

NOTE

Alternative Transport Package Designs for 2kg Blocks of Frozen Shrimp

Japan takes the major market share of the frozen shrimp exports from India, consisting 58.3% and 68.1% on the basis of quantity and value respectively during 1987-88. The present method of packaging adopted is to place 10 numbers of 2 kg (nett) frozen shrimp packed in waxed duplex board cartons, in a corrugated fibre board master case, making a gross weight of about 23 kg. It is estimated that the total cost of master case for exports to Japan would be around Rs. 19 millions. The specifications of the master cases to hold 20 kg and 20-30 kg gross loads of sea foods are laid down in IS: 6715 (1972). In the present communication, two alternative bulk package designs are suggested to pack 12 nos. of 2 kg frozen shrimp blocks, making a gross weight of 28 kg and satisfying the current IS specification needs.

The present corrugated fibre board box is a regular slotted container (RSC) conforming to style FEFCO O201, which can hold 10 unit cartons in the fashion (2 x 5), 2 per layer and in 5 layers. In the two new designs proposed, the size and style of the transport package are changed to hold 12 unit cartons in the fashion 3 x 4 to effect savings in the board area used and thus economising in packaging costs. An added advantage of the new design of the boxes is that they are cuboid in shape, thus facilitating easier handling and better stacking. The style of construction of the first case is same as the one currently used (RSC) and the second one is similar to wrap around type, adopting which further cost savings in packaging can be achieved.

Consider a specific case of packing 60 nos of 2 kg nett, frozen peeled and deveined shrimp, having a volume of 2400 cc and size of the duplex board carton 31x15.5x5 cm (length x breadth x height). Details of construction of the currently used master case

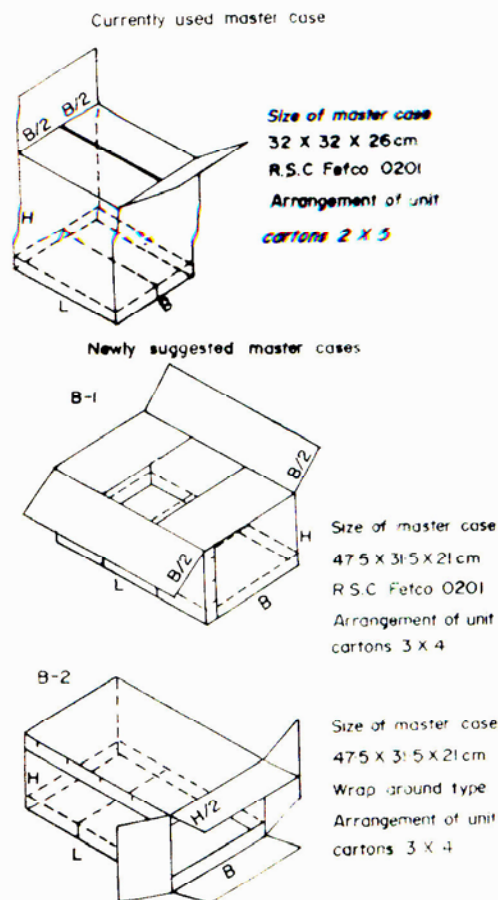


Fig. 1. Currently used and newly suggested master cases for frozen shrimp.

and those of newly suggested ones are presented in Fig. 1. Areas of the corrugated fibre board required for the boxes, are as follows:

A. Present method

1. Area of board required for one case (5 x 2 fashion to hold 10 unit cartons) 0.76 sq.m
2. Total area of board required for packing 60 blocks in 6 cases 4.56 sq.m

B. Alternative methods suggested

Type I

1. Area of board required for one case (3 x 4 fashion to hold 12 unit cartons) 0.845 sq.m
2. Total area of board required for packing 60 blocks in 5 cases 4.225 sq.m

Type II

1. Area of board required for one case (3 x 4 fashion to hold 12 unit cartons) 0.74 sq.m

2. Total area of board required for packing 60 blocks in 5 cases 3.70 sq.m
- % savings of B (I) over A 7.3%
- % savings of B (II) over A 18.8%

Taking the case of 32.5 millions kg of frozen shrimp exported to Japan during 1987-88 the effective cost savings in master cases, works out roughly at Rs. 1.1 million and Rs. 2.8 millions respectively for the new designs B (I) and B (II).

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Reference

- IS : 6715 (1972) *Indian Standard specification for Master Cartons for export of Frozen Sea Foods and Frog Legs*, Indian Standards Institution, New Delhi

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