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Indian Standard

SPECIFICATION FOR
PRIMARY CARTONS FOR
PACKAGING BUTTER

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SPECIFICATION FOR PRIMARY CARTONS FOR PACKAGING BUTTER

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Indian Standard

SPECIFICATION FOR PRIMARY CARTONS FOR PACKAGING BUTTER

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 June 1976, after the draft finalized by the Paper and Flexible Packaging Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 Table butter in cakes and chiplets, wrapped in vegetable-parchment/aluminium foil laminate are encased in primary cartons, made from pulp board or box board, to give the butter adequate protection from bacterial growth and from repeated hand-touching in stores and dairies. This standard is formulated to help the national dairies to keep a high standard of quality for butter packs. In preparing this standard the prevailing trade practices in the dairy industry of the country have been taken into consideration.

0.3 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 analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements of the primary cartons and their components for packaging 100, 200, 250 and 500 g butter cakes.

2. STYLE

2.1 The style of the cartons for packing 100, 200 and 250 g butter slab shall be as given in Fig. 1 and 2 and for 500 g butter brick as given in Fig. 3.

3. REQUIREMENTS

3.1 Dimensions — The inside dimensions for the cartons shall be as agreed to between the purchaser and the supplier.

*Rules for rounding off numerical values (*revised*).

3.1.1 The tolerance of ± 0.5 mm shall be applicable to the agreed inside dimensions.

3.2 Material

3.2.1 *Box Board or Pulp Board* — The board shall be of good quality material of the solid white type made from chemical pulp. It shall be suitable for waxing. The board may be either plain or printed. The board may be wax coated if required by the purchaser. The board shall also comply with the requirements of IS : 1776-1961*.

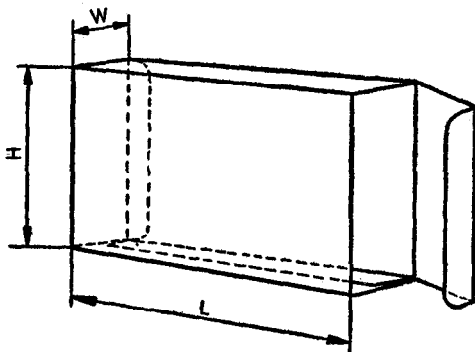


FIG. 1 SIDE SEAM GLUED TUCK-END STYLE

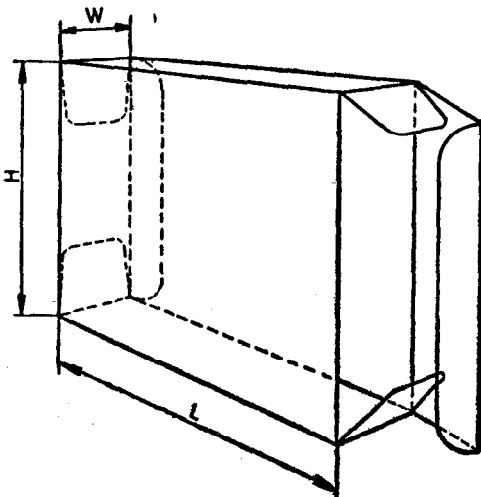


FIG. 2 EASTERN FLAT STYLE

*Specification for folding box board, uncoated.

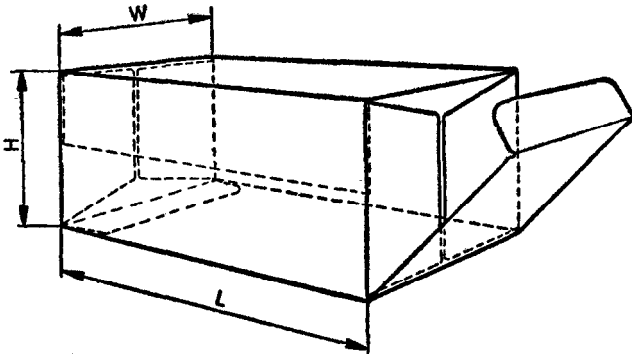


FIG. 3 ELGIAN STYLE

3.2.1.1 Thickness — The thickness of the board shall be 0.30 ± 0.02 mm. The thickness of the single sheet shall be determined in accordance with the method given in 7 of IS : 1060 (Part I)-1966*.

3.2.1.2 Surface — Clay may be used to coat the board before a lacquer or varnish is applied in order to improve the printing quality of the carton. The clay shall comply with the requirements given in 3.3.4.

3.2.1.3 Stiffness — The stiffness of the board shall be adequate to retain and transport the product without any damage or distortion.

3.2.2 Printing Ink — The ink used for printing shall not emit any disagreeable odour after drying. It shall not fade in storage or bleed while waxing and be free from toxic metals, such as lead and chromium. A coating of an edible starch may be applied to the surface of the printed board by spraying, in order to prevent ink off-set.

3.2.3 Wax — In case the wax for coating the board is used, it shall conform to Type I of IS : 4654-1974†.

3.2.4 Adhesives — The adhesive used to make and seal the carton shall be resistant to deep freeze conditions.

3.3 Performance

3.3.1 Odour and Taint — The composition of the board, ink, adhesive and all coating material shall not give rise to any deleterious effect on the flavour, odour, or appearance of the product packed when tested according to 7 of IS : 4006 (Part II)-1972‡.

*Methods of sampling and test for paper and allied products, Part I (revised).

†Specification for paraffin wax (first revision).

‡Methods of test for paper and pulp based packaging materials, Part II.

3.3.2 Wax Content — In case of wax coating, the loading of wax on each side shall be 10 ± 2 g/m². The total wax content of the board shall be 20 ± 4 g/m² when determined by the method given in Appendix A.

3.3.3 Toxicity — The composition of the board, ink, adhesive and all coating materials shall be such as not to introduce any substance into the butter, injurious to health or which might otherwise lead to infringement of the prevention of Food Adulteration Act, 1954, and the Regulations made thereunder.

3.3.4 Ash Content — Clay coating applied shall be limited to give a total ash content of not more than 20 g/m² when tested in accordance with the method described in 11 of IS : 1060 (Part I) -1966*.

3.4 Wrapping — The butter cakes shall be wrapped in vegetable parchment or greaseproof paper/aluminium foil laminates conforming to IS : 7161-1973† before they are put in primary cartons.

4. SAMPLING AND CRITERIA FOR CONFORMITY

4.1 Lot — All the cartons of the same style and capacity delivered to a buyer against a despatch note shall constitute a lot.

4.1.1 The conformity of the lot shall be determined on the basis of the tests carried out on the cartons selected from the lot.

4.1.2 The number of cartons to be selected at random from each lot shall be according to col 1 and 2 of Table 1. To ensure randomness of selection, methods given in IS : 4905-1968‡ shall be followed.

TABLE 1 SAMPLE SIZE

(Clauses 4.1.2 and 4.2)

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NUMBER OF DEFECTIVE CARTONS	SUB-SAMPLE SIZE
(1)	(2)	(3)	(4)
Up to 1 000	80	3	5
1 001 to 3 000	125	5	8
3 001 „ 10 000	200	7	13
10 001 „ 35 000	315	10	20
35 001 and above	500	14	32

*Methods of sampling and test for paper and allied products, Part I (revised).

†Specification for vegetable parchment or greaseproof paper/aluminium foil laminate for wrapping butter.

‡Methods for random sampling.

4.2 Number of Tests and Criteria for Conformity

<i>Characteristic</i>	<i>Number of Cartons for Tests</i>	<i>Criteria for Conformity</i>
Visual and dimensional	According to col 2 of Table 1	Defective cartons not to exceed corresponding number given in col 3 of Table 1
Other requirements	According to col 4 of Table 1	All cartons satisfy the relevant requirements

5. PACKING AND MARKING

5.1 Packing — Cartons shall be supplied in collapsed form and ready to use on erection. They shall be packed in a protective transit container as agreed to between the supplier and the purchaser.

5.2 Marking

5.2.1 Transit Container — Each protective transit container shall be suitably marked to indicate the following information in respect of the cartons packed in it:

- a) Name or trade-mark of the manufacturer;
- b) Batch number;
- c) Number of cartons contained;
- d) Date of manufacture; and
- e) Handling, storage instructions, if any.

5.2.2 Individual Cartons — Each carton shall be marked with the following information:

- a) Name or trade-mark of the packer;
- b) Name of product;
- c) Quantity packed;
- d) Storage instructions, if any; and
- e) Information required under 'Packaged Commodity Regulation Order, 1975'.

5.2.2.1 Each carton may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

APPENDIX A

(Clause 3.3.2)

METHOD FOR DETERMINATION OF WAX CONTENT

A-0. PRINCIPLE

A-0.1 A known amount of waxed-board cuttings is extracted with carbon tetrachloride in a Soxhlet apparatus. The extract is evaporated to dryness and the residue re-extracted with alcoholic potassium hydroxide and evaporated to dryness. The dried mass is then dissolved in water and petroleum ether and the two layers are separated. The petroleum ether layer is evaporated to dryness and the residue weighed.

A-1. APPARATUS

A-1.1 Soxhlet Apparatus

A-1.2 Separating Funnel

A-2. REAGENTS

A-2.1 Carbon Tetrachloride

A-2.2 Alcoholic Potassium Hydroxide Solution — approximately 0.5 N.

A-2.3 Petroleum Ether — boiling range 40 to 60°C.

A-3. PROCEDURE

A-3.1 Weigh accurately about 10 g of the specimen, cut it into strips and give numerous small crosswise folds to each strip. Extract the strips in a Soxhlet apparatus with carbon tetrachloride for 4 hours or until the wax is all removed.

A-3.2 Evaporate the extract to dryness on a water-bath, add 25 ml of alcoholic potassium hydroxide solution and again evaporate to dryness. Cool the residue, shake it up with petroleum ether and water (*see Note*), and transfer to a separating funnel. Shake the contents of the funnel thoroughly and then allow the two layers to separate completely. Draw off the water layer into another separating funnel.

NOTE — The volume of petroleum ether should be about 25 ml and that of water about 150 ml. The water should contain a small amount of sodium chloride to prevent emulsification.

A-3.3 Re-extract the water layer one or more times, as may be found necessary, with fresh 25-ml aliquot of petroleum ether.

A-3.4 Wash the petroleum ether extract obtained as in **A-3.2** and **A-3.3** with fresh 100-ml aliquots of water until the water layer is perfectly clear. Addition of a concentrated solution of sodium chloride may be found necessary while washing.

A-3.5 Transfer the petroleum ether extract to a weighed evaporating dish or flask and evaporate to dryness. Dry at $103 \pm 2^\circ\text{C}$ for 1 hour and weigh.

A-4. CALCULATION

A-4.1 Calculate the wax content of the board by the following formula:

$$\text{Wax, percent by mass} = \frac{100 (W_3 - W_2)}{W_1}$$

where

W_3 = mass in g of the evaporating dish or flask with residue (**A-3.5**),

W_2 = tare in g of the evaporating dish or flask (**A-3.5**), and

W_1 = mass in g of the specimen taken for the test (**A-3.1**).

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