SRI LANKA STANDARD 615:1983
UDC 675.06:675.024.4:685.312.14

SPECIFICATION FOR

CHROME RETANNED FINISHED SHOE UPPER LEATHER

BUREAU OF CEYLON STANDARDS

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SLS 615:1983

Gr. 5

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SRI LANKA STANDARD

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FOREWORD

This Sri Lanka Standard Specification was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1983-09-29, after the draft, finalized by the Drafting Committee on Tanned Leather, had been approved by the Chemicals Divisional Committee.

All values in this specification are in SI units.

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 should be the same as that of the specified value in this specification.

In the preparation of this specification, the assistance obtained from the publications of the British Standards Institution and the Indian Standards Institution is gratefully acknowledged.

1 SCOPE

This specification prescribes requirements, methods of sampling and tests for chrome retanned finished leather for footwear uppers involving only partial retannage.

2 REFERENCES

BS 1006 Tests for colour fastness

CS 102 Presentation of numerical values

SLS 402 Sampling of leather

SLS 403 Laboratory samples, location and identification

SLS 404 Methods for physical testing of leather

SLS 537 Methods for chemical testing of leather

SLS ... Glossary of terms on leather (Under preparation)

SLS 623 Resistance of leather to surface fungal growth

3 DEFINITIONS

For the purpose of this specification the definitions given in SLS ... shall apply (Under preparation).

4 REQUIREMENTS

4.1 Raw material

The raw material used shall be cattle hides or skins or goat skins.

4.2 Tanning

The material shall be tanned first with basic chromium salts, followed by retannage, including mordanting with vegetable or synthetic tanning materials or other mineral tanning agents or a combination of any one or more of these.

4.3 Fungicidal additives

4.3.1 At the end of the tanning operation and before drying, suitable fungicides shall be incorporated in the leather in required proportions. Fungicides used to improve mildew resistance in leather shall be effective and non-toxic.

4.3.2 Recommended fungicides are given in Appendix A.

4.4 Finishing

The leather shall be dyed and/or finished with fast pigments, either protein based/synthetic resin based or aniline/semi-aniline finishes and lacquers.

4.5 Physical requirements

Physical requirements shall comply with Table 1.

4.6 Chemical requirements

Chemical requirements shall comply with Table 2.

4.7 Resistance to mildew growth

The leather shall show no growth of mildew when examined visually after the completion of the test prescribed in SLS 623.

TABLE 1 - Physical requirements for leather

Sl. No. (1)	Characteristics (2)	Requirements (3)	Methods of Test Ref. to (4)
i	Thickness	As agreed subject to a tolerance of ± 0.1 mm.	SLS 404:Part 1
ii	Tensile strength, N/mm^2, min.	20	SLS 404:Part 6
iii	Elongation at break, per cent	45 - 75	SLS 404:Part 6
iv	Stitch tear strength, N/mm, min.	80	SLS 404:Part 9
v	Tear strength, N/mm, min.	45	SLS 404:Part 3
vi	Colour fastness		
	a) wet rubbing, min.	20	BS 1006:1978
	b) dry rubbing, min.	500	UK - LC

TABLE 2 - Chemical requirements for leather

Sl. No. (1)	Characteristics (2)	Requirements (3)	Methods of test Ref. to Part No. of SLS 537 (4)
i	Total ash after subtracting tanning oxide, per cent by mass, max.	2.5	3
ii	Solvent extractable substance, per cent by mass, (dichloromethane used as solvent)	4.0 - 9.5	4
iii	Hide substance, per cent by mass, min.	55	5
iv	Water soluble matter, per cent by mass, max.	3.0	6
v	Chromium (as Cr_2O_3), per cent by mass, min.	2.5	7
vi	pH of water soluble, min.	3.5	2
vii	Differential number, max.	0.7	2

NOTE - Calculations are based on 14 per cent moisture (see Appendix B).

5 PACKAGING

The leather shall be packed as agreed to between the buyer and the seller.

6 MARKING

6.1 Each individual piece of leather shall be marked legibly and indelibly with the following:

a) Registered trade mark;

b) Area in dm^2; and

c) Thickness in mm.

6.2 Where pieces of leather are contained in packages, each package shall be marked legibly and indelibly with the following;

a) Manufacturer's name and address **and/or** registered trade mark;

b) The words *Chrome retanned finished upper leather*;

c) Number of pieces;

d) Area in dm^2;

e) Month and year of manufacture; and

f) Thickness in mm.

7 METHOD OF TEST

Tests for the requirements given in this specification shall be carried out as prescribed in Table 1 and Table 2 and **4.7**.

8 SAMPLING

8.1 The method of drawing representative samples of skins or hides from a lot shall be as specified in relevant clauses of **SLS 402**.

8.2 Sampling location

The location for taking test pieces from individual skins or hides when testing for physical and chemical requirements shall be as in **SLS 403**.

8.3 Number of tests

8.3.1 *Physical requirements*

Each test piece in the sample shall be tested individually for all the physical requirements in this specification.

8.3.2 *Chemical requirements*

If the test has been found satisfactory in respect of physical requirements, these shall be subjected to chemical requirements. Each test piece in the sample shall be tested for all the chemical requirements.

8.3.3 *Microbiological requirements*

Four test pieces as described in SLS 623 shall be randomly drawn from samples selected as in 8.1. These shall be tested for microbiological requirements given in 4.7.

9 CONFORMITY TO STANDARD

The lot shall be declared as conforming to the requirements of this specification if the following conditions are satisfied.

9.1 Each test piece tested as in 8.3.1 and 8.3.2 satisfies the relevant requirements.

9.2 Each test piece tested as in 8.3.3 satisfies the microbiological requirements.

APPENDIX A

RECOMMENDED FUNGICIDAL ADDITIVES

The use of 0.1 per cent of fungicidal additives on dry mass basis of the leather is recommended. The following fungicides are recommended as suitable.

a) p-chloro-m-cresol;

b) p-nitrophenol;

c) Sodium penta-chlorophenate;

d) Sodium trichlorophenate;

e) p-naphthol;

f) o-, m-, p-, cresol; and

g) Sodium silicofluoride.

APPENDIX B

CALCULATION OF RESULTS ON 14 PER CENT MOISTURE BASIS

Multiply the actual result obtained by the following factor:

$$\frac{86}{100 - x}$$

where,

x = actual percentage of moisture present determined on the sample of leather.

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

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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.

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