

# DRAFT UGANDA STANDARD

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## Cobweb duster — Specification

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The Executive Director  
Uganda National Bureau of Standards  
P.O. Box 6329  
Kampala  
Uganda  
Tel: +256 414 333 250/1/2/3  
Fax: +256 414 286 123  
E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  
Web: [www.unbs.go.ug](http://www.unbs.go.ug)

## Foreword

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The committee responsible for this document is Technical Committee UNBS/TC 05, *Chemicals and Environment*, Subcommittee SC 03, Plastics and related products.



# Cobweb duster — specification

## 1 Scope

This Draft Uganda Standard specifies the requirements, methods of sampling and test for cobweb dusters used for removing cobwebs on ceilings and part of the walls that are not easily reached by human hands.

## 2 Normative references.

There are no normative references in this document.

## 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: — ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **plastic**

synthetic material made from a wide range of organic polymers such as polyethylene, Polyvinyl chloride (PVC), nylon, high-density polyethylene (HDPE), polyethylene terephthalate (PET), Phenolic resin, Polypropylene, and ultra-high-molecular-weight polyethylene (UHMWPE, UHMW).

### 3.2

#### **wood**

hard fibrous material that forms the main substance of the trunk or branches of a tree or shrub

### 3.3

#### **lot**

definite amount of same product, material or service collected together

### 3.4

#### **tuft**

bunch or cluster of bristles, usually flexible, attached or fixed closely together at the base and loose at the upper ends

### 3.5

#### **block**

part to which the filling material “bristles” are secured

### 3.6

#### **bristle**

stiff animal hair, feather, extruded plastic, metal or natural material e.g. sisal fibre, coconut fibre, on a cobweb duster head.

### 3.7

#### **cobweb**

tangles of the silken threads of a spider web usually covered with accumulated dirt and dust

**3.8**

**pith**

a tissue located in the center of the stem of vascular plants, which is composed of soft, spongy parenchyma cells

**3.7**

**bristle length**

length of the monofilament that protrudes from the block

**3.8**

**handle length**

part of handle that protrudes from the block

## **4 Requirements**

### **4.1 General requirements**

**4.1.1** The cobweb duster shall have smooth finish and all components (block, bristles and handle) shall be free from imperfections and defects which may affect its appearance or serviceability

**4.1.2** The cob web duster may be extendable and coloured

**4.1.3** All metallic components of the brush shall be corrosion resistant

#### **4.1.3 Block and handle**

**4.1.3.1** The material used for the block and handle shall be made of plastic, metal, wood or any suitable material.

**4.1.3.2** For plastic cobweb duster, the handle and block shall be made of hard plastic which does not deflect while dusting. The handle shall fit firmly in the block hole and shall not come out during dusting

**4.1.3.3** The block and handle for wooden cobweb duster, shall be free from brashness, any kind of biological or non-biological deterioration, insect attack, pith, knots (except pin knots), cracks and any other defect that may reduce the life of the brush and affect its serviceability

#### **4.1.4 Bristles**

**4.1.4.1** Shall be made of animal hair, metal, plastic (synthetic), natural material such as coconut fibre, sisal fibre or any suitable material

**4.1.4.2** Suitable adhesive, wire, nails or staple shall be used to fix the bristles in the tuft holes.

**4.1.4.3** Each tuft shall contain bristles of uniform length, diameter, quantity and same synthetic material..

### **4.2 Specific requirements**

**4.2.1** The cob web duster shall conform to the requirements given in Table 1 when tested in accordance with the test methods specified therein.

**Table 1 — Specific requirements for cob web duster**

Characteristic	Requirement		Test method
	wooden	plastic	
Moisture content,%, max	15	-	Annex A
Tuft anchorage	Neither a tuft nor its individual bristle shall dislodge.		Annex B

**4.2.2** All metallic components of the brush shall be corrosion resistant or shall be protected from corrosion, when tested in accordance with Annex C, the surfaces shall show no sign of corrosion

## 5 Dimensions

Cobweb dusters shall conform to the minimum dimensions given in Table 2

**Table2 — Table for minimum dimensions**

SN	Parameter	Quantity
i.	Bristle diameter(mm)	0.25
ii.	Bristle length (mm)	90.0
iii.	Handle length(mm)	1000.0
iv.	Number of bristles per head	6300.0
v.	Pull Strength for 1 min (N)	50.0

## 6 Tests

### 6.1 Bristle diameter

The bristle diameter shall be measured by a micrometer screw gauge or a vernier calliper or any instrument that can measure to the nearest 0.01 mm, measure the diameter of six bristles to the nearest 0.01 mm. Select the six bristles from six random tufts from the same brush head, then calculate the average bristle diameter

### 6.2 Bristle length

The bristle length shall be measured using a vernier calliper, measure the length of six bristles to the nearest 0.01 mm. Select the six bristles from six random tufts from the same brush head. Calculate the average bristle length.

### 6.3 Handle length

The handle length shall be measured using a graduated ruler with a scale of 1 mm or any other suitable means, capable of measuring length to the nearest 1 mm.

## 7 Labelling

The cobweb duster shall be legibly marked with the following

- a) Name of product as “cob web duster “
- b) name and address of manufacturer;
- c) batch number;
- d) extendable or non-extendable.

## **7. Sampling**

Sampling shall be done in accordance with Annex D

## **8 Packaging**

The toilet brush shall be packaged in suitable packages, the head may be. detached from the handle

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## Annex A (normative)

### Determination of Moisture Content for wooden cobweb duster

#### A.1 Test Specimen

The entire block used in brush may form the test specimen for the determination of moisture content or a piece cut from it. Smaller specimens may be used when deemed necessary. The test shall be carried out immediately after cutting the specimen

#### A.2 Procedure

Weigh accurately each test specimen. This specimen shall then be dried in a ventilated oven at a temperature of  $105\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  until the mass becomes constant between two successive weighings made at an interval of not less than one hour

#### A.3 Calculation

$$\% \text{ Moisture content} = \frac{W_1 - W_0}{W_0} \times 100$$

Where:

$W_1$  initial mass in grams of test specimen, and

$W_0$  oven-dry mass in grams of the test specimen

## Annex B (normative)

### Determination of Pull Strength

#### B.1 General

A simple instrument as shown in Fig. 1 can be used for testing the pull strength. This unit is suitable for mounting on wall. It consists of dial force gauge /weighing scale (0-10 kg) operating on spring (A) mounted on wooden plate (B). A tubular tuft holder (C) is hung on the hook of dial gauge. A clamp for holding cobweb duster head (E) is provided which is movable downward and upward with a screw (F). The dial force gauge/weighing scale shall be calibrated having traceability

#### B.2 Procedure

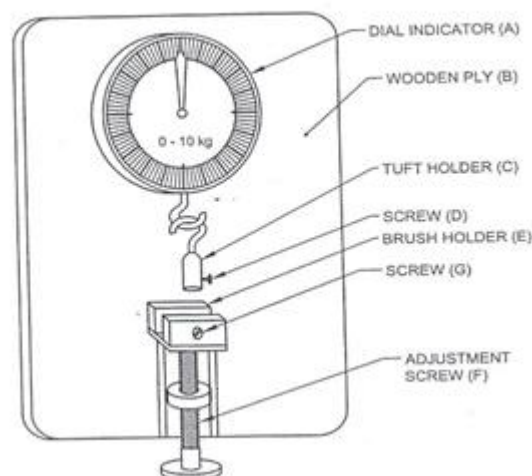
**B.2.1** Fix the head with bristles in upward direction in the holder with the help of screw (G). Divide the bristles into segments of about 10 mm length.

**B.2.2** Insert all bristles of one segment in the hole provided at the bottom of tubular tuft holder (C). Care should be taken not to allow bristles from adjacent segment to enter in to the hole. Fix the bristles firmly with the help of screw (D).

**B.2.3** Adjust the pointer on dial to zero by adjustment of screw (F).

**B.2.4** Move down the brush holder slowly with screw (F) watching the pointer on dial carefully till it reaches 5 kg mark and keep it there for 1 min. Then remove the brush from the gadget and examine. The bristles of any segment shall not come out of the cement during the test.

Note: The tufts shall not fail when subjected to a pull by thumb and finger grip or the force required for pulling out an individual tuft shall not be less than 50.0 N for 1 m



## **Annex C** **(Normative)**

### **Determination of Corrosion Resistance**

Submerge all metal components for 7 h in distilled water, then dry them as rapidly as possible at a temperature not exceeding 70 °C and examine the surfaces that are required to be corrosion resistant for freedom from corrosion. Check for compliance with 4.2.2

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**Annex D**  
(Normative)

**Sampling of Cob web duster and Criteria for Conformity**

**D.1 Scale of Sampling**

**D.1.1** Lot – In any consignment, all the dusters of the same size and quantity shall be divided into groups of 500 dusters or less and each such group shall constitute a lot. Care shall be taken to ensure that cobweb dusters included in a lot do not differ in construction as far as possible

**D.1.2** The conformity of the cobweb dusters in a lot to the requirements of this specification shall be ascertained for each lot separately. The number of cobweb duster to be selected for this purpose shall be in accordance with col. 1 and col. 2 of Table 3

**Table 3 Scale of Sampling**

No. of dusters in a lot <i>N</i>	No. of dusters to be selected <i>n</i>
Up to 10	2
11 to 25	3
26 to 50	4
51 to 100	5
101 to 150	6
151 to 300	7
301 to 500	8

**D.1.3** The cobweb dusters shall be selected at random. To ensure randomness of selection one of the following procedures is recommended for use:

- a) If all the cob web dusters in a lot are packed in a one box, then starting from any brush, count them in any suitable order as 1, 2, ..... up to *r* and so on, where *r* is the integral part of  $N/n$  (*N* and *n* being the lot size and sample size respectively). Every *r* th cob web duster thus counted shall be withdrawn to constitute the sample.
- b) If the cobweb dusters in a lot are packed in more than one box, approximately equal number of cobweb dusters shall be picked up at random from as many boxes as possible so as to obtain the required number of cob web dusters as specified in Table 3

**D.2 Criteria for Conformity**

For declaring the conformity of the lot to the requirements of this specification, all the cobweb dusters selected according to C.1.3 shall satisfy the relevant requirements given in clause 5

## Bibliography

- [1] IS 11750:1986, Brushes — *Fitch flat with long handle*
- [2] IS 4301:1999, Brushes, — *brushes foundry flat*

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