SRI LANKA STANDARD 509 : 1981
UDC 667.82

Reaffirmed
2016

SPECIFICATION FOR WAX FLOOR POLISH, PASTE

BUREAU OF CEYLON STANDARDS

Blank P

SPECIFICATION FOR WAX FLOOR POLISH, PASTE

SLS 509:1981
(Attached AMD 117 and AMD 133)

Gr. 6

BUREAU OF CEYLON STANDARDS
53, Dharmapala Mawatha,
Colombo 3,
Sri Lanka.

SRI LANKA STANDARD
SPECIFICATION FOR WAX FLOOR POLISH, PASTE

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1981-03-03, after the draft, finalized by the Drafting Committee on Floor Polish had been approved by the Chemicals Divisional Committee.

All standard values given in this specification are in SI units.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the results of a test or analysis, shall be rounded off in accordance with CS 102. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

In the preparation of this standard, valuable assistance derived from related publications of the Indian Standards Institution and South African Bureau of Standards is gratefully acknowledged.

1 SCOPE

This standard prescribes requirements, methods of sampling and test for wax floor polish, paste. This standard does not cover liquid floor polishes, wax-emulsion type floor polishes or any other kind of floor polishes which needs no buffing.

2 REFERENCES

ISO 2719 Pensky-Martens closed cup method.

CS 102 Presentation of numerical values.

SLS 428 Random sampling methods.

3 REQUIREMENTS

3.1 Description

The polish shall be a uniform blend of wax, suitable solvents and other suitable materials to form a semi-solid paste which shall be substantially free from lumpiness, granulation, grit and extraneous matter. It shall not be irritating to the normal skin and its vapours shall not be toxic to human beings under normal conditions of use. It shall also be substantially free from shrinkage at the edges of the container when examined over any period not exceeding 1 year after the date of manufacture.

3.2 Colour

The polish shall be neutral or shall have a conventional colour, nearly matching the colour of floors or of any colour as agreed to between the purchaser and the supplier.

3.3 Odour

The polish shall have an agreeable odour.

3.4 Consistency

The polish shall be a homogeneous semi-solid mass. It shall be non-flowing over the temperature range 10°C to 40°C and shall show no separation of the constituents when tested as prescribed in 7.1.

3.5 Stability

The polish, stored in its original unopened container at a temperature of 27 ± 2°C, when tested over any period not exceeding 1 year from the date of manufacture shall comply with the following requirement:

When tested according to 7.2, the polish shall maintain its general characteristics and shall not breakdown into its constituents or emit any disagreeable odour, exhibit no creaming, jelling or separation at 50°C for 48 hours, nor shall it set into a hard mass when kept at 10°C for 8 hours.

3.6 Applicability and drying time

3.6.1 When applied on a clear glass plate as prescribed in 7.3, the polish shall not crumble and shall dry to a non-tacky film within 20 minutes.

3.7 Performance

The polish shall on application by means of a clean cloth spread, easily and evenly and shall give with minimum of buffing a firm glossy surface free from any greasiness. The polish shall remove the dirt and grease from the surface polished. The polished surface of the flooring shall not be unduly slippery for comfortable walking.

3.8 Water soluble stain

The aqueous layer obtained in 7.6 shall not be strongly coloured.

3.9 Free caustic alkali

The polish shall contain no free caustic alkali when tested according to 7.7.

3.10 Other requirements

The polish shall also comply with the requirements given in Table 1.

TABLE 1 - Requirements for floor polish

Serial No. (1)	Characteristic (2)	Limit (3)	Method of test (Ref. to Clause No.) (4)
1	Non-volatile matter, per cent by mass, min.	20	7.4
2	Softening point of non-volatile matter, °C, min.	75	7.5
3	pH of water extract, max.	09	7.6
4	Flash point of volatile portion °C, min.	30	7.8
5	Pigment content per cent by mass, min.*	10	7.9

**This requirement does not apply to non-pigmented material.*

4 PACKAGING

The floor polish shall be packed in sound, clean, dry containers having lids which can be easily closed or opened and which prevent evaporation of the solvent.

5 MARKING

The containers of floor polish shall be clearly marked with the following:

a) Manufacturer's name, address and/or registered trade mark, if any;

b) Net mass, in grams, of the material when packed;

c) Words "Floor Polish";

d) Colour of the polish;

e) Batch or code number;

f) Date of manufacture; and

g) Instructions for use.

6 SAMPLING

The sampling procedure in Appendix A shall be applied in determining whether a lot complies with the appropriate requirements of this specification.

7 METHODS OF TEST

7.1 Consistency

7.1.1 *Procedure*

7.1.1.1 Keep the original unopened container of polish at a temperature of 40°C for 2 hours. Examine and note whether

a) any liquid has separated from the semi-solid mass;

b) the polish is soft and smooth to the touch, and is capable of being taken up readily with a brush or cloth without crumbling, and

c) on tilting the container the material does not flow or run.

The separation of a few drops of the liquid shall be allowed if they are re-absorbed when the paste is brought to ordinary temperature.

7.1.1.2 Repeat the observations (a) and (b) above on a container maintained at a temperature of 10°C for 2 hours.

7.2 Stability

7.2.1 *Procedure*

7.2.1.1 Examine the sample of polish after allowing it to stand in the container for 48 hours at 50°C, for

a) any change in general characteristics,

b) breakdown into its constituents,

c) omission of disagreeable odours, and

d) creaming, jelling or separation.

7.2.1.2 Examine the sample of polish for setting into a hard mass after allowing it to stand for 8 hours at 10°C.

7.3 Applicability and drying time

7.3.1 *Procedure*

Spread by means of a clean cloth 0.5 g to 1.0 g of the original sample over an area of 125 mm x 125 mm of a clear glass plate of thickness not more than 5 mm. Allow to dry in a horizontal position at a temperature of 27 ± 2 °C and a relative humidity of 65 ± 5 per cent. Note the time taken for the polish to dry. The polish when examined shall not crumble and shall be non-tacky.

7.4 Non-volatile matter

7.4.1 *Procedure*

Weigh to the nearest milligram about 3 grams of the sample in a tared flat-bottomed dish of approximately 80-mm diameter provided with a cover. Heat with cover removed over a steam bath, until the bulk of the volatile matter has evaporated and then in an oven maintained at 110 °C to 120 °C for about 4 hours. Cool in a desiccator, replace cover and weigh. Repeat the heating and cooling until the last two weighings do not differ by more than 1 milligram. Usually a second heating of about 2 hours will suffice. (Retain this residue for further testing).

7.4.2 *Calculation*

$$\text{Non-volatile matter, per cent by mass} = \frac{m_2}{m_1} \times 100$$

where

m_2 = mass, in grams, of the non-volatile residue, and

m_1 = mass, in grams, of the sample taken for the test.

7.5 Softening point of non-volatile matter

7.5.1 *Procedure*

Bring the non-volatile residue as obtained in **7.4.1** to a temperature slightly above its melting point. Dip a thermometer into the melted material so that the bulb is completely covered. Remove the thermometer after 5 seconds, rotate slowly in a vertical position, and before the material has quite solidified remove the excess drop of it on the bottom of the bulb by touching it with the hand. After letting the material on the bulb to solidify, place the thermometer in a test tube (approximately 150 mm x 25 mm) and cork loosely so that the bulb is 25 mm from the bottom of the tube. Suspend the tube in a beaker of water so that the bottom of the tube is about 25 mm above the bottom of the beaker. Gradually raise the temperature of the water to about 15 °C below the probable melting point and then raise the temperature at the rate of 1 °C to 1.5 °C per minute until a drop of clear liquid forms at the bottom of the bulb. The temperature at which this occurs is the softening point of the non-volatile residue.

7.6 pH of water extract and water soluble stain

7.6.1 *Procedure*

Weigh to the nearest milligram about 15 g of the polish and add to 100 ml of freshly distilled water in a beaker. Raise the temperature, with stirring till all the wax has melted. Cool to a temperature of 27 ± 2 °C. Separate the aqueous layer. Note the colour (see 3.8) and determine the pH of it using a glass electrode.

7.7 Free caustic alkali

7.7.1 *Procedure*

Weigh to the nearest milligram about 15 g of the sample in a 600-ml beaker. Add 200 ml of neutral absolute alcohol and heat on a water bath for 1 hour. Filter hot through a fast filter paper or Gooch crucible with suction protecting the solution from carbon dioxide and acid fumes during the operation by covering with a watch glass. At no time should the filter be allowed to run empty. Wash the filter thoroughly with hot alcohol. Test for free alkali with phenolphthalein.

7.8 Flash point

7.8.1 *Procedure*

7.8.1.1 Distil off in vacuum all the volatile matter from about 200 g of the material. Dry the distillate by treatment with fused calcium chloride or anhydrous magnesium sulphate.

7.8.1.2 Determine the flash point of the distillate obtained in 7.8.1.1 by the Pensky-Martens closed cup method prescribed in ISO 2719.

7.9 Determination of pigment content

7.9.1 *Procedure*

Weigh to the nearest milligram about 5 grams of polish, into an extraction thimble. Place a plug of cotton wool previously extracted with petroleum hydrocarbon solvent (60/80) at the open end of the thimble, and transfer the thimble to a Soxhlet extractor. Extract with petroleum hydrocarbon 60/80 over a water bath for 6 hours. Remove the flask with extract and keep it separately. Remove the thimble, dry it in an air-oven at 105 ± 2 °C, cool and weigh.

7.9.2 *Calculation*

$$\text{Percentage of pigment in the polish} = \frac{m_3 - m_2}{m_1 - m_2} \times 100$$

where

m_3 = mass, in grams, of the thimble with the residue and cotton plug,

m_2 = mass, in grams, of the thimble with the cotton plug, and

m_1 = mass, in grams, of the thimble with the sample of polish and cotton plug.

8 CRITERIA FOR CONFORMITY

The lot shall be declared to have conformed to this specification if the following conditions are satisfied:

8.1 The two containers tested as in A.4.1 shall satisfy the consistency test.

8.2 The composite sample shall satisfy all the relevant requirements.

APPENDIX A

SAMPLING

A.1 GENERAL REQUIREMENTS OF SAMPLING

A.1.1 The sample shall be placed in clean and dry glass containers or other suitable containers on which material has no action.

A.1.2 Precautions shall be taken to protect the samples, the material being sampled, the sampling instruments and the containers for samples from adventitious contamination.

A.1.3 Sampling instruments shall be clean and dry when used.

A.1.4 Containers, containing the sample shall be sealed air-tight and marked with full details of sampling such as date and time of sampling, batch or code number, name of the manufacturer and any other relevant particulars.

A.2 DEFINITION

A.2.1 **lot**: All the containers in a single consignment of one type of material of the same colour drawn from the same batch of manufacture and belonging to the same size shall constitute, a lot.

If a consignment is declared or known to consist of different batches of manufacture the containers belonging to the same batch shall be grouped together and each such group shall constitute a separate lot.

A.3 SCALE OF SAMPLING

A.3.1 The material shall be tested from each lot for ascertaining their conformity to the requirements of this specification.

A.3.2 The number of containers to be drawn for sampling shall depend on the size of the lot and shall be in accordance with Table 2.

TABLE 2 - Containers to be selected

No. of containers in the lot	No. of containers to be selected
Up to 300	6
301 to 500	7
501 to 1000	9
1001 and above	10

A.3.3 Containers shall be drawn at random. To ensure randomness of selection a random number table as given in SLS 428 shall be used.

A.4 NUMBER OF TESTS

A.4.1 Draw two containers from the sample randomly. These two containers shall be used to test for consistency (see 3.4).

A.4.2 Open the remaining containers of the sample. Draw, with a cork borer with a hole of approximately 20-mm diameter, vertical sections of the material, from several different points of the surface of all opened containers. The total quantity of material drawn from each container shall be the same.

All materials drawn from different containers shall be thoroughly mixed to constitute a composite sample. This composite sample shall be transferred to a suitable sample container and shall be examined for all the requirements laid down in 3 except 3.4.

AMENDMENT NO. 1 APPROVED ON 1989-07-25

SLS 509:1981 SPECIFICATION FOR WAX FLOOR POLISH, PASTE

Page 4

Clause 3.5

In 4th line of the 2nd paragraph delete "50 °C for 48 hours" and substitute "40 °C for 96 hours".

Page 6

Clause 7.2.1.1

In 2nd line delete "48 hours at 50 °C" and substitute "96 hours at 40 °C".

AMD 133

AMENDMENT NO. 02 TO SLS 509:1 1981

SPECIFICATION FOR WAX FLOOR POLISH PASTE

EXPLANATORY NOTE

In the above specification, Clause **7.1** methods of test for consistency specified to keep original unopened container of polish at a temperature of 40° C for 2 hours. It is also specified in **7.1.1.1 (c)** that the separation of a few drops of the liquid shall be allowed if they are re-absorbed when the paste is brought to ordinary temperature.

The stability requirement is tested employing an accelerated test as given in Clause 7.2, which is carried out at the same temperature (40° C) for a very much longer period of 96 hours. Therefore it is reasonable and logical to apply the provision given under **7.1.1.1 c)** for the interpretation of results of the stability test, given under 7.2.1.1.

This amendment is introduced to include the provision given under **7.1.1.1 (c) in 7.2.1.1** as well.

AMD 133

AMENDMENT NO. 02 APPROVED ON 1990-09-24

SLS 509 : 1981 SPECIFICATION FOR WAX FLOOR POLISH, PASTE

PAGE 6

Clause 7.2.1.1. (d)

Include "The separation of a few drops the of liquid shall be allowed if they are re-absorbed when the paste is brought to ordinary temperature" at the end of the clause **7.2.1.1 (d).**

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*

Printed at SLSI (Printing Unit)

SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha,
Colombo 08.