

SRI LANKA STANDARD 342 : 2001
UDC 637.526

SPECIFICATION FOR
BACON
(SECOND REVISION)

SRI LANKA STANDARDS INSTITUTION

**SPECIFICATION FOR BACON
(SECOND REVISION)**

SLS 342 : 2001

(AMD 304, AMD 328, AMD 338 and AMD 487 Attached)

Gr. 7

**SRI LANKA STANDARDS INSTITUTION
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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.

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**SRI LANKA STANDARD
SPECIFICATION FOR BACON
(SECOND REVISION)**

FOREWORD

This standard was approved by the Sectoral Committee on Agriculture and Food Products and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2001-10-29.

This Specification was originally issued in 1975. This revision has been undertaken to keep abreast with the technological developments made in the industry since then. The scope has been expanded to accommodate all types of bacon available in the market. A list has been included to cover new food additives being used in the industry. Limits stipulated for chemical requirements have been revised and the limit for moisture content has been deleted from the text.

In order to ensure a product conforming to this specification, the manufacturers are advised to adhere to strict hygienic practices in processing and storage. They are also advised to give instructions to their dealers with respect to cold storage and handling.

During the formulation of this specification due consideration has been given to the relevant provisions made under the Sri Lanka Food Act No. 26 of 1980. Specific requirements given in this specification, wherever applicable, are in accordance with relevant regulations. However, general provisions made under the Sri Lanka Food Act have not been included in this specification and therefore, the attention of the user of this specification is drawn to the general provisions made in the regulations framed under Food Act.

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

For the purpose of deciding whether a particular requirement of this specification is complied with the final value, observed or calculated, expressing the results of a test or an analysis, shall be rounded off in accordance with **CS 102**. The number of significant places to be retained in the rounded off value shall be the same as that of the specified value in this specification.

In the revision of this specification, the valuable assistance derived from the following publications are gratefully acknowledged:

Draft Codex General standard for Food Additives October 2000
Food Standards Code Australia/New Zealand

1 SCOPE

This specification prescribes the requirements and methods of test for bacon.

2 REFERENCES

CS	79	Edible common salt
CS	102	Presentation of numerical values
SLS	143	General principles of food hygiene
SLS	191	Sugar
SLS	294	Test for meat and meat products – Determination of moisture
SLS	295	Test for meat and meat products – Determination of nitrogen
SLS	330	Test for meat and meat products – Determination of chloride
SLS	384	Test for meat and meat products – Determination of nitrite
SLS	396	Test for meat and meat products – Determination of nitrate
SLS	428	Random sampling methods
SLS	464	Bees honey
SLS	467	Code of practice for labelling of prepackaged foods
SLS	516	Microbiological test methods Part 3 : Detection and enumeration of <i>Coliforms</i> , <i>Faecal Coliforms</i> and <i>Escherchia coli</i> Part 5 : Detection of <i>Salmonella</i> Part 6 : Enumeration of <i>Staphylococcus aureus</i>
SLS	614	Potable water
SLS	772	Treacle
SLS	779	Test for meat and meat products – determination of fat
SLS	971	Ice for use in food processing and catering industries
SLS	1065	Code of hygienic practice for processed meat products
SLS	1218	Comminuted meat products

3 DEFINITIONS

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

3.1 meat : The uncured, wholesome flesh of animal or bird, suitable for human consumption.

3.2 traditional bacon : The product obtained by curing and with/without smoking, the properly trimmed pork loins and bellies, which are processed in accordance with this specification and conforming to the requirements of this specification.

NOTE :

Bacon may be prepared from meat from other animals or birds and also cuts other than bellies and loins. Bacon made from the meat of any permitted species shall carry the related name of the species preceeding the word bacon. eg. beef bacon.

4 TYPES

Traditional bacon shall be of following types:

- 4.1 Back bacon** – prepared from pork loins; and
- 4.2 Streaky bacon** – prepared from pork bellies.

The above types can be smoked or unsmoked and skin on or skinless.

5 STYLES

Bacon may be presented in the following styles :

- 5.1 Slices;**
- 5.2 Slabs; and**
- 5.3 Fragments/ends.**

NOTE :

Bacon fragment/end – It is a by product which does not confirming to the physical requirements of the other two types. (5.1 & 5.2)

6 INGREDIENTS

6.1 Basic ingredients

6.1.1 Meat

All meat used shall be sound and fit for human consumption and shall be obtained from healthy animals or birds slaughtered in licensed premises and subjected to meat inspection by a competent authority . The meat shall be moderately firm, neither oily nor soft, bright in colour and of fine texture. It shall be free from foreign odour or flavour, discolouration, presence of extraneous matter or any form of deterioration. Frozen meat shall be thawed before use and shall be free from any evidence of freezer deterioration.

6.1.2 Brine, consisting of water and common salt.

NOTE :

Common salt shall conform to SLS 79.

6.1.3 *Curing salts*, Nitrite and/or Nitrate, potassium and/or sodium salts, singly or in combination.

6.1.4 *Water/ice*, water and ice used shall conform to **SLS 614** and **SLS 971**.

6.2 **Optional ingredients**

One or more of the following ingredients may be used :

6.2.1 Sugar (sucrose) invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup), honey.

NOTE :

Sugar when used shall conform to SLS 191.

Honey when used shall conform to SLS 464.

Treacle when used shall conform to SLS 772.

6.2.2 *Spices, seasonings and condiments.*

6.2.3 *Hydrolyzed vegetable protein*, water soluble

6.2.4 *Potassium chloride*

6.2.5 *Antioxidants*, Tocopherol maximum level in final product not more than 3000 mg/kg and/or ascorbic acid, iso-ascorbic acid and its sodium salts, ascorbyl palmitate 500 mg/kg max expressed as ascorbic acid, singly or in combination.

6.2.6 *Flavours*

6.2.6.1 Natural flavouring substances

6.2.6.2 Smoke flavourings

6.2.7 *Flavour enhancers*

6.2.7.1 5' - Guanylate, disodium

6.2.7.2 5' - Inosinate, disodium

6.2.7.3 Monosodium glutamate

6.2.8 *Acidity regulators*

6.2.8.1 Citric acid and/or its sodium and/or potassium salts

6.2.8.2 Lactic acid and/or its sodium and/or potassium salts

6.2.9 *Water retention agents*

6.2.9.1 Phosphates (mono-, di- and poly-) sodium and potassium salts, 1100 mg/kg (expressed as P), singly or in combination.

7 **REQUIREMENTS**

7.1 **Hygienic requirements**

The product shall be processed, packed, stored and transported in accordance with the conditions prescribed in **SLS 143** and **SLS 1065**. Storage temperature for chilled products shall be 0 °C to 4 °C. Frozen products shall be stored below –18 °C with possibly brief upward fluctuations of no more than 3 °C during transport .

7.2 **Physical requirements**

7.2.1 *Appearance and texture*

7.2.1.1 **Sliced bacon**

Sliced bacon shall have a good cure colour and shall be smooth, dry and firm. The slices shall be cut at right angles to the major muscle fibres of the slab. The length and width of the slices shall be reasonably uniform (see **7.2.3**). Slices shall be produced from reasonably intact pieces. Slices from small or irregular end sections, scrap pieces or any type of product residue shall not be included. It shall be free from bone particles and extraneous matter.

7.2.1.2 **Slab bacon**

Slab bacon shall have a good cure colour and shall be smooth, dry and firm. It shall be trimmed square on all edges. Overhanging fat edges shall be trimmed. It shall have a length approximately twice its width. It shall be well streaked with lean. It shall be free from blemishes and the skin shall be free from hair. The bacon shall be free from salt deposits and contamination due to smoke smudge or foreign matter.

7.2.2 *Flavour*

The bacon shall have the characteristic flavour of freshly processed, good quality bacon. It shall be free from off-flavour.

7.2.3 *Other physical requirements for sliced bacon*

7.2.3.1 **Length**

There shall be not more than one slice of length less than 140 mm in 100 g of bacon. Pieces or fragments less than 50 mm length shall not be included.

7.2.3.2 Thickness

There shall be 3 to 4 slices of bacon within a 10 mm thickness, but thickness of a slice shall be not more than 3 mm.

7.2.3.3 Width

The width of the slices at any point shall be not less than 35 mm for bacon, other than streaky bacon and not less than 13 mm for streaky bacon.

7.2.3.4 Separation or tear of slices

Separation or tear in any slice shall not exceed one half of the length of the slice.

7.2.3.5 Breaks

A break in any slice shall not exceed half of the slice width at any break.

7.2.3.6 Exposure of lean

Lean shall not be exposed on the skin edge of any slice

7.3 Chemical requirements

The bacon shall comply with the requirements specified in **Table 1** when tested according to the methods prescribed in Column 4 of the table.

TABLE 1 – Requirements for bacon

Sl. No.	Characteristic	Requirement	Method of test
(1)	(2)	(3)	(4)
i)	Total fat content, per cent by mass, max.	40.0	SLS 779
ii)	Sodium chloride content, per cent by mass, max.	5	SLS 330
iii)	Nitrites content and nitrates content, calculated as sodium nitrite, mg/kg, max.	125	SLS 384 and SLS 396
iv)	Protein content, (N x 6.25), per cent by mass, min.	9.0	SLS 295
v)	Acid insoluble ash content, per cent by mass, max.	0.5	Appendix D of SLS 1218

7.4 Microbiological limits

The product shall conform to the microbiological limits given in Table 2 when tested according to the methods prescribed in Column 4 of the table.

TABLE 2 - Microbiological limits

Sl. No. (1)	Micro-organism (2)	Limit (3)	Method of test (4)
i)	<i>Staphylococcus aureus</i>	Absent in 1 g	SLS 516 : Part 5
ii)	<i>E. coli</i>	Absent in 1 g	SLS 516 : Part 3
iii)	<i>Salmonella</i>	Absent in 25 g	SLS 516 : Part 6

7.5 Limits for heavy metals

The product shall conform to the limits for heavy metals given in Table 3 when tested according to the methods prescribed in Column 4 of the table.

TABLE 3 – Limits for heavy metals

Sl. No. (1)	Heavy metals (2)	Limit (3)	Method of test (4)
i)	Arsenic, mg/kg, max	1.0	SLS 312
ii)	Copper, mg/kg, max	20.0	SLS 301
iii)	Lead, mg/kg, max	1.0	SLS 311

8 PACKAGING AND MARKING

8.1 Packaging

Bacon shall be packed in suitable flexible packaging material of food grade so as to protect the product from deterioration and contamination. The packaging material shall

not impart any foreign flavour to the product. Bulk packaging shall be as agreed to between the purchaser and supplier.

8.2 Marking

8.2.1 The following information shall be legibly and indelibly marked or labelled on each package :

- a) Name of the product;
- b) Type of the product;
- c) Brand name or registered trade mark,
- d) Name and address of the manufacturer and/or distributor;
- e) Country of origin;
- f) Net mass, in grams;
- g) Batch or code number;
- h) Date of manufacture;
- j) Date of expiry;
- k) List of ingredients in descending order of proportion by name or INS No.;
- l) Instructions for storage; and
- m) Directions for preparation, where necessary.

8.2.2 Marking and labelling shall be in accordance with **SLS 467**

NOTE

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

9 METHOD OF TEST

The product shall be tested as prescribed in Appendix F of **SLS 294, SLS 295, SLS 301, SLS 311, SLS 312, SLS 330, SLS 384, SLS 396, Part 3, 5 and 6 of SLS 516, SLS 779** and Appendix D of **SLS 1218**.

APPENDIX A COMPLIANCE OF A LOT

The 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 systems coupled with type testing and check test or any other procedure, appropriate schemes of sampling and inspection should be adopted.

A.1 LOT

In any consignment all the packages of bacon of the same style and type belonging to one batch of manufacture or supply shall constitute a lot.

A.2 GENERAL REQUIREMENTS OF SAMPLING

When drawing samples, the following precautions shall be observed :

A.2.1 Samples for microbiological analysis shall be drawn first.

A.2.2 Samples shall be protected against adventitious contamination.

A.2.3 Sampling instruments shall be clean and dry when used. When drawing samples for microbiological examination, the sampling instruments shall be sterilized.

A.2.4 Samples shall be kept in clean and dry containers. The samples for microbiological examination shall be kept in sterilized containers.

A.2.5 Sample containers shall be sealed air-tight and marked with necessary details of sampling.

A.2.6 Samples shall be stored at a temperature as prescribed on the label of the package, that there will be no deterioration of quality of the material.

A.3 SCALE OF SAMPLING

A.3.1 The samples shall be tested from each lot for ascertaining its conformity to the requirements of this specification.

A.3.2 The number of packages to be selected from a lot shall be in accordance with Table 4.

TABLE 4 – Scale of sampling

Number of packages in the lot (1)	Number of packages to be selected (2)	Size of sub sample (3)
up to 150	5	3
151 to 280	6	3
281 to 500	8	4
501 and above	12	5

A.3.3 In case of sliced bacon, in addition to the packages selected as above, two packages shall be taken from the lot.

A.3.4 The packages shall be selected at random. In order to ensure randomness of selection, random number tables as given in **SLS 428** shall be used.

A.4 NUMBER OF TESTS

A.4.1 Each package selected as in **A.3.1** shall be inspected for marking and packaging requirements.

A.4.2 In case of sliced bacon two packages selected as in **A.3.3** shall be inspected for the requirements given in **7.2.3**.

A.4.3 Approximately 75 g of the material shall be taken from each of the packages of the sub sample selected as in **A.3.2** using an appropriate sampling instrument which is sterilized and each sample thus obtained shall be transferred to separate sample containers. The sample thus obtained shall be tested individually for microbiological requirements.

A.4.4 In the case of sliced bacon and bacon ends the remaining material of each package after obtaining the sample for microbiological testing shall be individually inspected for the relevant requirements given in **7.2**.

A.4.5 In the case of slab bacon approximately 100 g of material shall be taken from each package after taking samples for microbiological testing and transferred to separate sample containers. The sample thus obtained shall be individually tested for requirements given in **7.2**.

A.4.6 The material of each package after inspecting as in **A.4.4** or the material of each sample container after inspecting as in **A.4.4** shall be mixed together to form a composite sample. The composite sample thus obtained shall be tested for requirements given in **7.3**.

A.5 CRITERIA FOR CONFORMITY

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

A.5.1 Each package inspected as in **A.4.1** satisfies the packaging and marking requirements.

A.5.2 The two packages inspected as in **A.4.2** satisfy the relevant requirements.

A.5.3 Each sample tested as in **A.4.3** satisfies the relevant microbiological requirements.

A.5.4 Each package inspected as in **A.4.4** or **A.4.5** satisfy the relevant requirements.

A.5.5 The test results of the composite sample, when tested as in **A.4.6** satisfy the relevant requirements.

Amendment No. 1 : approved on 2003-04-30 to SLS 342 : 2001
Specification for bacon

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Clause 7.4

TABLE 2 Microbiological limits

Characteristic 1 Column 3

Substitute the limit with " Not more than 1000 in 1 g"

NE -
2003-05-19
AMD.1 SLS 342

**AMENDMENT NO: 2 TO SLS 342 : 2001
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EXPLANATORY NOTE

This amendment is issued after the decision was taken by the working group on meat products and to be in line with the Codex Standard.

**AMENDMENT NO : 2 APPROVED ON 2006-02-21 TO
SLS 342 : 2001 SPECIFICATION FOR BACON (SECOND REVISION)**

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Sub Clause 6.2.9.1

Delete the existing limit 1100 mg/kg and substitute with '2200 mg/kg (expressed as P) singly or in combination as the total phosphate content.'

**AMENDMENT NO: 3 TO SLS 342 : 2001
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EXPLANATORY NOTE

This amendment is issued after the decision was taken by the working group on meat products, in order to incorporate *E.coli* O157 : H7 as a pathogenic organism.

**AMENDMENT NO : 3 APPROVED ON 2006-07-26 TO
SLS 342 : 2001 SPECIFICATION FOR BACON (SECOND REVISION)**

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Clause 7.4

Delete the existing Table 2 and substitute with the following Table.

TABLE 2 – Microbiological limits

Sl No. (1)	Micro-organism (2)	Limit (3)	Method of Test (4)
i)	<i>Staphylococcus aureus</i>	Not more than 1000 per g	SLS 516 : Part 6
ii)	<i>E.coli</i> (indicator)	Not more than 500 per g	SLS 516 : Part 3
iii)	<i>E.coli</i> O157 : H7	Absent in 1 g	AOAC : 1998 Method 996.09
iv)	<i>Salmonella</i>	Absent in 25 g	SLS 516 : Part 5

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Clause 9 Method of Test

Also include Association of Official Analytical Chemists (AOAC : 1998) –
Method 996.09.

AMENDMENT NO : 04 APPROVED ON 2016-10-06 TO SLS 342:2001

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EXPLANATORY NOTE

This amendment is issued for the requirement for total phosphate content as phosphorus, to be in line with the Codex Alimentarius standard.

AMD 487

AMENDMENT NO : 04 APPROVED ON 2016-10-06 TO SLS 342:2001

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Withdraw AMD 328 :2006 (Amendment No. 02 approved on 2006-02-21.)

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TABLE 1

Insert following requirement as vi)

vi)	osphate content as P, mg/kg, max	3500	SLS 1161:2003 Appendix E
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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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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.

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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.