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Wall fillers — Specification

DRAFT UGANDA STANDARD

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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

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Foreword

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(a) a member of International Organisation for Standardisation (ISO) and

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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 5, Chemicals and Environment

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Wall fillers — Specification

1 Scope

This Draft Uganda standard specifies the requirements, test and sampling methods for fillers in form of powder and paste used on both interior and exterior surfaces for levelling of surface imperfections, filling dents, cracks and other uneven surfaces on any wall and partitions like plaster, concrete, ceilings and building boards The standard does not apply to sand filling and structural cracks.

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.

DUS ISO 3856-1, *Paints and varnishes — Determination of "soluble" metal content — Part 1: Determination of lead content — Flame atomic absorption spectrometric method and dithizone spectrophotometric method*

DUS ISO 9117-1, *Paints and varnishes — Drying tests —Part 1: Determination of through-dry state and through-dry time*

DUS ISO 24153 —*.Random sampling and randomisation procedures*

US 100-3, *Cement — Test methods — Part 3: Determination of setting times and soundness*

US 100-6, *Cement — Test methods — Part 6: Determination of fineness*

US ISO 3251, *Paints, varnishes and plastics — Determination of non-volatile matter content*

US ISO 3679, *Determination of flash no flash and flash point — Rapid equilibrium closed-cup method*

US ISO 7010 — *Graphical symbols safety colours and safety signs — Registered safety*

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
Setting time
the time taken for the filler to convert itself into cohesive mass which does not yield to specified pressure applied after a specified drying time.

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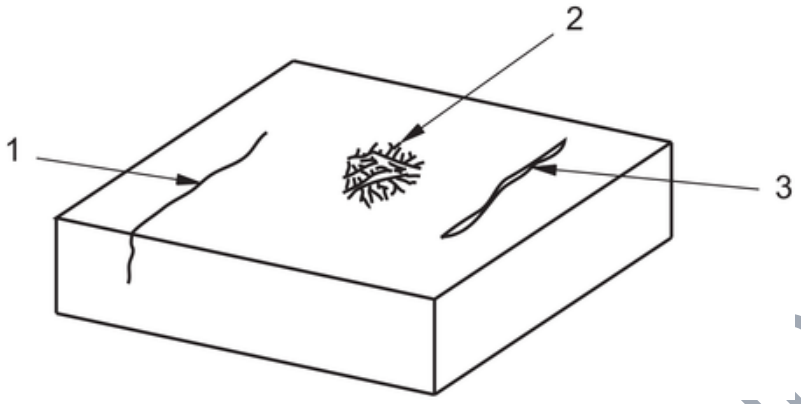
3.2
hairline cracks
fine cracks visible on the surface of a shape whose length can be measured and whose width is less than or equal to 0.2 mm, see figure 1



Key

1 Hairline crack

2 Surface crazing

3 Open crack

Figure 1 — Typical cracks

3.3
surface crazing
network of hairline cracks confined to the surface of the shape, see Figure 1

3.4
open crack
cracks or tears on the surface whose length is more than 10 mm and whose width is more than 0.2 mm

4 Requirements

4.1 Description

4.1.1 Paste

The material shall be homogeneous paste and shall be free from grit and other visible impurities ready for use.

4.1.2 Powder

4.1.2.1 The material shall be cement based polymer modified (calcium carbonate and / or gypsum), homogenous, free flowing and fine dry powder.

4.1.2.2 It shall require addition of water to form a consistent paste before application. Thorough mixing shall be carried out till a smooth, homogenous paste is obtained.

4.2 Odour

The material shall not have any objectionable odour. Also it shall not leave any bad odour after application.

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4.3 Surface preparation

4.3.1 The surface shall be free from dust, oil, grease, debris or loose particles and other contaminants.

4.3.2 In case of powder moisten the surface before applying the filler. Fine hairline cracks should be widened up to a minimum of 0.001m and then filled.

4.4 Mixing

4.4.1 Powder

4.4.1.1 A clean mixing vessel shall be used

4.4.2.2 Mix thoroughly powder and water in the ratio as recommended by the manufacturers.

Note The powder should be added to water to avoid the formation of lumps.

4.4.2 Paste

The product is a ready-to-use product dilution shall not be done

4.5 Application

4.5.1 Fill the filler into the crack by spatula, scrapper or knife blade. Fill excess material and tool it by putty knife blade pressing against crack so that air voids get filled

4.5.2 Level the surface with a putty knife/towel or steel float to get smooth & clean surface.

4.5.3 The paste shall not shrink or chip or crack when setting or drying and shall adhere to the surface to form a smooth matt finish

4.6 Weights and measures

The fill and volume of the material shall comply with the requirements of the Weights and Measures Act.

4.7 Specific requirement

4.7.1 Paste

The material shall comply with the requirements given in table 1

Table 1 — wall filler (paste) — quality requirements

Characteristic	Requirement	Test method
Flash point, min	30°C	US ISO 3679
drying time	30 – 120 minutes	WDUS ISO 9117-1
Non-volatile matter %w/w, min	60	US ISO 3251
Lead content, ppm, max.	100	DUS ISO 3856-1
pH	7 – 9	Annex A

4.7.2 Powder

The material shall comply with the requirements given in table 2

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Table 2 — wall filler (powder) — quality requirements

Characteristic	Requirement	Test method
Fineness	%Residue ≤ 10%	US 100-6
water content,% w/w, max	5%	Annex B
Setting time	10 – 30 minutes	US 100 -3

4.8 Stability in storage

The product shall not deteriorate in any manner and shall comply with the requirements of this specification when stored in its original sealed container for a period of one year from the date of manufacture.

4.9 safety

The material shall have no adverse effects on the human health and environment when it is used for its intended purpose.

5 Packaging and labelling

5.1 Packing

The material in which the product is packaged shall not interact chemically or physically with the product and shall be strong enough to protect the product adequately during normal handling, transportation and storage.

5.2 Labelling

Each container and each bulk package shall bear in prominent, legible, and indelible marking the information required in terms of the Weights and Measures Act, and the following additional information together with appropriate safety symbols as specified in US ISO 7010

a) manufacturer's name and physical address;

b) name of the product;

c) net mass of the material when packed;

d) type of the filler

e) instructions for use;

f) precautions;

g) country of origin;

h) storage recommendation;

i) batch number;

j) month and year of manufacture and

k) month and year of expiry.

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6 Sampling

Samples shall be taken randomly from the factory, market or elsewhere and tested for compliance with the requirements of the standard.in accordance with DUS ISO 24153

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Annex A
(normative)

Determination of pH

A.1 Apparatus and materials

A.1.1 Beaker, 150-ml

A.1.2 pH meter with glass calomel electrodes

A.1.3 Analytical balance

A.1.4 Glass rod

A.1.5 Distilled water

A.2 Procedure

Weigh 5.00 g ± 0.01 g of the paste. Place it in a 150-ml beaker and add 50 g, freshly boiled, distilled water. Mix well by means of a glass rod and cool to 23 ºC ± 2 ºC. Measure the pH with a pH meter using glass calomel electrode by carefully following the instructions of the meter.

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Annex B
(normative)

Determination of water content

B.1 Apparatus

B.1.1 Drying oven

B.1.2 Desiccator

B.1.3 Temperature tolerant evaporating dish

B.1.4 Analytical balance

B.1.5 Tongs

B.2 Procedure

B.2.1 Place an evaporating dish in the drying oven set at 105 ° C ± 5 ° C for a minimum of 30 minutes and then cool to ambient temperature in a desiccator with the lid closed. After cooling, weigh the dish to the nearest 1 mg, W_1.

B.2.2 Weigh 5.0 ± 0.5 g test specimen in a tared and dried dish, W_2

B.2.3 Place the dish containing sample in the oven set at 105 ° C ± 5 ° C till the residue mass becomes constant

B.2.4 Cool in the desiccator, weigh the evaporating dish and contents, W_3.

B.3 calculation

Water content, %w/w = $\frac{W_2 - W_3}{W_2 - W_1} \times 100$

W_1 = mass of the empty dish in grams;

W_2 = mass of the dish containing the sample in grams;

W_3 = mass of the dish containing the dry matter in grams;

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