

الهيئة السعودية للمواصفات والمقاييس والجودة

Saudi Standards, Metrology and Quality Org. (SASO)



SASO DS 2838:2026

Paints and Varnishes – Wood Varnishes

ICS: 87.040

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Foreword

The technical team " Paints and Varnishes" of Saudi Standards, Metrology and Quality Organization (SASO) has prepared the Saudi Standard No. SASO DS 2838:2026 “*Paints and Varnishes – Wood Varnishes*” based on relevant Standards and references.

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Paints and Varnishes – Wood Varnishes

1. SCOPE AND FIELD OF APPLICATION

This standard covers with the air-drying alkyd, gloss, semi-gloss and matt wood varnishes for the use on non-primed wood finishes to be used for exterior and interior applications.

2. COMPLEMENTARY REFERENCES

- 2.1 SASO ISO 15528 "Paints and Varnishes – Sampling".
- 2.2 SASO ISO 1513 "Paints and Varnishes – Examination preparation of samples for testing".
- 2.3 SASO ISO 3251 "Paints and Varnishes – Determination of non-volatile content".
- 2.4 SASO ASTM D562 "Paints and Varnishes – Determination of the consistency (viscosity) using a Stormer-type viscometer in Krebs Units (KU)
- 2.5 SASO ISO 1523 "Paints and Varnishes – Determination of flash point “close cup”.
- 2.6 SASO ISO 9117-4 Paints and varnishes – Drying tests – Part 4: Test using a mechanical recorder”
- 2.7 SASO ISO 1519 "Paints and Varnishes – Bend Test (cylindrical mandrel)".
- 2.8 SASO ISO 1518-1 "Paints and Varnishes – Determination of scratch resistance, Part 1: Constant-loading method
- 2.9 SASO ISO 16474-3 “Paint and Varnishes Method of Exposure to lab light sources – Part 3: Fluorescent UV Lamps”.
- 2.10 SASO ISO 2409 “Paint and Varnishes – Cross Cut test”.
- 2.11 SASO ISO 6503 “Paints and varnishes - Determination of total lead content - Flame atomic absorption spectrometric.
- 2.12 ISO 2813 “Paints and varnishes - Determination of gloss value at 20°, 60° and 85°.”

3. DEFINITIONS

3.1 Vehicle: The liquid portion of the varnish is composed of binder solvent and additives.

3.2 **Composition**

The varnish shall consist of suitable type of alkyd resin together with solvent, driers, anti-skinning agents. The vehicle shall be free from rosin or rosin derivatives

4. **REQUIREMENTS**

4.1 **Non-volatile content**

The non-volatile content of the varnishes shall not be less than 30% of total mass of the varnish when tested as per item 2.3.

4.2 **Consistency**

The varnish shall be in such a condition that stirring readily produces a smooth, uniform mixture with good consistency. The viscosity of the varnish shall not be less than 55 KU at (23 ± 2) °C when tested as per item 2.4.

4.3 **Thinning**

The varnish shall mix readily with the thinner in accordance with the manufacturer's recommendations, to a smooth homogenous state.

4.4 **Lead content**

The lead content should not exceed 0.009% of the total mass of the varnish when tested as per item 2.11.

4.5 **Flash point**

The flash point shall not be less than 38 °C when tested as per item 2.5.

4.6 **Application properties**

The varnish shall have satisfactory application properties when used as per the manufacturer's recommendations and shall give a film free from surface defects such as running and sagging. The varnish after thinning should be suitable for application by brush, roller or spray.

4.7 Drying time

The varnish shall have the following dry time when applied at 38 microns WFT at (25 ± 2) °C and relative humidity of not more than 50% and tested as per item 2.6

- a) Surface dry not more than 3 hrs.
- b) Full dry not more than 8 hrs.

4.8 Appearance of dried film

The dried film shall have a smooth finish, free from sagging or wrinkling or any superficial defects.

4.9 Gloss

The Specular gloss of Varnish shall be as follows when tested as per item 2.12:

Category	Measured at angel	Gloss Value
Flat	85°	< 10%
Semi-Gloss	60°	45 – 55%
High Gloss	60°	> 90%

4.10 Flexibility and adhesion

A film of varnish when applied by 50µm DFT gap blocks or wire applicator on **degreased and lightly abraded** tin plate and allowed to dry for 7 days at (23 ± 2) °C and relative humidity of not more than 50% shall with-stand a bending test using a 3mm diameter mandrel.

The varnish film shall be firmly adherent and shall show no cracking or peeling when tested as per clause 2.7.

4.11 Scratch resistance

The varnish film shall withstand a scratch resistance not less than 5 Newton (510 gms), when applied on tin panel with 50 µm DFT. The film should be allowed to age for 7 days, 50% humidity and at (23 ± 2) °C before testing. Test should be carried out as per clause 2.8.

4.12 Accelerated weathering

The varnish film should not show any appreciable chalking, blistering, cracking or any other defects when subjected to 100 hours QUV exposure as per clause 2.9.

4.13 Adhesion

The varnish when applied in accordance with the manufacturer's instructions, to a smooth wooden panel and dried for a period of 7 days at (23 ± 2) °C shall exhibit a minimum adhesion loss of not more than 5% when tested as per item 2.10.

5. SAMPLING

- 5.1 A representative sample of the paint of not less than 500 ml shall be taken in accordance with Standard mentioned in item 2.1.
- 5.2 Samples shall be prepared in accordance with the Standard mentioned in item 2.2.

6. METHOD OF TESTING

- 6.1 Non-volatile content
- 6.2 Consistency
- 6.3 Thinning
- 6.4 Lead content
- 6.5 Flash point
- 6.6 Application properties
- 6.7 Drying time
- 6.8 Appearance of dried film
- 6.9 Gloss
- 6.10 Flexibility and adhesion
- 6.11 Scratch resistance
- 6.12 Accelerated weathering
- 6.13 Adhesion

7. PACKING & HANDLING AND STORAGE

The product shall be suitably packed as agreed upon between the purchaser and the supplier / manufacturer. The product shall be packed in such a way as to preserve its essential characteristics during storage. The product containers shall be dry and tightly closed. They should be stored in cool and ventilated place.

8. MARKING

Each container shall be legibly and indelibly marked with the following information in Arabic or in both Arabic and English.

- 8.1 Name, type and color of the varnish.
- 8.2 Name of the manufacturer and / or trade mark. Country of origin and whether manufactured under license to a named brand/ manufacturer.
- 8.3 Batch number.

- 8.4 Date of production in month and year.
- 8.5 Weight and / or volume of varnish.
- 8.6 Application instructions.
- 8.7 Any relevant warning / safety phrases with respect to flammability or toxicity.
- 8.8 expiry date in month and year

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