SRI LANKA STANDARD 1256 : Part 13: 2005
UDC 667.661.17

METHODS OF TEST FOR
PAINTS AND VARNISHES
PART 13 : DETERMINATION OF HARD DRYING TIME

SRI LANKA STANDARDS INSTITUTION

SRI LANKA STANDARD
METHODS OF TEST FOR PAINTS AND VARNISHES
PART 13 : DETERMINATION OF HARD DRYING TIME

SLS 1256 : Part 13 : 2005
(Superseding SLS 535 : Part 3: Section 3.5:1981)

Gr. 4

SRI LANKA STANDARDS INSTITUTION
17, Victoria Place
Elvitigala Mawatha
Colombo - 08
SRI LANKA.

Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
METHODS OF TEST FOR PAINTS AND VARNISHES
PART 13 : DETERMINATION OF HARD DRYING TIME

FOREWORD

This Sri Lanka Standard was approved by the Sectoral Committee on Chemical and Polymer Technology and authorized for adoption and publication by the council of the Sri Lanka Standards Institution on 2004-02-10.

This standard was published in 1981 which superseded **CS 70 : 1969**. In this revision each test method is given as a separate part in order to facilitate updating. This standard supersedes **SLS 535 : Part 3.** Tests associated with film formation, Section 3.5 Determination of hard drying time.

1 SCOPE

This part of the standard specifies a method of test for the determination of the hard drying time.

2 REFERENCES

SLS 297 Vulcanized rubber
Part 4 : Determination of hardness
SLS 333 Cotton drills (powerloom)
SLS 1256 Methods of test for paints and varnishes
Part 11 : Section 1 Preparation of standard panels for testing
Part 11 : Section 2 Application of paints on panels

3 PRINCIPLE

3.1 A general procedure is described for determining whether, after a specified period of drying, a film of air drying paint, varnish or allied material is hard-dry. The test is carried out either after a specified time as a go/no go test to assess compliance with a specification requirement or at suitable intervals until a satisfactory result is obtained.

4 APPARATUS

4.1 Test panel

4.1.1 A panel of burnished steel or tin plate as specified to the panel in accordance with the appropriate method specified in **SLS 1256 : Part 11 : Section 2**.

4.2 Details of a suitable apparatus are shown in Figures **1, 2** and **3**

4.2.1 The apparatus consists essentially of a plunger (A), tipped to a depth of 6 mm with a good commercial quality natural rubber of hardness 50 IRHD (Refer **SLS 297 : Part 4**) and loaded with a weight (B) so that the total mass of the plunger assembly is 1.8 kg. The rubber tip of the plunger is covered with a piece of cotton drill cloth, 3/1 twill weave and conforming to type 6 of **SLS 333**, the cloth being fastened with the face (twill surface) outside by means of a clip (c) in such a way that there are no folds or creases on the flat surface. A new piece of cloth shall be used for each test.

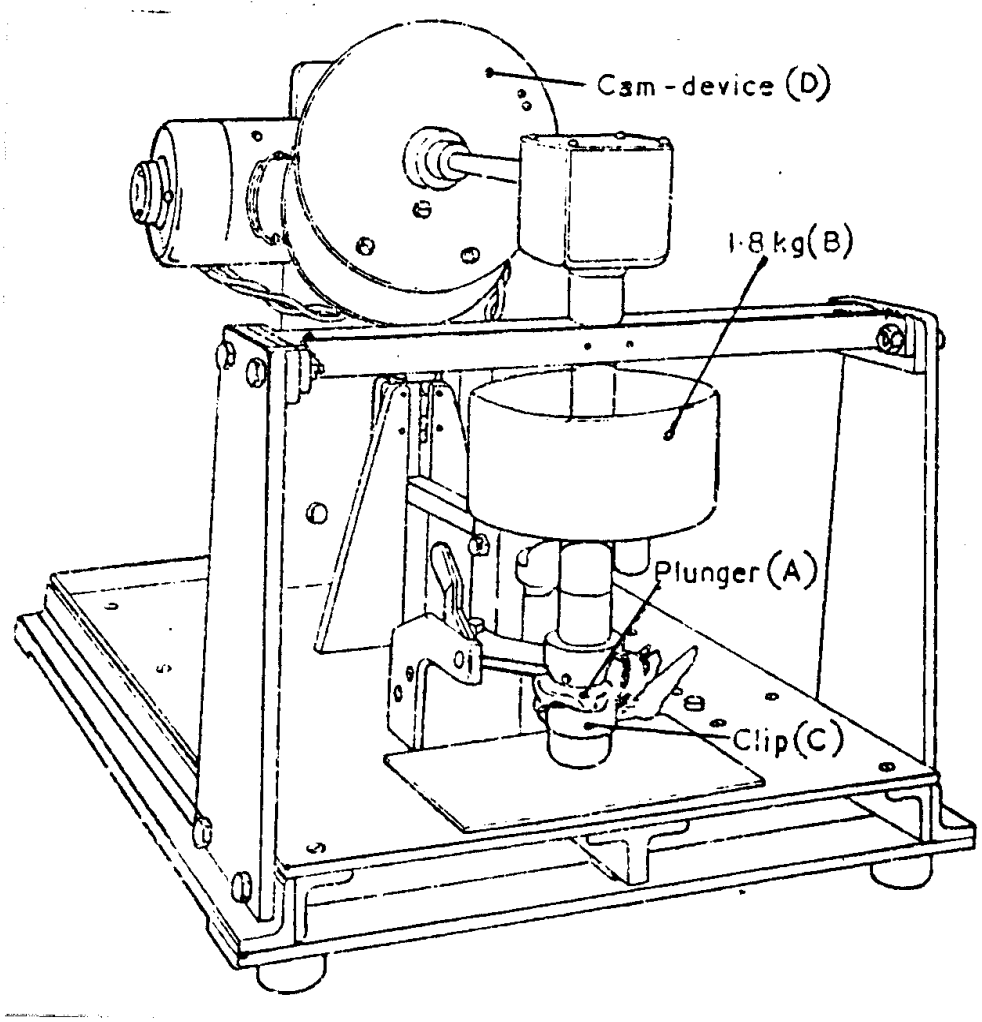


FIGURE 1 - Hard-drying time apparatus : Assembly

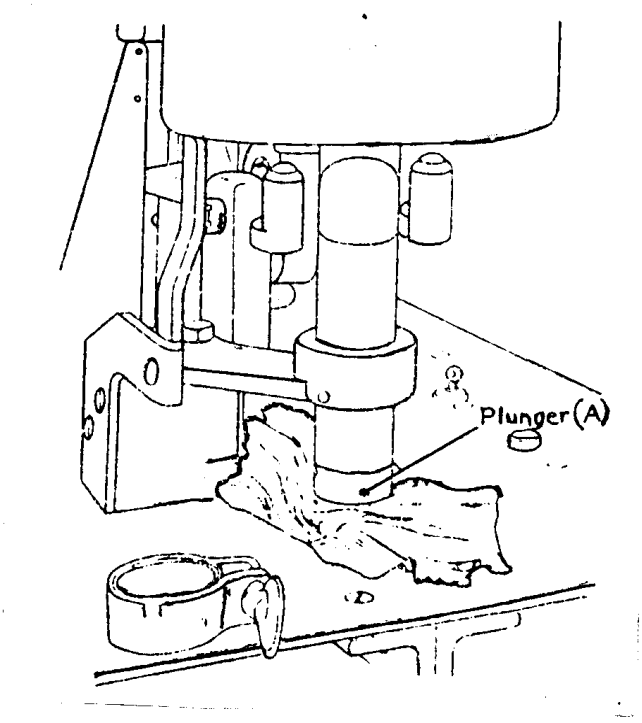


FIGURE 2 – Hard-drying time apparatus : Details showing rubber tip of plunger and clip

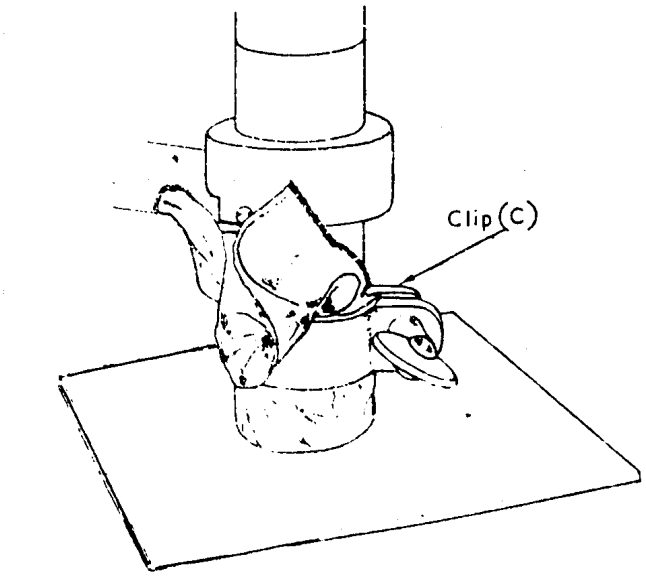


FIGURE 3 – Hard-drying time apparatus : Plunger with cloth and clip assembled

4.2.2 The plunger is rotated by an electric motor. A cam device (D) automatically lowers the plunger after it has started to rotate onto the test panel (care should be taken that the twill surface is parallel to the substrate) and withdraws the plunger again after it has turned through an angle of approximately 270 whilst in contact with the painted panel. The speed of rotation is approximately 6 r.p.m.

5 PROCEDURE

5.1 Go / no go test

5.1.1 Immediately on completion of the specified drying time, the test panel shall be placed, paint side upwards, under the plunger. The plunger shall be set rotating and it has rotated and been withdrawn, the panel shall be removed and the test area examined, using normal corrected vision. The paint film is hard-dry if the substrate (or the previous coat in a multi-coat system) is nowhere exposed.

5.2 Determination of hard drying time

5.2.1 On completion of a suitable period of drying which should be shorter than the expected hard-drying time, the test shall be carried in accordance with 5.1 above. Repeat the procedure at specified or agreed intervals until the paint film is hard-dry.

5.3 Unless otherwise agreed, the test shall be carried out at 27 º ± 2 ^{o}C and a relative humidity of 65 ± 5 per cent.

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.

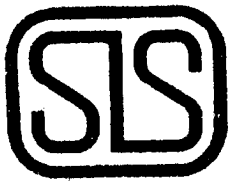
In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

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

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)