SRI LANKA STANDARD 971 : 1992

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SPECIFICATION FOR

ICE FOR USE IN FOOD PROCESSING AND CATERING INDUSTRIES

SRI LANKA STANDARDS INSTITUTION

SPECIFICATION FOR ICE FOR USE IN FOOD PROCESSING AND CATERING INDUSTRIES

SLS 971 : 1992

Gr.5

SRI LANKA STANDARDS INSTITUTION
53, Dharmapala Mawatha,
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 ICE FOR USE IN FOOD PROCESSING AND CATERING INDUSTRIES

FOREWORD

This standard was finalized by the Sectoral Committee on Food Safety and Hygiene and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 1992 - 12 - 17.

This standard specifies the bacteriological quality of ice, and the physical and chemical requirements.

Ice is used to retard microbial growth and other spoilage reactions when processing perishable foods such as fish, meat and other raw materials used in food processing industries. In these industries there is a direct contact between the ice used to reduce the temperature, and the food material that is being processed. In addition, ice is also used to cool food items which are consumed directly such as drinks. Therefore the quality of ice is of importance to public health.

The quality of ice mainly depends on the quality of water used for the manufacture of ice and the practices adopted in manufacture, transport, storage, handling and distribution where ice is exposed to microbial and other contamination from various sources.

Guidelines for the determination of 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 standard 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 figures to be retained in the rounded off value shall be the same as that of the specified value in this standard.

In the preparation of this specification, the valuable assistance derived from the following publications is gratefully acknowledged:

i) IS 3957 : 1966 -Indian Standard Quality Tolerances for water for ice manufacture.

ii) IS 6540 : 1972 -Indian Standard Code for hygienic conditions for manufacture and handling of ice for human consumption.

iii) MS 818 : 1983 -Malaysian Standard specification for ice used in the fish and prawn industry.

1 SCOPE

This specification prescribes the requirements and methods of test for ice intended for use in the food processing industry and in catering establishments.

2 REFERENCES

SLS 102 Presentation of numerical values
SLS 143 General principles of food hygiene
SLS 428 Random sampling methods
SlS 516 Microbiological test methods
SLS 614 Potable water

3 WATER SUPPLY

Water is the only ingredient used in ice manufacture and maximum care shall be taken with regard to its chemical and bacteriological quality.

3.1 There shall be an adequate supply of potable water conforming to SLS 614.

3.2 The storage tanks for water shall be, unless completely sealed, be kept covered with tight-fitting lids, examined daily and cleaned properly and sanitized by spraying 100 ppm chlorine solution at least once every month. The date of the last cleaning and next cleaning shall be prominently displayed on the storage tanks.

3.3 Water samples shall be examined periodically for chemical and bacteriological quality. A record of such examination shall be maintained.

3.4 Running water supply under pressure shall be easily accessible to all rooms and areas in which ice is manufactured and equipment washed.

4 MANUFACTURING PLANT AND FACILITIES

4.1 Plant construction and lay out shall be in accordance with SLS 143.

4.2 Hygienic operating requirements shall be in accordance with SLS 143.

4.3 Equipment and utensils and their cleanliness shall be in accordance with SLS 143.

5 REQUIREMENTS

5.1 Physical requirements

5.1.1 Ice when used in direct contact with the food shall be free from extraneous matter such as saw dust, iron filings, etc.

5.1.2 Ice shall conform to the requirements prescribed in Table 1 of clause 3.1 of SLS 614 : Part 1 : 1983 when tested in accordance with the methods prescribed in Column 5 of the table.

5.2 Chemical requirements

Ice shall conform to the requirements prescribed in Table 2 of clause 3.2 of SLS 614 : Part 1 : 1983 when tested in accordance with the methods prescribed in Column 5 of the table.

5.3 Bacteriological limits

Ice shall conform to the limits given in Table 1 when tested in accordance with the methods prescribed in Column 4 of the table.

TABLE 1 - Bacteriological limits

Sl. No. (1)	Test (2)	Limit (3)	Method of test (4)
i)	Aerobic plate count, per ml*	Not more than 100	SLS 516 : Part 1
ii)	Coliforms, per 100 ml*	10	SLS 614 : Part 2
iii)	*E. coli*, per 100 ml*	Nil	SLS 614 : Part 2

* *Melted ice*

6 TRANSPORT AND STORAGE

6.1 All vehicles used for transportation of ice shall be constructed and operated to give adequate protection from flies, dust and other contaminants.

6.2 All premises where ice is stored or sold shall be maintained clean and shall be constructed to provide adequate protection to ice.

7 PACKAGING AND MARKING

7.1 Packaging

The retail packs shall be packed under strict hygienic conditions and the packs shall be sealed. These packs may be further packed in cases as agreed to between the purchaser and the supplier.

7.2 Marking

The retail packs shall be marked or labelled legibly and indelibly with the following information :

a) Name of the product;
b) Brand name or trade name, if any;
c) Net mass, in grams;
d) Name and address of the manufacturer; and
e) Batch number or code number.

NOTE

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

8 METHODS OF TESTS

Tests shall be carried out as prescribed in SLS 516 : Part 1, SLS 614 : Part 1 and SLS 614 : Part 2.

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 tests or any other procedure, appropriate schemes of sampling and inspection should be adopted.

A.1 Lot

All retail packs of ice or bulk ice (Block ice or flake ice in containers) manufactured under same conditions of production and submitted for inspection shall constitute a lot.

A.2 General requirements of sampling

A.2.1 The sampling instruments shall be clean and dry when used. When drawing samples for, bacteriological examination, the sampling instruments shall be sterilized.

A.2.2 The samples shall be kept, in clean and dry glass containers. The sample for bacteriological examination shall be kept in a sterilized container.

A.2.3 The samples shall be stored in such a manner that there will be no deterioration of quality of the material.

A.3 Scale of sampling

A.3.1 The number of retail packs or bulk ice to be selected from a lot shall be in accordance with the Table 2.

TABLE 2 - Scale of sampling

Number of retail packs/ bulk ice in a lot	Number of retail packs/bulk ice to be selected
Up to 8	1
9 to 15	2
16 to 25	3
26 to 50	4

A.3.2 The retail packs /bulk ice 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 test**

A.4.1 Each retail pack selected as in A.3.1 shall be examined for packaging and marking requirements.

A.4.2 Sufficient quantity (not less than 200 g) of ice shall be withdrawn from each retail pack/bulk ice selected as in A.3.1 using a sterile sampling instrument. Ice taken from each retail pack/bulk ice shall be trasferred to separate sample container, sealed air tight and marked with necessary details of sampling. These samples shall be individually tested for bacteriological parameters (5.3) specified in this standard.

A.4.3 The remaining ice of each retail pack/bulk ice shall be mixed and a sufficient quantity of ice from this shall be transferred to a glass container sealed air-tight and marked with necessary details of sampling. This sample shall be tested for physical and chemical requirements (5.1 and 5.2) of this standard.

A.5 **Criteria for conformity**

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

A.5.1 Each retail pack examined as in A.4.1 satisfies the relevant requirement.

A.5.2 The test results on bacteriological examination when tested as in A.4.2 satisfy the relevant bacteriological limits.

A.5.2 The test results on physical and chemical requirements when tested as in A.4.3 satisfy the relevant requirement.

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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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.

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