
Sanitization booth — 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
Web: www.unbs.go.ug

Foreword

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The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 06 Electro technology.

Introduction

The world is facing challenging times due to emergence of new communicable diseases, such as the novel coronavirus pandemic attack and the viral haemorrhagic diseases. World Health Organization has declared the rapidly spreading novel coronavirus a pandemic. The novel coronavirus transmits through respiratory micro droplets, direct contact with infected and contaminated surfaces/objects.

Government has introduced various safety measures to prevent rapid spread of infections. The proven remedies include minimising contacts with infected persons, hand washing with soap and water and/or decontamination with alcohol based sanitisers, wearing protective masks/ apparels/gears/equipment and temporary lockdowns to prevent entry of the virus into the body. However, people have to continue offering and accessing services. Accordingly, individuals and the public have developed COVID-19 safety guidelines, and disinfection measures for use.

The Sanitizing Booth is one of the innovations introduced for body surface and apparels disinfection. The sanitizing machine can be installed at any public place entrance or on exit points where people come and go frequently. The sanitization booth is capable of disinfecting a person from head to toe as he/she passes through the cabin and is sprayed with disinfectant mist using high-pressure pumps. It deeply sanitizes a person before s/he comes in anyone's contact.

With the increased demand for safety and protection of persons who offer and access different services, sanitization booths may be installed at entrances of the following facilities;

- (a) Hospitals, health centres, nursing homes, domiciliary centres and clinics
- (b) Schools and other institutions of learning
- (c) Community centres and other places of public gathering (Places of worship, entertainment centres, sports venues, tourism sites, etc.)
- (d) Super Markets
- (e) Shopping Mall
- (f) Air Ports and other ports of entry.
- (g) Railway Stations, bus terminals and taxi parks
- (h) Factories
- (i) Court Rooms
- (j) Police Station and posts,
- (k) Hotels and guest houses
- (l) Government Ministries, Departments and Agencies (MDAs)
- (m) Any other congregation centre with potential risk of spreading infectious diseases

Sanitization booth — Specification

1 Scope

This Draft Uganda Standard specifies the minimum requirements, construction and use of sanitization booth for disinfecting the whole body during pandemics/epidemics.

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.

US EAS 789, *Instant hand sanitizers – Specification*

3 Terms and definitions

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

3.1

sanitization booth

Cabin based automatic/semi- automatic multi sprinkler system for sanitization of each entrant before accessing the facility

3.2

frame

structure of the booth on which the side panels or clads are mounted

3.3

switch

device or mechanism, which prompts the sprinkling of the sanitizer

4 Requirements

4.1 General

4.1.1 All manufacturers shall have a risk management system in place that species:

- a) manufacturer's policy on risk;
- b) risk management plan;
- c) users comfort and privacy and;
- d) Health risks and mitigation strategies.

4.1.2 All manufacturers shall have a Quality management system in place that specifies:

- a) Manufacturer's policy on Quality;
- b) Quality management plan;
- c) Installation manual and;
- d) User manual

4.2 Features

The following are the main features of a sanitization booth.

- a) Sole disinfection system (Tank of minimum capacity 20 litres depending on frequency of use. for storage of disinfectant, delivery pipes and automatic spray nozzles)
- b) Disinfection chamber with transparent entry and exit, as well as corrosion resistant floor
- c) LED light inside the chamber.
- d) Automatic or manual switch to trigger release of disinfectant.
- e) Electric source of 240 V, 50-60Hz
- f) Signage describing the sanitization process.

4.3 Components

The sanitization booth shall have the following operation units and controls:

- a) double diaphragm pump or any other suitable pump that can convey the sanitization chemical; It shall be DC 12 V With AC adaptor (or) DC 24 V with AC adaptor
- b) Automated Floor switch; •Activated by the weight of a person which in turn leads to the energization of mist pump.(In certain designs)
- c) Infrared or ultraviolet detectors that activates the spraying of disinfectants though the nozzles when a person enters the chamber (In certain designs)
- d) timer (6 seconds setting) and fail-safe/ interlock switch in case of sensor failure
- e) atomizing nozzles;
- f) sanitization chemical reservoir; and
- g) thermal imaging facility (optional).
- h) Volume regulation mechanism
- i) Body of the booth

NOTE Suitable compressors may be used in the in some installations.

4.4 Construction

4.4.1 Size and structure

4.4.1.1 The size and structure of the booth shall be dependent on available space, body coverage and preference of the purchaser.

4.4.1.2 The sanitization booth shall have the following dimensions as a minimum:

- a) Height = 2.34 m;
- b) Width = 1.05m; and
- c) Length= 2.01m.
- d) Arch Diameter=1.04m

4.4.2 Frame

The frame shall be made with corrosion resistant materials such as coated aluminium, acrylic sheet, hot-dip steel hollow sections, fibreglass or any other material with equivalent properties that will ensure structural strength and durability. In addition, the material shall be resistant to corrosion from disinfectant chemical and have surface wear resistance.

4.4.3 Cladding and/or canopy

These shall be of non-collapsible material. It shall also be fabricated from corrosion resistant materials such as aluminium composite panels, hot-dip galvanized steel panels, fibreglass, and acrylic / fibre material. It shall have a tapered top to eliminate external surface liquid stagnation.

4.4.4 Flooring

The floor shall be tapered to enable proper runoff of residual fluid. It shall also be made of non-corrosive material such as a galvanized sheet.

4.4.5 Atomization nozzles

4.4.5.1 The atomization nozzles shall be of corrosion resistant material such as stainless steel

4.4.5.2 The atomization nozzles shall be such that vapour is precipitated and disbursed through atomization process, creating moisture throughout the "passage" as suspended approved cleansing sanitizer through the tunnel

Note: Ultra- violet resistant plastics are used for the frame, floor and cladding in designs that require disinfection with U.V radiation such as when disinfecting Personal Protective clothing

4.5 Sanitization chemicals

These shall conform to the requirements of US EAS 789.

4.6 Contamination Control

4.6.1 The walking surface in the booth shall be made with a slight taper from entry to exit to avoid reverse delivery of contaminated chemicals after exiting the sanitization booth.

4.6.2 There shall be an under-feet cleansing design and waste residue channelled to a holding or flood drain

4.6.3 In case of spillage or floods, the used chemical water shall be collected, and treated before discharge to public water systems.

5 Marking

The following information shall be indelibly and legibly marked on the equipment:

- a) name and physical address of the manufacturer;
- b) trade name, if any;
- c) name of the equipment, e.g. sanitization booth; and Sanitization Signage that demonstrates what a person supposed to do
- d) Quality Standard Certification
- e) Power Ratings of Powered components

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Bibliography

- [1] KPAS 2920:2020 *Sanitization booth — Specification*

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