

SRI LANKA STANDARD 541 : 1981

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SPECIFICATION FOR BEEDI

BUREAU OF CEYLON STANDARDS

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SLS 541:1981

Gr.6

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BUREAU OF CEYLON STANDARDS

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

SRI LANKA STANDARD SPECIFICATION FOR BEEDI

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1981-11-26, after the draft, finalised by the Drafting Committee on Beedi, had been approved by the Agricultural and Food Products Divisional Committee.

Beedi is a common man's smoke. It is available in the market in a number of brands and is manufactured in large scale by established firms as a cottage industry. There is a great variation in the different brands and therefore it is necessary to lay down certain quality criteria with the broad objective of enabling consumers to get a standard product.

At present wrapper leaf in the beedi is imported and efforts are being made to grow *Diospyrus* (KADUMBERIYA (S) KARUNTHUMBI (T)) plants so that the leaf could be used as a beedi wrapper leaf.

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 figures to be retained in the rounded off value shall be the same as that of the specified value in the specification.

In preparing this specification considerable assistance derived from the publications of Indian Standards Institution is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements, methods of sampling and test for beedi manufactured in Sri Lanka. It does not cover requirements for flavour and aroma of beedi.

2 REFERENCES

- CS 102 Presentation of numerical values
- CS 124 Test sieves
- SLS 309: Part 1 Test methods for tobacco in tobacco products
- SLS 428 Random sampling methods
- SLS 542 Specification for Beedi tobacco.

3 REQUIREMENTS

3.1 Description

The beedi shall be either conical or cylindrical in shape and shall only consist of beedi tobacco mixture and the wrapper leaves to hold the contents. They shall be completely folded in at the top or the broad end and the flattened or lower end shall be partly closed to prevent tobacco falling off and to make puffing easier. Near the flattened end, a thread or paper ring shall be securely put to prevent unfolding of the wrapper.

3.2 Beedi tobacco

The grades of beedi tobacco used in the manufacture of beedi shall conform to SLS 542.

3.3 Beedi wrapper

The wrapper leaves used in the manufacture of beedi shall be *Diospyros species* leaves and shall be identified as given in 6.1. The wrapper leaves shall be moderately mature and shall be not more than 50 per cent by mass in each beedi when tested according to the method prescribed in 6.2.

3.4 Length

The length of beedi shall be a minimum of 60 mm.

3.4.1 The length shall be measured to the nearest millimetre.

3.5 Freedom from mould attack

Beedi shall be free from mould attack, when examined by the method prescribed in Clause 5 of SLS 309:Part 1.

3.6 Freedom from tobacco beetle attack

Beedi shall be free from any tobacco beetle attack when examined by the method prescribed in 6.3.

3.7 Tobacco mixture

The beedi tobacco mixture contained in manufactured beedi shall be in the form of flakes of size satisfying the following conditions when tested according to the method prescribed in 6.2.

- a) Minimum of 90 per cent by mass shall be retained on a 500- μ m sieve conforming to CS 124.
- b) Minimum of 80 per cent by mass shall pass through a 2.80-mm sieve conforming to CS 124.

3.8 Burning quality

Beedi shall burn evenly when tested by the method prescribed in 6.4. Chemical agents considered injurious to health shall not be used for improving the burning quality of the beedi.

3.9 Chemical requirements

The beedi tobacco mixture contained in the beedi shall also conform to the chemical requirements specified in Table 1 when tested by the relevant methods indicated in Column 4 of the table.

TABLE 1 - Chemical requirements of tobacco mixture

Sl. No.	Characteristic	Limits	Method of test(Ref. to Clause of SLS 309:Part 1)
(1)	(2)	(3)	(4)
i	Loss on heating, per cent by mass, max.	12.0	4
ii	Nicotine (on dry basis), per cent by mass, max.	3.0	6
iii	Total ash (on dry basis), per cent by mass, max.	23.0	8
iv	Acid insoluble ash (on dry basis), per cent by mass, max.	5.0	9
v	Total chloride (on dry basis), per cent by mass, max.	0.8	10

4 PACKING AND MARKING

4.1 Packing

The beedi shall be packed in bundles of 10, 25 or 50. These bundles in turn shall be packed in packets to contain 500 or 1000 beedi. The paper used as a wrapper shall be completely closed on all sides and with all outer edges gummed down. Each beedi shall be made identifiable to its trade brand or manufacture by means of a special ring label. The packets shall be packed in a bulk container as agreed to between the purchaser and manufacturer.

4.2 Marking

The following particulars shall be legibly and indelibly marked on each of the packet and bulk container.

- a) Description of contents;
- b) Name and address of the factory or registered trade mark;

- c) Brand name;
- d) Number of beedi;
- e) Date of manufacture or date code;
- f) The words "Produce of Sri Lanka"; and
- g) 'CPA Government Warning : Smoking can be harmful to health' in Sinhala, Tamil and English.

5 SAMPLING

Representative samples of beedi shall be drawn as prescribed in Appendix A for testing conformity to this specification, before or at the time of delivery by the vendor.

6 METHODS OF TEST

6.1 Identification of *Diospyrus* species leaves

Diospyrus species, leaves are simple, upto 200 mm in length and 90 mm in width, elliptic, with base always narrowed or if broad yet with decurrence on the petiole; young leaves very hairy, mature glabrous above, hairy beneath, coriaceous nerve and reticulation raised above, secondary nerves impressed as broad furrows give the leaves a wrinkled and thickened look.

6.2 Determination of mass of wrapper leaf and size of tobacco mixture

6.2.1 Take 100 beedi and determine their mass. Then carefully open these beedi one by one and separate the tobacco mixture contained in them from the wrapper leaf. Determine separately the mass of the wrapper leaves and the tobacco mixture. Calculate the percentage by mass of wrapper leaf.

6.2.2 Sieve the tobacco mixture through 2.80 mm sieve conforming to CS 124 and calculate the percentage by mass of tobacco mixture passing through the 2.80 mm sieve.

6.2.3 Mix the tobacco mixture again and sieve it through a 500- μ m sieve conforming to CS 124 and calculate the percentage by mass of tobacco mixture retained on the 500- μ m sieve.

6.3 Examination for freedom from tobacco beetle attack

6.3.1 Procedure

6.3.1.1 Take 5 beedi and visually examine the surface of each for the presence of any penetration by the tobacco beetles. Cut open these beedi one by one, on a clean white sheet of paper.

6.3.1.2 Examine the material carefully for the presence of tobacco beetle *Lasioderma serricorne* in all its stages, that is, larval, pupal and adult (alive or dead), by naked eye (corrected for abnormal vision). A hand lens (magnification x 10) may also be used. In case a larger magnification is used, this fact shall be stated in the test report.

6.4 Test for burning quality

6.4.1 Procedure

6.4.1.1 Clamp a cork carrying a brass pin not more than one millimetre in diameter horizontally on an iron stand. The length of the pin projecting from the cork should be 15 mm.

6.4.1.2 Light the beedi thoroughly by puffing for a few times and fix the beedi on the pin through one of its ends, the pin piercing through the beedi along its control axis. Maintain a distance of at least three millimetres between the cork and the beedi. Place the assembly carrying the beedi in a draught free atmosphere, maintaining the horizontal position of the beedi.

6.4.2 Report

The beedi shall be deemed to have satisfied the test for burning quality if the beedi burns continuously for 80 per cent of its length.

7 CRITERIA FOR CONFORMITY

7.1 The lot shall be considered as conforming to this specification if the conditions specified in 7.2 to 7.5 are satisfied.

7.2 Each of the test results for length, mass size and description determined in accordance with A.4.1 satisfies the corresponding requirements 3.4, 3.3, 3.7 and 3.1.

7.3 All beedi tested under A.4.2 satisfy the requirements for freedom from mould attack and freedom from beetle attack.

7.4 All beedi tested under A.4.3 shall satisfy the burning quality requirement specified in 3.8.

7.5 Each of the test results on individual samples for loss on heating and nicotine shall satisfy the corresponding requirements specified in Table 1. If however, one or more of the test results do not satisfy the respective requirements, the conformity of the lot to these two characteristics shall be ascertained in accordance with 7.5.1.

7.5.1 The mean and the range or mean range (see Note) of the corresponding test results shall be calculated as follows:

$$\text{Mean } (\bar{X}) = \frac{\text{Sum of the results}}{\text{Number of the test results}}$$

Range (R) = Difference between the maximum and the minimum of the test results.

Mean Range (\bar{R}) = The average range of a set of 5 observations chosen randomly.

NOTE - If the number of observations is less than 10, the range shall be used. If it is more than 10, the mean range shall be used.

The appropriate expressions as shown in Column 7 of Table 2 shall be calculated. If the values of these expressions satisfy the relevant condition as given in Column 7 of Table 2, the lot shall be deemed to have satisfied the requirements for loss on heating and nicotine.

TABLE 2 - Criteria for conformity for loss on heating and nicotine

Sl.No	Characteristic	Test results 1,2,3....n	Average	Range	Mean range	Criterion for conformity
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i	Loss on heating	-	\bar{X}_1	R_1	\bar{R}_1	$\bar{X}_1 + 0.4R_1$ or $\bar{X}_1 + 0.4\bar{R}_1$ ≤ 12.0
ii	Nicotine	-	\bar{X}_2	R_2	\bar{R}_2	$\bar{X}_2 + 0.4R_2$ or $\bar{X}_2 + 0.4\bar{R}_2$ ≤ 3.0

APPENDIX A

(see 5)

SAMPLING OF BEEDI

A.1 GENERAL REQUIREMENTS FOR SAMPLING

A.1.1 In drawing, preparing, storing and handling samples the following precautions and directions shall be observed.

A.1.2 Precautions shall be taken to draw the samples so as to protect the samples, the material being sampled and the receptacles for samples from loss or gain of moisture and from adventitious contamination.

A.1.3 The samples shall be placed in clean and dry receptacles. The sample receptacle shall be sealed air-tight after filling and marked with full details of sampling, date of manufacture, name of the manufacturer and other important particulars of the consignment.

A.1.4 Samples shall be stored in such a manner that the condition of storage do not unduly affect the quality of material.

A.2 SCALE OF SAMPLING

A.2.1 All the packets containing an equal number of beedi in a single consignment of the material pertaining to the same brand shall constitute a lot.

A.2.2 Samples shall be tested from each lot for ascertaining the conformity of beedi to the requirements of this specification.

A.2.3 The number of packets to be selected from a lot shall depend on the size of the lot and shall be in accordance with Table 3.

A.2.4 The packets and beedi shall be drawn at random. For this purpose random number tables given in SLS 428 shall be used.

TABLE 3 - Selection of sample

Lot size	No. of packets to be selected
Upto 25	3
26 - 50	4
51 - 100	5
101 - 150	7
151 - 300	10
301 - 500	15
501 and above	20

A.3 PREPARATION OF SAMPLES

A.3.1 Individual samples

From each packet selected, about 500 beedi are taken out. Out of these 100 beedi shall be first tested for length, size of tobacco mixture contained in them and the mass of wrapper leaves, 5 for

freedom from mould attack and 5 for freedom from tobacco beetle attack. If these tests are found satisfactory, all the beedi selected shall be opened and the tobacco so obtained shall be mixed together thoroughly and then divided into three parts, each of 25 gram. Each part shall constitute an individual sample representing the packet and shall be transferred immediately to thoroughly clean and dry receptacles and sealed air-tight. Sample container shall be labelled with the particulars given under A.1.3.

A.3.1.1 The individual samples obtained from the lot shall be divided into three sets in such a way that every set has an individual sample representing each selected packet. One of these sets shall be marked for the purchaser, one for the vendor and the third for the referee, and all the three sets shall bear the seals of the purchaser and the vendor.

A.3.2 Composite sample

From the portion of the tobacco left over after preparing the individual samples in A.3.1, equal quantities of tobacco mixture shall be taken from each selected packet and well mixed together to form a composite sample of about 150 gram for the lot.

A.3.2.1 The composite sample shall be divided into three equal parts, one for the purchaser, one for the vendor and the third for the referee, and all the three samples shall bear the seals of the purchaser and the vendor.

A.3.3 Referee samples

Referee samples shall consist of a set of individual samples in A.3.1, and a composite sample in A.3.2, marked for this purpose and shall bear the seals of the purchaser and the vendor. These shall be kept at a place agreed to between the two.

A.4 TESTING OF SAMPLES

A.4.1 Tests for determination of length, size, mass and also description shall be conducted on 100 beedi in the individual sample.

A.4.2 Test for freedom from tobacco beetle attack, freedom from mould attack shall be conducted on 5 beedi each drawn randomly from the individual samples.

A.4.3 Test for burning quality shall be conducted on 5 beedi drawn randomly from the individual samples.

A.4.4 Test for determination on loss on heating, nicotine shall be conducted on each of the individual samples.

A.4.5 Test for total ash, total insoluble ash and total chloride shall be conducted on the composite sample.

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.



SRI LANKA STANDARDS INSTITUTION

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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.