SRI LANKA STANDARD 969 : 1992

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SPECIFICATION FOR

SOLID RUBBER FLOORING

SRI LANKA STANDARDS INSTITUTION

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SLS 969 : 1992

Gr.5

SRI LANKA STANDARDS INSTITUTION
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Colombo 3,
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
SPECIFICATION FOR SOLID RUBBER FLOORING

FOREWORD

This Standard was finalized by the Sectoral Committee on Rubber and Rubber Products and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 1992-10-29.

The rubber flooring material specified in this specification may be either smooth or patterned with studs, grooves or other surface design, either plain or marbled, and in either sheet or tile form. They are suitable for covering floors of domestic and public buildings, such as hospitals, department stores, railway stations and airport terminals.

Provision is made to enable the colour and the length of the flooring to be as agreed to between the manufacturer and the purchaser.

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 an analysis, shall be rounded off in accordance with SLS 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.

Guidelines for the determination of a compliance of a lot with the requirements of this standard based on statistical sampling and inspection is given in Appendix A.

In the preparation of this specification, the assistance derived from the relevant publications of the British Standards Institution, Standards and Industrial Research Institute of Malaysia and the Bureau of Indian Standards is gratefully acknowledged.

1 SCOPE

1.1 This specification prescribes the requirements, methods of sampling and test for rubber flooring material which are in the form of sheets or tiles.

1.2 This specification does not cover rubber flooring material having a backing of either sponge rubber or a non-rubber material.

2 REFERENCES

ISO 815 Vulcanized rubber - Determination of compression set.
SLS 102 Presentation of numerical values.
SLS 297 Methods of testing vulcanized rubber.
Part 4 : Hardness
Part 5 : Accelerated ageing tests
SLS 428 Random sampling methods.

3 COMPOSITION

The rubber flooring material shall be made from good quality natural or synthetic rubber or a mixture of these, in conjunction with other suitable compounding ingredients.

4 WORKMANSHIP

The rubber flooring material shall be satisfactorily vulcanized and shall be free from surface bloom. It shall be free from blisters, cracks, embedded foreign matter or any other physical defect which effects its appearance or impair its serviceability.

5 COLOUR

5.1 The colour of the rubber flooring material shall be as agreed to between the manufacturer and the purchaser.

5.2 The colour of the rubber flooring material shall not be noticeably affected by washing with water and soap or by treatment with a suitable floor polish.

6 REQUIREMENTS

6.1 Dimensions

6.1.1 *Sheets*

The dimensions of rubber flooring material, when supplied in the form of sheets, shall conform to dimensions given in Table 1. Unless otherwise specified, the length of the sheets shall be as in Table 1.

TABLE 1 - Dimensions of rubber flooring material in sheet form

Thickness, mm (1)	Length, m, min. (2)	Width, mm (3)
2.5	5.0	900
3.0 to 5	3.5	900
5 to 6.5	2.5	900

6.1.2 *Tiles*

Rubber flooring material, when supplied in the form of tiles, shall be of any thickness specified in Table 1, (In the case of studded tiles, thickness refers to the thickness of the base) and of the following sizes:

250 mm x 250 mm
500 mm x 500 mm

6.1.3 *Tolerances on dimensions*

The thickness of the rubber flooring material shall not differ at any point by more than 0.5 mm or less than 0.2 mm from the thickness specified in Table 1, when measured as described in Appendix B.

6.2 Squareness of tiles

There shall be no gap greater than 0.15 mm between any side of the rubber floor tile and the arm of the jig, when tested as described in Appendix C.

6.3 Hardness

The hardness of rubber flooring material shall be not less than 65 IRHD when tested as described in SLS 297 : Part 4.

6.4 Compression set

The test pieces of rubber flooring material (a) in new condition and (b) aged for 7 days at 70 °C in accorcdance with SLS 297 : Part 5, shall be subject to the compression set test described in ISO 815. The resulting compression set measured as change in thickness shall not exceed 15 per cent both in new and aged test pieces. They shall show no signs of cracking.

6.5 Water absorption

The rubber flooring material shall not absorb more than 0.5 per cent by mass of water when tested as described in Appendix D.

7 PACKAGING AND MARKING

7.1 Packaging

7.1.1 *Sheets*

Rubber flooring sheets shall be wrapped on wooden spools with the reverse side of the sheet in contact with the barrel of the spool.

7.1.2 Tiles

Rubber floor tiles shall be packed in suitable containers. The tiles in the extreme end shall be faced back to avoid damage to the surface of the tile.

7.2 Marking

Each rubber flooring sheet or tile shall be legibly and indelibly marked or labelled with the following;

a) Name and address of the manufacturer including the country of origin;
b) Trade name;
c) Batch or code number;
d) Dimensions; and
e) Year of manufacture;

NOTE

Attention is drawn to the certification marking facilities offered by the Sri Lanka Standards Institution. See the inside back cover of this standard.

8 METHODS OF TEST

Tests shall be carried out in accordance with the methods given in ISO 815, SLS 297 : Part 4 and part 5 and Appendices B to D of this specification.

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.

Where compliance with this standard is to be assured based on manufacturer's control system coupled with type tests and check tests or any other procedure, appropriate scheme of sampling and inspection should be adopted.

A.1 LOT

In any consignment all spools or wooden crates of rubber flooring material belonging to one batch of manufacture or supply shall constitute a lot.

A.2 SCALE OF SAMPLING

A.2.1 The number of spools or crates to be selected from a lot shall be in accordance with Table 2.

TABLE 2 - Scale of sampling

Number of spools or crates in a lot (1)	Number of spools or crates to be selected (2)	Number of tiles to be selected (Sub sample) (3)
Up to 5	1	5
6 to 15	2	6
16 to 25	3	7
26 and above	4	10

A.2.2 An equal number of tiles shall be selected as far as possible from each crate selected as in A.2.1 to form the sub-sample given in Column 3 of Table 2.

A.2.3 The spools, crates and tiles shall be drawn at random. In order to ensure randomness of selection, tables of random numbers as given in SLS 428 shall be used.

A.3 NUMBER OF TESTS

A.3.1 Each spool or crate selected as in A.2.1 shall be inspected for packaging and marking requirements.

A.3.2 Each spool inspected as above shall be measured for dimensional requirements.

A.3.3 Each tile selected as in A.2.2 shall be tested for squareness.

A.3.4 Sufficient length of test pieces obtained from spools or tiles shall be tested for hardness, water absorption and compression set.

A.4 CRITERIA FOR CONFORMITY

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

A.4.1 Each spool or crate inspected as in A.3.1 satisfies the packaging and marking requirements.

A.4.2 Each spool or tile measured as in A.3.2 satisfies the relevant requirements.

A.4.3 Each tile tested as in A.3.3 satisfies the relevant requirement.

A.4.4 Each test piece tested as in A.3.4 satisfies the relevant requirements.

APPENDIX B
DETERMINATION OF THICKNESS

B.1 APPARATUS

B.1.1 *Dial micrometer gauge,* capable of reading to the nearest 0.02 mm, exerting a pressure on the rubber between 10 kPa and 21 kPa.

B.2 PROCEDURE

Measure the thickness of the tile at 4 scattered points. For sheet material, measure the thickness at 20 scattered points. Calculate the average thickness.

APPENDIX C
DETERMINATION OF SQUARENESS OF TILES

C.1 APPARATUS

C.1.1 *Metal jig,* L-shaped, comprising two arms each of greater length than the size of the tile and approximately the same thickness, set in the shape of a right angle on a metal base plate. This plate should be perfectly flat and free from surface defects.

C.2 PROCEDURE

Place the tile against the jig inserting each corner into the right angle with light pressure.

Measure any gap between each side of the tile and the other metal arm with a microscope.

APPENDIX D
DETERMINATION OF WATER ABSORPTION

D.1 PROCEDURE

Cut a test piece of 100-mm square with clean cut edges and weigh to the nearest milligram. Immerse in distilled water at room temperature for 24 hours. Remove from water, dry superficially with filter paper and reweigh.

D.2 CALCULATION

$$\text{Water absorption expressed as per cent increase in mass} = \frac{m_2 - m_1}{m_1} \times 100$$

where,

m_1 is the mass, in g, of the original test piece; and
m_2 is the mass, in g, of the test piece after immersing in water.

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.*

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SRI LANKA STANDARDS INSTITUTION

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