DRAFT ECOWAS STANDARD **DRAFT ECOSTAND 794**

Paints and Varnishes - Specification for sanding sealer

1. Scope

This ECOWAS Standard specifies the requirements, sampling procedure, compliance criteria and methods of test for sanding sealer.

2. Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard.

All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

2.1 ISO 2431:1993 – Paints and varnishes – Standard panels for testing.

2.2 Draft ECOSTAND 043 – Paints and varnishes – Test Methods (Determination of hard dry time for paints, varnishes and allied products)

2.3 ISO 1513:1992 – Paints and varnishes – Examination and preparation of samples for testing.

2.4 ISO 2812-1:1993 – Paints and varnishes – Determination of resistance to liquids – Part 1: General methods.

3. Definitions

For the purposes of this standard the following definitions apply:

3.1
sanding sealer
A semi transparent, physical drying coating used as an intermediate coat when using clear lacquer in the coating of wood, and capable of forming dry film in a short time by air drying

3.2
batch
a final blend of sanding sealer produced under uniform conditions

3.3
lot
the quantity of sanding sealer bearing the same batch number, from the same manufacturer, submitted at any one time for inspection and testing.

3.4
standard test condition
a temperature of 25 ± 2^0C and relative humidity of 60 ± 5%

3.5
defective
a test sample(s) or a container of sanding sealer that fails in one or more respect to comply with the relevant requirements of this standard

4. Requirements

4.1 Hard dry time

When tested in accordance with 8.3 the hard dry time of the sealer shall be not more than 30 min.

4.2 Appearance of film

When tested in accordance with 8.4 the colour of the film shall not be darker than agreed specimen and differences in levelling, transparency and the degree of whiteness shall be minimal when visually compared with the specimen.

4.3 Sandability

When tested in accordance with 8.5 sanding shall be easier in dry sanding when compared with the specimen.

4.4 Overcoatability

When compared with the specimen there shall be no impediment in overcoating when tested in accordance with 8.6.

4.5 Alkali resistance

When tested in accordance with 8.7 no abnormalities shall be found, when immersed for 10 min in sodium carbonate solution (1.0w/w%).

4.6 Workability

When tested in accordance with 8.8 there shall be no hindrance in double coatings and the second shall join well with the first coat.

5. Packing and Marking

5.1 Packing

Sanding sealer shall be packed in clean, dry containers with suitable handles to withstand normal handling. The containers shall be sealed to prevent leakage and contamination of the contents during normal handling, transportation and storage.

5.2 Marking

The following shall be legibly and indelibly marked on each container or on a label securely fixed to it:

(i) Name of the product
(ii) Manufacturer's name and address or trademark
(iii) Date of manufacture
(iv) Batch or Lot number
(v) Country of manufacture
(vi) Volume in litres
(vii) Safety symbols (for toxicity and flammability).
(viii) Safety measures to be adhered to by the user.

6. Sampling procedure

Unless otherwise agreed upon, the following sampling procedure shall be applied:
Samples shall be taken in accordance with ISO 15528 to determine whether a lot complies with the requirements of this specification.

7. Compliance criteria

The lot shall be deemed to comply with the requirements of this specification if on inspection and on testing, all the samples taken in accordance with 6 are found to comply with the requirements of this standard.

8. Methods of test

NOTE At least 300 ml of sample is needed for the test.

8.1 Panels

8.1.1 Glass panels of size 200 mm X 100 mm and of 2 mm thickness that have been solvent-cleaned in accordance with ISO 1514, unless specified otherwise.

8.1.2 Birch veneer panel of size 200 mm X 100 mm and of 3 mm thickness. It shall be made of heartwood which has been conditioned for 48 h at 20^0C in a desiccator filled with calcium chloride.

8.2 General test conditions

8.2.1 Place of test

The place for the test shall be under standard conditions (see 3.4) without receiving direct sunlight, free from gas, steam or dust.

8.2.2 Place for spray painting

The place for spray painting shall be at a temperature of 25 ± 2^0C and relative humidity of 60 ± 5%.

NOTE: It is preferable to paint in a spray booth having a windspeed of 0.7 m/s.

8.2.3 Diluent (Thinner)

The diluent to be used in thinning the sample shall be as given in Table 1.

Table 1 – Composition of diluent (thinner)

Component	Compounding ratio (in volume)
Ethyl acetate	15
n – Butyl acetate	10
n – Butanol	5
Toluene	70

8.2.4 Dilution of sample

Dilution shall be made so that the flow down time of the diluted sanding sealer falls within a range of 15 to
19 s.

8.2.5 Application of sample

The diluted sample (8.2.4) shall be applied by using a suitable spray gun at a suitable pressure

A second coat shall be applied 30 min. after the first coat.

8.2.6 Application thickness

The quantity to be applied shall be such that the thickness of the film obtained after drying shall be within a range of 25 to 40µm after two coats.

8.3 Hard dry time

8.3.1 Panel

The test panel shall be as specified in 8.1.1.

8.3.2 Method

(a) Use the method given in
GS 785.

(b) The coating procedure and the thickness of the dry lacquer film shall be as given in 8.2.4.

(c) Dry the coated surface under standard conditions (3.4) for

30 mins.

8.4 Appearance of film

8.4.1 Specimen

The specimen shall be the film sample prepared in accordance with agreement between the parties concerned.

8.4.2 Test panel

Glass plate of dimensions 200 mm X 100 mm X 2 mm; solvent cleaned in accordance with ISO 2431.

8.4.3 Procedure

Double coat one surface of the test panel in accordance with 8.2.4. Dry it under standard conditions for 24h.

8.4.4 Final examination

Compare the specimen and the dried paint film for conformance with 4.3.

8.5 Sandability

8.5.1 Test panel

The test panel shall be as given in 8.1.1

8.5.2 Abrasive paper

The abrasive paper shall be No. 240.

8.5.3 Abrasive device

The abrasive device shall be as given in Fig. 1.

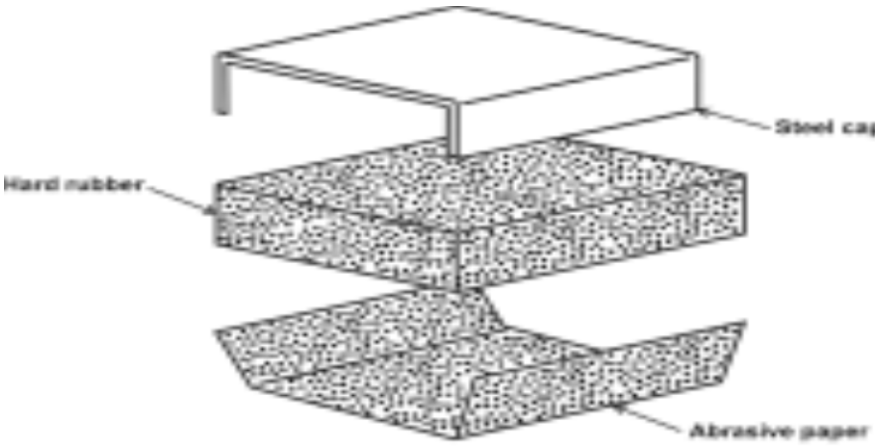

Fig. 1 – Example of pad rubber

8.5.4 Preparation of test piece

Coat one surface of the test panel in accordance with 8.2.4. Dry it under standard conditions.

8.5.5 Procedure

Place the long side of the test piece on a stand in a longitudinal direction. Hold the test piece with fingers, sand by using the sanding device.

Press a rubber pad to the coated surface and move it towards the front and rear, and sand approximately not less than ¾ of coated surface.

Repeat the sanding process 10 times.

8.5.6 Report

Report as conforming to 4.4 if:

(i) the sanded surface is smooth
(ii) the abrasive paper is not entangled or blocked during the sanding process

8.6 Overcoatability

8.6.1 Panel

The test panel shall be as given in 8.1.2.

8.6.2 Procedure

(a) Prepare in advance two under-coated panels for the sample and specimen. The preparation shall be carried out by applying wood sealer to one surface of each of the birch veneer panels (8.1.2). Dry for 1 h in a room.

(b) Apply the sample and specimen respectively to the surfaces of the separate under-coated panels. (see 8.6.2a). Dry them for 2h in a room. Sand with No. 240 abrasive paper and dry again for 1h in a room. Apply clear lacquer by spraying twice at 30 min. interval.

After 1h examine the lacquer film as conforming to 4.5 if:

(a) wrinkling, cracking, blistering and pin holes are not found;

(b) the degree of absorption of the clear lacquer by the test panel is lesser when compared with the specimen.

(c) the degree of film thickness, gloss, levelling and brightness are not inferior when the test panel is compared with the specimen.

8.7 Alkali resistance

8.7.1 Test panel

Use a glass panel of dimensions 150 mm X 70 mm X 2 mm which has been solvent cleaned in accordance with ISO 1514.

8.7.2 Preparation of test panel

Apply the sample (8.2.4) to one surface of the test panel and leave it for 48h. Prepare two test panels. Use one for the immersion test and make the other the original test piece.

8.7.3 Procedure

(a) Use Method 1 (Procedure A) given in ISO 2812-1.

(b) Use sodium carbonate solution (1.0W/W %) as the test liquid.

(c) The time of immersion shall be 10 min.

8.7.4 Final examination

Visually examine the film immediately and after 2h standing.

Report as conforming to 4.6 if:

(i) blisters, cracking, peeling and pin holes are absent

(ii) coloration and turbidity of test liquid do not exist.

(iii) lacquer film is not softened.

(iv) the variation in gloss and degree of discoloration of the immersed test piece are minimal when compared with the original test piece.

8.8 Workability

8.8.1 Test panel

The test panel shall be as specified in 8.1.1

8.8.2 Procedure

Double coat one surface of the test panel in accordance with 8.2.5 so that the thickness of the film shall be as given in 8.2.6.

Report as conforming to 4.7 if there is no hindrance to double coating.