$)	11	± 3

Skewers should comply with the provisions of Table 2 (b).

Dimension	unit	Standard sizes	allowable deviation
length (L)	mm	$112.0 \leq L \leq 250.0$	± 1.0
Cylinder diameter (d1)	mm	$2.5 \leq d1 \leq 4.0$	± 0.5
Tip Plane Diameter (d2)	mm	0.60	± 0.10
End taper angle (α)	($^{\circ}$)	7	± 3

5.4 Moisture content

The moisture content shall be 8% - 13%.

5.5 Preservation of raw material

Only non-chemical preservation is recommended, however, heat treatment is preferred

6 Inspection method

6.1 Sensory test

6.1.1 Odour

Take a group (50) of bamboo toothpicks/skewers, 50mm away from them, and sniff.

6.1.2 Appearance

Visual inspection of the samples taken is carried out as required. When using visual inspection, the viewing distance should be 100mm to 200mm under natural light or approximate natural light in the range of 300lx to 600lx of illumination (such as 40W fluorescent lamp).

6.2 Size deviation inspection

6.2.1 Measuring tools

6.2.1.1 Vernier caliper graduated at 1.0mm and precision of 0.02mm.

6.2.1.2 Steel ruler graduated at 0.5mm and precision of 0.5mm.

6.2.1.3 Universal angle ruler with an accuracy of 0.02'.

6.2.2 Length

Length (L) inspection is measured with a steel ruler (refer to 6.2.1.2).

6.2.3 Diameter

The diameter of the cylinder (d_1) is checked at one-half of the full length, and the plane diameter of the tip (d_2) is checked at the smallest point of the tip, measured with a Vernier caliper (refer to 6.2.1.1).

6.2.4 End taper angle

The taper angle (α) inspection shall be measured at the end with a universal angle ruler (refer 6.2.1.3).

6.3 Determination of moisture content

Take samples with complete packaging and carry out in accordance with the provisions of ISO 13061-1

7 Inspection rules

7.1 Inspection classification

Product inspection is divided into factory inspection and type inspection.

7.2 Factory inspection

Each batch of products shall be subjected to factory inspection. The factory inspection includes the following items:

- sensory testing.
- Specification size and deviation inspection.
- Moisture content test.

7.3 Type inspection

7.3.1 Check all items.

7.3.2 After one year of normal production, type inspection shall be carried out in any of the following situations:

- Trial-type identification of new products or products transferred to factories;
- During formal production, such as when there are major changes in structure, raw materials, and processes;
- When the product has been discontinued for more than six months, when the production is resumed;
- When there is a big difference between the factory inspection results and the last type inspection results;
- When the national quality supervision agency puts forward the requirements for type inspection.

7.4 Group batching principles

Products with the same variety of raw materials, production conditions, specifications and types are considered as one inspection batch.

7.5 Sampling plan

Samples with complete packaging from the same inspection lot are randomly selected in the finished product warehouse. Sampling is in accordance with ISO 10725 normal inspection one-time sampling plan, the inspection level is S-4, and the acceptance quality limit (AQL) is 6.5, see Table 3.

Table 3 Inspection sampling plan

batch range	Number of samples	Acceptable number (Ac)	Rejection number (Re)
≤35000	50	7	8
35001 - 500000	80	10	11
≥500001	125	14	15

7.6 Judgment of results

All indicators meet the corresponding technical requirements, and the batch of products is determined to be qualified; if a single indicator is unqualified, the single-item inspection shall be doubled, and if the inspection is still unqualified, the batch of products shall be determined to be unqualified products.

8 Identification, packaging, storage and transportation

8.1 Identification

8.1.1 Signs

The packaging, storage and transportation diagrams are in accordance with the provisions of KS ISO 780:2015.

8.1.2 Labels

The packaging should 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, and there should be an inspection certificate, which can be stamped with other product signs according to the supply and demand contract.

8.2 Packaging

8.2.1 The packaging should be firm, clean and moisture-proof.

8.2.2 The packaging materials should be dry, clean and free of peculiar smell, which will not affect the product quality.

8.3 Storage and transportation

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

Public Review Draft

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