

SRI LANKA STANDARD 1244 : 2003
UDC 678.032

**SPECIFICATION FOR
STANDARD LANKA CREPE RUBBER**

SRI LANKA STANDARDS INSTITUTION

**SPECIFICATION FOR
STANDARD LANKA CREPE RUBBER**

SLS 1244 : 2003

Gr. 4

**SRI LANKA STANDARDS INSTITUTION
No. 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.

© SLSI 2003

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the SLSI.

SRI LANKA STANDARD SPECIFICATION FOR STANDARD LANKA CREPE RUBBER

FOREWORD

This Standard was approved by the Sectoral Committee on Chemical and Polymer Technology and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2003-03-24.

This specification prescribes the requirements for Standard Lanka Crepe Rubber grades for different end uses. Crepe rubber is manufactured from clean field latex stabilized only with sodium sulfite after removing a fraction by fractional coagulation followed by bleaching, using a water soluble bleaching agent and dried in a drying tower. This specification would eliminate the traditional grading and packaging problems for latex crepe rubber where the physical properties depend on the method of manufacture of the grade. Other requirements for the specific end uses of crepes have carefully been taken into consideration when recommending the Standard Lanka Crepe Rubber (**SLCR**) grades.

For the purpose of deciding whether a particular requirement of this specification is complied with, the final value, observed or calculated, expressing the result 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 shall be the same as that of the specified value in this specification.

1 SCOPE

This specification prescribes the requirements, methods of sampling and tests for different grades of Standard Lanka Crepe Rubber.

2 REFERENCES

SLS	72	Technically specified raw natural rubber
CS	102	Presentation of numerical values
CS	124	Test sieves
SLS	385	Code of practice for packaging of standard Lanka rubber
SLS	484	Methods of test for raw natural rubber
	Part 1	Determination of dirt
	Part 2	Determination of ash
	Part 3	Determination of nitrogen
	Part 4	Determination of volatile matter
	Part 5	Determination of initial plasticity test
	Part 6	Determination of plasticity retention index

3 DEFINITIONS

3.1 **Initial Wallace Plasticity** (P₀) indicates hardness or softness of raw natural rubber.

3.2 **Plasticity retention index** (PRI) is the resistance of raw natural rubber to oxidation and could be expressed as a percentage as follows:

$$\frac{\text{* Aged plasticity (P}_{30} \text{)}}{\text{Initial Wallace Plasticity (P}_0 \text{)}} \times 100$$

* Aged at 140⁰ C for 30 minutes

4 GRADES

Standard Lanka Crepe Rubber (**SLCR**) shall consist of the following five grades:

4.1 **SLCR - FP** - food and pharmaceutical grade

4.2 **SLCR -AD** - adhesive grade

4.3 **SLCR -GP** - general purpose grade

4.4 **SLCR -LN** - low nitrogen grade

4.5 **SLCR -YF** – yellow fraction grade

5 DESCRIPTION

5.1 **SLCR – FP** grade shall be white in colour. It shall contain minimal foreign matter content and leachable protein content compared to any other conventional grade of NR. It shall also be free of leachable chemicals used during processing as it is used in the manufacture of pharmaceutical products, infant toys and in food applications. This grade shall be made only out of fraction removed latex. No latex stabilizers other than sodium sulfite shall be used.

5.2 **SLCR – AD** grade shall essentially be pure water white in colour. It shall be made by fractionation and bleaching, so that the resulting crepe rubber can be dissolved easily without gel formation and also shall be free of toxins. It is used in the manufacture of adhesives and adhesive tapes.

5.3 **SLCR - GP** grade is similar to ordinary grades of latex crepe made from fraction removed or unfractionated, and bleached latex. It is recommended for making white shoe soles and bright coloured products like toys.

5.4 SLCR - LN grade shall be off white or greyish in colour. It shall be made by enzyme coagulation of latex. No fractionation or bleaching shall be done in processing. Absorption of water to this rubber is minimal and hence used for making water seals. Due to the high resilience it is specially recommended for dynamic rubber products, tyres for air crafts/ supersonics and for making bridge bearings.

5.5 SLCR- YF grade shall be yellowish brown in colour. It is not suitable for solution process products as it cannot be dissolved completely in solvents. It can be used for making very hard vulcanized surfaces such as rice huller roller surfaces and earthquake protectors.

6 REQUIREMENTS

6.1 The material shall comply with the requirements given in Table 1.

TABLE 1 - Requirements for Standard Lanka Crepe Rubber

Sl. No. (1)	Characteristic (2)	Requirement (3)					Method of test (4)
		SLCR-FP	SLCR-AD	SLCR-GP	SLCR-LN	SLCR-YF	
i)	Nitrogen content, per cent, by mass, max.	0.35	0.35	0.45	0.1	0.6	SLS 484 : Part 3
ii)	Foreign matter/Dirt content retained on 45 μ sieve, per cent, by mass, max.	0.02	0.03	0.03	0.03	0.05	SLS 484 : Part 1
iii)	Volatile matter content, per cent, by mass, max.	0.6	0.6	0.6	0.6	0.6	SLS 484 : Part 4
iv)	Ash content, per cent, by mass, max.	-	-	-	0.1	-	SLS 484 : Part 2
v)	P _o (Wallace), min.	30	30	30	30	30	SLS 484 : Part 5
vi)	PRI, min.	60	60	60	60	60	SLS 484 : Part 6
vii)	Colour (Lovibond Units), max.	-	3.0	3.0	-	-	Lovibond colourimeter

7 PACKAGING AND MARKING

7.1 Packaging

The material shall be compressed into bales of 25 kg each wrapped in colourless polyethylene sheets and packed in craft paper bags and then in cases as prescribed in **SLS 385** or as TSR type 33 ¹/₃ kg bales packed inside or as TSR type 33 ¹/₃ kg bales, wrapped in polythene and packed in wooden pallets of standard size as prescribed in **SLS 385**.

7.2 Marking

The packages shall be legibly and indelibly marked with the following information:

- a) Name of the material as 'Standard Lanka Crepe Rubber';
- b) Grade;
- c) Name and address of the manufacturer, including country of origin;
- d) Brand name and/or trade mark, if any;
- e) Date of production with batch no; and
- f) Net mass, in kilograms.

8 METHOD OF TEST

8.1 Tests shall be carried out as prescribed in **SLS 484**.

8.2 Unless specified otherwise, chemicals of analytical grade and distilled water or water of equivalent purity shall be employed in tests.

APPENDIX A

COMPLIANCE OF A LOT

Sampling Scheme given in this Appendix should be applied where compliance of a lot to the requirements of this standard is to be assessed based on statistical sampling and inspection.

A.1 LOT

A.1.1 In any consignment all the bales of rubber of the same grade and belonging to one batch of manufacture or supply shall constitute a lot.

A.1.2 For the purpose of the sampling scheme for this specification definitions given in **SLS 72** shall apply.

A.2 SCALE OF SAMPLING

A.2.1 Samples shall be tested from each lot for ascertaining conformity of material to the requirements of this specification.

A.2.2 The number of bales to be selected from a lot shall depend on the size of the lot and shall be in accordance with Table 2 of **SLS 72**.

A.2.3 The containers shall be selected at random. In order to ensure randomness of selection, random number tables given in **SLS 428** shall be used.

A.3 NUMBER OF TESTS

A.3.1 Each package selected as prescribed in **SLS 72** shall be inspected for packaging and marking requirements.

A.3.2 Tests for the requirements prescribed in Clause 6 shall be carried out on the individual samples prepared as prescribed in **SLS 72**.

A.4 CRITERIA FOR CONFORMITY

A lot shall be declared as conforming to the requirements of this specification, if the following conditions are satisfied:

A.4.1 Each package inspected as in **A.3.1**, satisfies the relevant requirements.

A.4.2 The individual samples, when tested as in **A.3.2**, satisfies the relevant requirements.

...../

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 & 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 & 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 field of standardization as are of special interest to Sri Lanka.

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 SLS/ 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.

