SRI LANKA STANDARD 11:1990 (2003)

UDC 662.532

SPECIFICATION FOR SAFETY MATCHES IN BOXES

(*Second Revision*)

SRI LANKA STANDARDS INSTITUTION

SPECIFICATION FOR SAFETY MATCHES IN BOXES
(*Second Revision*)

SLS 11 : l990 (2003)

(Attached AMD 383, AMD 407 and AMD 512)

Gr. 10

SRI LANKA STANDARDS INSTITUTION
17, Victoria Place
Elvitigala Mawatha
Colombo 8
Sri Lanka

DRAFTING COMMITTEE ON SAFETY MATCHES

CONSTITUTION

CHAIRMAN

Mr	K. Jegatheeswaran	Government Analyst's Department:

	MEMBERS	*REPRESENTING*
Mr	A.M,M. Amirudin	Ceylon institute of Scientific and Industrial Research
Mr	M.F. Faruk	H. Don Carolis and Sons Limited
Mr	N.J.W. Gamage	State Timber Corporation
Mr	S. Jayawardene	Ministry of Industries and Scientific Affairs
Mrs	P.I. Kulatunge	Co-operative Wholesale Establishment
Mr	T.R.R. Rajan	Sun Match Company Limited
Mr	M.D.S. Saparamadu	Thermex Limited
Ms	W. Samaraweera	Ceylon Match Company Limited
Mr	P. Senanayake	Industrial Development Board
Mr	D.J.A.C, Wilathgamuwa	Ceylon -Match Company Limited
Mr	D.G. Wilnalasuriya	H. Don Carolis and Sons Limited

TECHNICAL SECRETARIAT SRI LANKA STANDARDS INSTITUTION

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.

AMENDMENT NO: 03 TO SLS 11: 1990 (2003)

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES (SECOND REVISION)

SRI LANKA STANDARDS INSTITUTION

Amendment No: 03approved on 2018-11-16 to SLS 11: 1990 (2003)

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES (SECOND REVISION)

4 REQUIREMENTS

4.3 Safety

Insert the following at the end of the word "00 glass paper" given in the sentence under Clause **4.3**.

"or equivalent (P220 sand paper)"

7 METHOD OF TEST

7.4 Determination of safety

Insert the following at the end of word "00 glass paper" given under Clause **7.4**.

"or equivalent (P220 sand paper)"

……

AMD 407

AMENDMENT NO: 02 TO SLS 11 : 1990 (2003)
SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES
(Second Revision)

SRI LANKA STANDARDS INSTITUTION

Amendment No: 02 approved on 2010-09-03 to SLS 11:1990 (2003)

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES (Second Revision)

Insert the following as 3rd paragraph of **FOREWORD**.

"FOREWORD

This standard is subjected to the restrictions imposed under the Defence Act No. 21 of 1956 and the regulations framed thereunder."

2 REFERENCES

Insert the following at the end of references.

"SLS 911 Specification for potassium chlorate
SLS 912 Specification for red phosphorus"

Insert the following as Clause **4.11**.

"4.11 Potassium chlorate

Potassium chlorate used in manufacture of safety matches shall conform to the requirements prescribed in **SLS 911.**"

Insert the following as Clause **4.12**.

"4.12 Red phosphorus

Red phosphorus used in manufacture of safety matches shall conform to the requirements prescribed in **SLS 912.**"

AMENDMENT NO: 01 TO SLS 11: 1990 (2003)

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES (SECOND REVISION)

SRI LANKA STANDARDS INSTITUTION

AMENDMENT NO: 01 APPROVED ON 2009-03-30 TO SLS 11: 1990 (2003)

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES (SECOND REVISION)

4.9.9.1 Coating

Delete entire paragraph of Clause **4.9.9.1** and substitute with the following:

"Each box shall be evenly coated on both of its narrower outer surfaces with side paint."

Foot note given below the Table 3

Delete the foot note given below the Table **3** entirely and substitute with the following :

" * **NOTE :** *For the purpose of Table* **3** *'defect' means failure to meet the relevant requirement of the characteristic given in Column* (**2**) *and 'defective' means a safety match which contains one or more defects. "*

SRI LANKA STANDARD SPECIFICATION FOR SAFETY MATCHES IN BOXES

(*Second Revision*)

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on *1990-12-12*, after the draft, finalized by the Drafting Committee on Safety Matches, had been approved by the Chemicals Divisional Committee.

This specification covers the requirements for safety matches in boxes manufactured to be sold to the general public. However, this specification can even be applied to safety matches manufactured on special orders on contract entered into between the manufacturer and the purchaser which are not intended to be sold to the general public. In such cases the method of sampling and criteria for conformity will be decided by an agreement between the buyer and the seller. Chemicals used for head composition and side paint are not covered by this specification.

The first revision of this specification was issued in 1977. In this revision additional requirements for waxed paper splints and waxed cardboard splints have been included as especially waxed paper splints are widely used in the manufacture of safety matches. The length of match head has been included as a requirement. Packaging of 10 boxes in a packet has also been permitted in addition to packets of 12 boxes.

The minimum length of waxed paper splints and waxed cardboard splints, number of physically non-defective matches in a box and permissible number of defectives with respect to afterglow have been changed. Lot acceptance is based on the permissible number of defectives instead of number of instances of defects.

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

For the purposes 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 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.

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

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for safety matches in boxes.

2 REFERENCES

CS 102	Presentation of numerical values.
SLS 428	Random sampling methods.

3 DEFINITIONS

For the purpose of this specification the following definitions shall apply:

3.1 afterglow : Burning without a flame after the flame which results from ignition has been completely extinguished.

3.2 **badly distorted head** ; Head of a match which has pronounced abnormalities in shape or surface, especially sharply defined prominent peaks.

3.3 box : The container in which the matches reach the ultimate consumer.

3.4 crumbling : Breaking into fragments.

3.5 spitting : Dropping ignited particles which have potential to cause burn marks on white paper.

3.6 exploding head : Scattering of ignited fragments of a match head during ignition.

3.7 fractured head : Head of a match which has broken or cracked surface.

3.8 fused head : Head of a match which has a bridge of head composition linking two or more heads together.

3.9 incandescence : Glowing with heat.

3.10 physically non-defective match : A match which is free from broken splint, absence of head, badly distorted head, fractured head, fused head and running head and which has the specified length of the splint and match head (see 4.6.1.1, 4.6.2.1 and 4.7.2).

3.11 running head : Head of a match which has head composition running down the side of the splint.

3.12 safety match : A match which ignites only when struck on a specially prepared chemical surface.

3.13 smouldering : Burn slowly without flame.

4 REQUIREMENTS

4.1 Ignition and burning

The safety matches shall ignite smoothly and evenly and shall burn without excessive fuming.

4.1.1 *Defects*

The safety matches shall not show any of the following defects when determined as given in 7.2.
a) Fracture of the splint;
b) Failure of the match to ignite and burn;
C) Crumbling of the head without ignition;
d) Exploding head;
e) Spitting;
f) Incandescence of the head prior to flaming or smouldering of the head;
g) Failure to transfer the flame readily to the splint when held horizontally in a draught free atmosphere.

4.2 Afterglow

The safety matches shall not show afterglow of more than 3 seconds duration when determined as given in 7.3.

4.3 Safety

Safety matches shall not ignite when rubbed on No. 00 glass paper as given in 7,4.

4.4 Non-ignition at high temperature

Safety matches shall not ignite at a temperature of 170 °C when maintained for a period *of* 10 minutes, as given in 7.5

4.5 Damp-proof ness

Safety matches shall ignite after exposure to an atmosphere of approximately 90 per cent relative humidity at room temperature for two hours as given in 7.6,

4.6 Splints

The splints shall be of wood, waxed paper or waxed cardboard and shall be suitably treated to permit the flame to be readily transferred to the splint and to prevent afterglow. The splints shall be reasonably straight, uniform in cross-section and of sufficient thickness so as not to bend or break when struck on the striking surface of the box as given in Appendix A.

4. 6.1 *Wooden splints*

4.6.1.1 Length

The minimum length of the wooden splints, including the head shall be 38 millimetres when determined as given in 7.7

4.6.2 *Waxed paper splints of waxed cardboard splints*

4.6.2.1 Length

The minimum length of the waxed paper splints or waxed cardboard splints, including the head shall be 32 millimetres, when determined as given in 7.7.

4.6.2.2 Bending strength

The minimum bending strength of the waxed paper Splints or waxed cardboard splints shall be 300 grams when determined as given in Appendix B.

4.6.2.3 Burning time

The minimum burning time of the waxed paper splints or waxed cardboard splints shall be 15 seconds when determined as given in 7.8.

4.7 Match heads

The heads of the safety matches shall be smooth and regular in shape and shall not show marked variation in size.

4.7.1 *Defects*

The heads shall be free from the following defects.
a) Badly distorted head;
b) Fractured head;
c) Fused head; and
d) Running head.

4.7.2 *Length*
The minimum length of the match head shall be 3 millimeters when determined as given in 7.9.

4.7.3 *Adherence of head*
The heads shall adhere firmly to the splint when determined as given in 7.10.

4.8 Boxes

4.8.1 *Appearance*

Each box shall consist of an outer sleeve and an inner sliding drawer or a tray. The boxes shall be reasonably rectangular in shape. The paper covering of the sleeves and drawers shall be firmly fixed.

4.8.2 *Freedom from bulging*

The boxes shall be of sufficient capacity so as to, contain the required number of matches without bulging.

4.8.3 *Freedom from looseness of drawer*

The drawer shall fit in the sleeve so that when lightly held in the vertical position, the drawer with matches shall not fall out.

4.9 Striking surface

4.9.1 *Side paint*

4.9.1..1 Coating

Each box shall be evenly coated on one or both of its narrow outer faces with side paint.

NOTE . . Side paint should be free of yellow (white) phosphorous.

4.9.1.2 Freedom from overflow of side paint

Side paint shall not unduly overflow on to the broader outer faces or inner surface of the outer sleeve and to the inner sliding drawer.

4.9.2 *Resistance to wearing, ignition and burning of the striking surface*

The striking surface shall not ignite or burn following the striking of matches and shall be adequate to ignite 50 matches when determined as given in 7.11. In the case of special orders on contract, it shall be adequate to ignite 10 per cent in excess of the specified content of the box.

4.10 Contents of the boxes

4.10.1 *Average number of physically non-defective matches*

The average number of physically non-defective matches per box shall be not less than 45 matches when determined as given in 7.12. In the case of special orders on contract the average number of physically non-defective matches shall not be less than the specified content of the box.

4.10.2 *Number of physically non-defective matches per box*

The minimum number of physically non-defective matches in each box shall be 36 when determined as given in 7.12. In the case of special orders on contract the minimum content of physically non-defective matches in each box shall be 80 per cent of the specified content of the box.

5 PACKAGING AND MARKING

5.1 Packaging

Twelve or ten boxes of matches (see Note) shall be wrapped in paper or any other suitable material to form a packet. A material of sufficient strength to resist damage

during normal handling and transportation shall be used to form packages containing packets.

NOTE : Packing of ten boxes in a packet is preferred.

5.2 Marking

5.2.1 Bach box of matches shall be marked legibly and indelibly with the following:

a) The words 'Safety Matches';
b) The phrase 'Net content 45' (see Note);
c) Name and address of the manufacturer and country of origin; and
d) Brand name and/or registered trade mark, if any.

NOTE
In the case of special orders on contract, indicate the number of matches contained in the box after the words 'Net content'.

5.2.2 Each packet, or package shall be marked legibly and indelibly with the following:

a) The words 'Safety Matches';
b) Number of boxes in the packet or package;
c) Name and address of the manufacturer and country of origin;
d) Brand name and/or registered trade mark, if any; and
e) Batch or code number.

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

6 SAMPLING

6.1 Lot

All packets containing safety matches of one type of splints and belonging to one batch of manufacture shall constitute a lot.

6.2 Scale of sampling

6.2.1 Samples shall be tested from each lot for ascertaining conformity of a lot to the requirements of this specification.

6.2.2 The number of packets to be selected from a lot shall be in accordance with Columns 1 and 2 of Table 1.

If the packets are in packages 3 per cent of packages subject to a minimum of 4 packages shall be selected first. As far as possible, equal number of packets shall be selected from the packages selected to form a sample of the size, as given in Column 2 of Table 1.

TABLE 1 - Scale of sampling

Number of packets in a lot (1)	Number of packets to be selected (2)	Number of boxes of matches to be selected (3)
Up to 10 000	12	24
10 001 to 40 000	18	36
40 001 and above	24	48

6.2.3 Two boxes of matches shall be selected from each packet selected as in 6.2.2 to form a sample of boxes of matches as given in Column 3 of Table 1.

6.2.4 The boxes -of matches selected as in 6.2.3 shall be kept suitably packed and. sealed until commencement of the tests.

6.2.5 The packets and boxes of matches shall be selected at random. In order to ensure randomness of selection random number tables as given in SLS 428 shall be used.

6.3 Number of tests

6.3.1 If the packets are in packages, each package selected as in 6.2.2 shall be inspected for packaging (5.1) and marking (5.2.2) requirements.

NOTE

This may be carried out at the place of inspection.

6.3.2 Each packet selected as in 6.2.2 shall be inspected for packaging (5.1) and marking (5.2.2) requirements.

NOTE

This may be carried, out at the place of inspection.

6.3.3 The boxes of matches selected as in 6.2.3 shall be inspected for marking (5.2.1), appearance (4.8.1), freedom from bulging (4.8.2), freedom from looseness of drawer (4.8.3), coating (4.9.1.1) and freedom from overflow of side paint (4.9.1.2).

6.3.4 The matches of each box selected as in 6.2.3 shall be separately inspected for defects (4.7.1) and shall be measured for length (4.6.1.1, 4.6.2.1 and 4.7.2).

6.3.5 After inspecting the matches as given in (6.3.4), the number of physically non-defective matches in each box (4.10.2) shall be separately counted and the average of physically non-defective matches per box (4.10.1) shall be determined.

6.3.6 The physically non-defective matches of each box shall be bulked and the boxes and matches shall be tested for defects (4.1.1), afterglow (4.2), safety (4.3), non-ignition at high temperature (4.4), damp-proofness (4.5), adherence of head (4.7.3) and resistance to wearing, ignition and burning of the striking surface (4.9.2).

NOTE

The number of matches to he tasted for each determination is in accordance with the relevant test method.

6.3.7 in case of waxed paper splints and Waxed cardboard splints, matches which are bulked as mentioned in 6.3.6 shall be tested for bending strength (4.6.2.2) and burning time (4.6.2.3).

NOTE

The number of matches to be tested for each determination is in accordance with the relevant test method.

7 METHODS OF TEST

Tests shall be carried put as given in 7.1 to 7.12 and Appendix B.

7.1 Conditioning

The boxes of matches shall be conditioned in an atmosphere of 27 $\pm$ 2 °C and 65 $\pm$ 5 per cent relative humidity for 24 hours prior to testing.

7.2 Determination of ignition and burning

Select 200 physically non-defective matches (see 3.10) and adequate number of boxes. Place an approximately 500 mm x 707 *mm* (B2 size) clean sheet of white paper having a grammage not less than 50 g/m^2, over the surface above which the matches are to be struck. Ignite each match above the sheet of white paper at a distance of 100 mm to 150 mm, by striking not more than three times on the striking surface of the boxes as given in Appendix A. Hold the match horizontally allowing sufficient time for transfer of flame to splint.

Record the number of defective matches and also defects specified in items a) to g) of 4.1.1 separately.

7.3 Determination of afterglow

Select 50 physically non-defective matches and ignite each match by striking not more than three times on the striking surface of the box as given in Appendix A (see Note). Hold the ignited match so as to permit the flame to be transferred to the splint. Extinguish the flame after half the splint is burnt. Determine the duration of afterglow in seconds using a stop-watch.

Record the number of matches in which afterglow persists more than 3 seconds.

NOTE
If the selected matches fail to ignite, obtain the required number of matches from the bulk of physically non-defective matches given in 6. 3. 6.

7.4 Determination of safety

Select 20 physically non-defective matches. Place a strip of No. 00 glass paper horizontally on a table. Draw each match at an angle of approximately 30° and with slight pressure over the glass paper upto a distance of approximately 50 millimetres.

Examine the matches for non-ignition.

7.5 Determination of non-ignition at high temperature

Insert 10 physically non-defective matches with their heads up into holes approximately 10 millimetres apart in a wooden or metal block. Introduce the wooden or metal block with the matches into an oven thermostatically controlled at 170 $\pm$ 2 °C and keep for 10 minutes.

Inspect the matches at the end of this period for non-ignition.

7.6 Determination of damp-proof ness

Select 4 boxes and 180 physically non-defective matches and fill each box with 45 physically non-defective matches.

In the case of special orders on contract, select physically non-defective matches required to fill each box to contain matches equal to the specified content of the box.

In order to obtain an atmosphere of approximately 90 per cent relative humidity, pour saturated solution of potassium nitrate into the bottom of a desiccator of sufficient capacity till the level is about 25 millimetres below its plate. Half open the boxes of matches to expose the heads and place the boxes vertically on the plate of the desiccator, near the centre with the heads of the matches up. Close the desiccator and leave it for 2 hours at room temperature.

Remove, one box at a time and strike each match not more than three times over the striking surface of the box as given in Appendix A till all the matches are exhausted or there is no more striking surface left.

Record the number of matches failing to ignite and the number of matches remaining due to exhaustion of the striking surface. Determine the average number of unlit matches of the four boxes.

7.7 Determination of length of splint

Measure the length of each splint including head using a suitable gauge adjusted to 38.0 mm or 32.0 mm as appropriate.

7.8 Determination of burning time of waxed paper splints or waxed cardboard splints

Select 30 physically non-defective matches and mark a length of 10 millimetres from the non-striking end on each splint. Ignite each match by striking not more than three times on the striking surface of the box as given in Appendix A (see Note) and hold the match horizontally in a draught free atmosphere. Measure the time taken, for the flame to reach the mark from the instant the flame is transferred to the splint. Record the time in seconds using a stopwatch.

NOTE

If the selected matches fail to ignite obtain the required number of matches from the bulk of physically non-defective matches given in 6.3.6.

7.9 Determination of length of match head

Measure the length of the head of each match using a suitable gauge adjusted to 3.0 mm.

7.10 Determination of adherence of head

Select 25 physically non-defective matches and pull apart the head from the splint of each match with moderate force by holding the splint between the thumb and index finger of one hand and the head between the thumb and index finger of the other hand.

Record the number of matches of which heads *get* detached when pulled apart.

7.11 Determination of resistance to wearing, ignition and burning of the striking surface

Select 120 physically non-defective matches and two boxes. Strike half the matches on the striking surface of one of the boxes and the other half on the other, ignite each match by striking not more than three times on the striking surface as given in Appendix A.

Inspect the striking surface for freedom from ignition and burning following striking of each match. Record the number of matches ignited.

NOTE

In the case of special orders on contract where the specified content is less than 45 matches, the number of matches required for the determination may he reduced, accordingly.

7.12 Determination of contents of the boxes

Remove the matches having the following defects from each box of matches,
a) Broken splints;

b) Absence of head
c) Having the length of splint not conforming to 4.6,1.1 and 4.6.2.1 as appropriate;
d) Having defects specified in items a) to d) of 4.7.1; and
e) Having the length of head not conforming to 4.7.2.

Count the remaining matches in each box and determine the average of physically non-defective matches per box.

Record the number of physically non-defective matches in each box and the average number of physically non-defective matches per box.

8 CRITERIA FOR CONFORMITY

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

8.1 Each package inspected as in 6.3.1 satisfies the relevant requirements.

8.2 Each packet inspected as in 6.3.2 satisfies the relevant requirements.

8.3 Each box inspected as in 6,3.3 for the requirements given in 4.9.1.1 and 5.2.1 satisfies the relevant requirements.

8.4 The number of defects of all boxes, when inspected as in 6.3.3 is less than or equal to the corresponding number given in Column 3 or 5 or 7 of Table 2 depending on the sample size and the number of defectives for all the boxes is less than or equal to the number given in Column 4 or 6 or 8 of Table 2 depending on the sample size.

8.5 The minimum number of physically non-defective matches per box, when counted as in 6.3.5 is more than or equal to the value given in 4.10.2 and the average number of physically non-defective matches per box is more than or equal to the value given in 4.10.1.

8.6 The number of defects for all matches, when tested as in 6.3.6 for the requirement given in 4.1.1 is less than or equal to the corresponding number given in Column 4 of Table 3 and the number of defectives for all matches is less than or equal to the corresponding number given in Column 5 of Table 3.

8.7 The number of matches not conforming to the requirements given in 4.2 and 4.7.3, when tested as in 6.3.6 is less than or equal to the corresponding number given in Column 4 of Table 3.

8.8 The average number of matches per box not conforming to the requirement given in 4.5, when tested as in 6.3.6 is less than or equal to 5.

8.9 Each match tested as in 6.3.6 for the requirements given in 4.3 and 4.4 satisfies the relevant requirement.

8.10 All boxes and matches tested as in 6.3.6 for the requirement given in 4.9.2 satisfy the relevant requirement.

8.11 In case of waxed paper splints and waxed cardboard splints the number of defects for all matches when tested as in 6.3.7 for the requirement given in 4.6.2.2 is less than or equal to the corresponding number given in Column 4 of Table 3.

8.12 In case of waxed paper splints and waxed cardboard splints each match tested as in 6.3.7 for the requirements given in 4.6.2.3 satisfies the relevant requirement.

TABLE 2 - Permissible number of defects and defectives for boxes

sl. NO.	Characteristic	Sample size					
		24		36		48	
(l)	(2)	Permissible number of defects*	Permissible number of defectives*	Permissible number of defects*	Permissible number of defectives*	Permissible number of defects*	Permissible number of defectives*
		(3)	(4)	(5)	(6)	(7)	(8)
i)	Appearance	3		4		5	
ii)	Bulging	3	3	4	4	5	5
iii)	Overflow of side paint	3		4		5	
iv)	Looseness of drawer	3		4		5	

** FOR the purpose of Table 2 "defect" means failure to meet the relevant requirement of the characteristics given in Column 2 and "defective" means a box which contains one or more defects.*

TABLE 3 - Permissible number of defects and defectives for latches

Sl. NO.	Characteristic	Sample size required for the determination	Permissible number of defects*	Permissible number of defectives* for each group
(1)	(2)	(3)	(4)	(5)
i)	Ignition and burning	200 physically non-defective matches		
	a) Fracture of the splint		14	
	b) Failure to ignite		14	
	c) Crumbling of the head without ignition		14	14
	d) Spitting		3	
	e) Exploding head		Nil	
	f) incandescence or smouldering of the head		14	
	g) Failure to transfer the flame		14	
U)	Non-adherence of head	25 physically non-defective	3	-
iii)	Afterglow	50 physically non-defective matches	7	-
iv)	Bending strength	30 physically non-defective matches	2	-

** FOR the purpose of Table 3 'defect' means failure to meet the relevant requirement of the characteristics given 'in Column. 2 and 'defective' means a match or a box which contains one or more defects.*

APPENDIX A

METHOD OF STRIKING MATCHES

Hold the match as shown in Figure 1 and strike at an angle of approximately 30 ° to the plane of the striking surface, with sufficient force for the match to ignite;

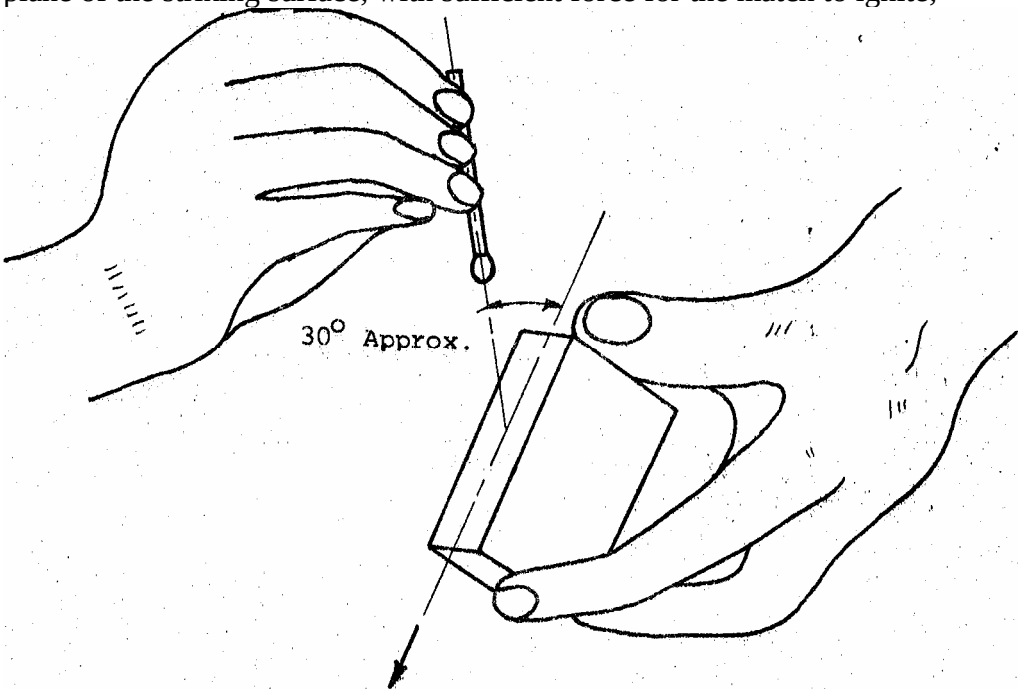

FIGURE 1 - Method of striking matches

APPENDIX B

DETERMINATION OF BENDING STRENGTH OF WAXED PAPER SPLINTS AND WAXED CARDBOARD SPLINTS

B.1 APPARATUS

B.1.1 *An anvil* of any hard material having a V - shaped groove (see Figure 2 d).

B.1.2 *A loading device*, to apply a gradually increasing load on the Splint vertically (see Figure 2 a, b and c).

B.2 TEST SPECIMENS

Thirty physically non-defective matches of waxed paper splints or waxed cardboard splints.

B.3 PROCEDURE

Place a match across V - shaped groove of the anvil (B.l.l). Place carefully the steel wire of the loading device (B.1.2) across the centre of the splint. Add water to the vessel of the loading device from a burette till the total mass of the loading device reaches 300g in a period of 30 to 40 seconds

Carry out the determination at a temperature of 27$\pm$ 2 °C.

Record the number of matches bent under a load of 300 grams.

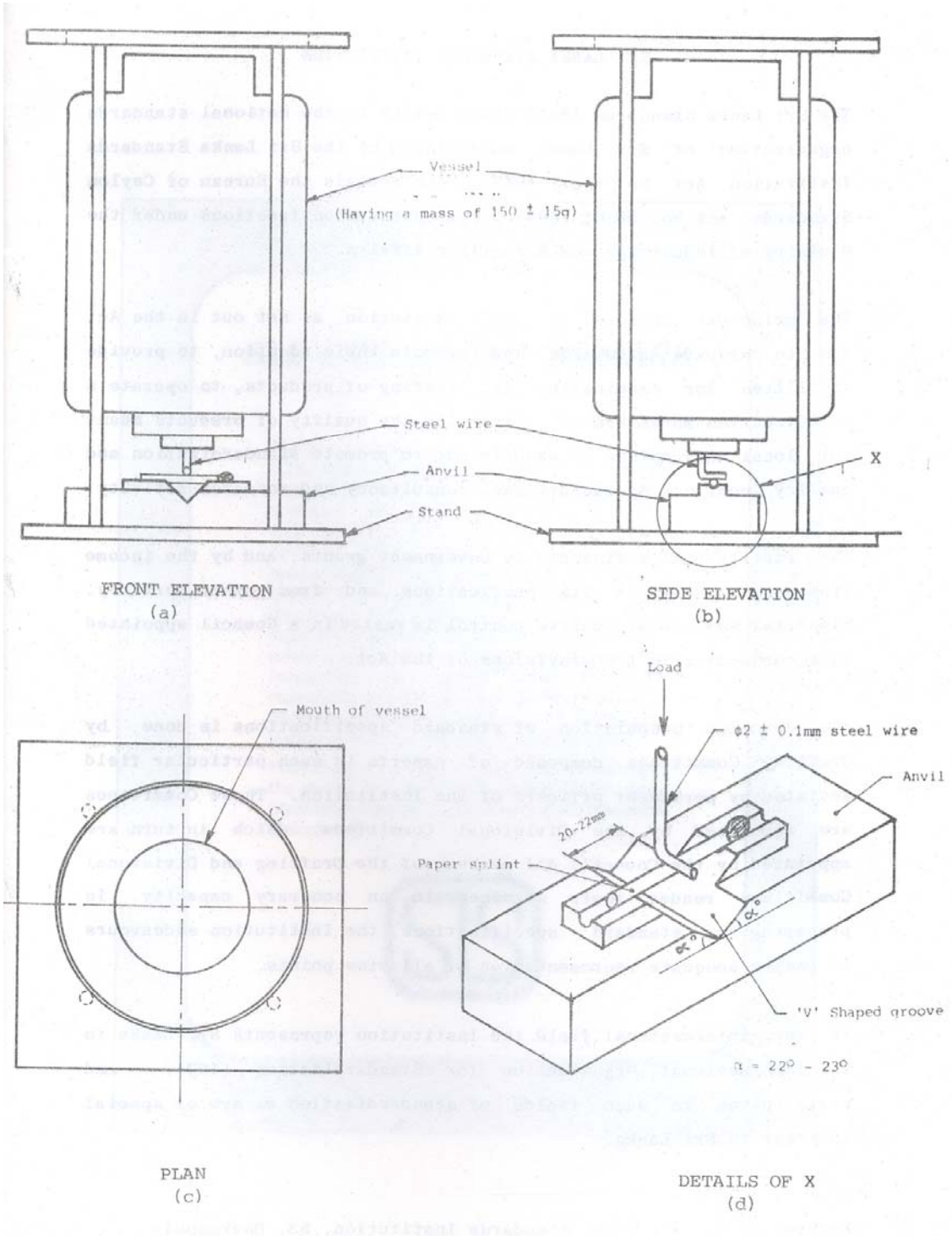

FIGURE 2 - Device for determination of bending strength

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)